

PSYCHOLOGICAL APPLICATIONS AND TRENDS 2025

Edited by
Clara Pracana
Michael Wang

Psychological Applications and Trends 2025

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FOREWORD

Dear Participants,

This book contains a compilation of papers presented at the International Psychological Applications Conference and Trends (InPACT) 2025, organized by the World Institute for Advanced Research and Science (WIARS), held in International Psychological Applications Conference and Trends (InPACT) 2025, held in Budapest, Hungary, from 26 to 28 of April 2025. This conference serves as a platform for scholars, researchers, practitioners, and students to come together and share their latest findings, ideas, and insights in the field of psychology.

Over the next few days, we will be exploring some of the most cutting-edge research and theories in psychology. We have a diverse range of topics and speakers lined up for you, covering themes and sub-themes. The conference proceedings and program include eight main broad-ranging categories that cover diversified interest areas:

- **CLINICAL PSYCHOLOGY**: Emotions and related psychological processes; Assessment; Psychotherapy and counseling; Addictive behaviors; Eating disorders; Personality disorders; Quality of life and mental health; Communication within relationships; Services of mental health; and Psychopathology.

- **EDUCATIONAL PSYCHOLOGY**: Language and cognitive processes; School environment and childhood disorders; Parenting and parenting related processes; Learning and technology; Psychology in schools; Intelligence and creativity; Motivation in classroom; Perspectives on teaching; Assessment and evaluation; and Individual differences in learning.

- **SOCIAL PSYCHOLOGY**: Cross-cultural dimensions of mental disorders; Employment issues and training; Organizational psychology; Psychology in politics and international issues; Social factors in adolescence and its development; Social anxiety and self-esteem; Immigration and social policy; Self-efficacy and identity development; Parenting and social support; Addiction and stigmatization; Psychological and social impact of virtual networks.

- **LEGAL PSYCHOLOGY**: Violence and trauma; Mass-media and aggression; Intra-familial violence; Juvenile delinquency; Aggressive behavior in childhood; Internet offending; Working with crime perpetrators; Forensic psychology; Violent risk assessment; Law enforcement and stress.

- **COGNITIVE AND EXPERIMENTAL PSYCHOLOGY**: Perception, memory, and attention; Decision making and problem-solving; Concept formation, reasoning, and judgment; Language processing; Learning skills and education; Cognitive Neuroscience; Computer analogies and information processing (Artificial Intelligence and computer simulations); Social and cultural factors in the cognitive approach; Experimental methods, research and statistics; Biopsychology.

- **ENVIRONMENTAL PSYCHOLOGY**: Environmental behaviour studies; Place attachment, Restorative environments; Pro-environmental behavior; Architectural psychology; Environment Psychology Theories and Methods; Environmental risk perception and management; Environmental impact assessment; Environmental consciousness; Interdisciplinary research.

- **HEALTH PSYCHOLOGY**: Biological, Physiological and Cognitive Models; Research methods and measurement; Individual differences and Habits; Illness-related and sick role beliefs; Acute and chronic illness; Dealing with Pain; Health Promotion and Intervention.

- **PSYCHOANALYSIS AND PSYCHOANALYTICAL PSYCHOTHERAPY**: Psychoanalysis and psychology; The unconscious; The Oedipus complex; Psychoanalysis of children; Pathological mourning; Addictive personalities; Borderline organizations; Narcissistic personalities; Anxiety and phobias; Psychosis; Neuropsychoanalysis.

InPACT 2025 received 489 submissions, from more than 42 different countries all over the world, reviewed by a double-blind process. Submissions were prepared to take the form of Oral Presentations, Posters, Virtual Presentations and Workshops. 172 submissions (overall, 35% acceptance rate) were accepted for presentation at the conference.

As we all know, psychology is a vast and complex field that encompasses a wide range of topics, from the study of human behaviour to the workings of the brain. It is a field that has made enormous strides in recent years, and it continues to evolve at a rapid pace. At this conference, we hope to not only share the latest research and developments in psychology but also to foster a sense of community and collaboration among attendees. We believe that by working together, we can continue to advance the field of psychology and make important contributions to our understanding of the human mind and behaviour.

We would like to express our sincere gratitude to all of our speakers, sponsors, and attendees for making this conference possible. This book includes an extensive variety of contributors and presenters that are hereby sharing with us their different personal, academic, and cultural experiences.

The conference also includes:

- A keynote presentation by Dr. Isabel Mesquita (Professor at University of Évora, Portugal and a Didactic Psychoanalyst at Portuguese Association of Psychoanalysis and Psychoanalytic Psychotherapy).

This volume is composed with the full content of the accepted submissions of the International Psychological Applications Conference and Trends (InPACT 2025). We hope that this book of proceedings will be a valuable resource for those in attendance, as well as for those who could not join us. Thank you for your participation, and we look forward to a productive and stimulating event!

Lastly, we would like to thank all the authors and participants, the members of the academic scientific committee, and, of course, the organizing and administration team for making and putting this conference together.

Looking forward to continuing our collaboration in the future,

Prof. Clara Pracana
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Prof. Michael Wang
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KEYNOTE LECTURE

CHANGING INSIDE AND OUT: CONSIDERATIONS ON THE PSYCHOANALYTIC PROCESS AND THE ACTUALIZATION OF THE SELF

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Abstract

In psychoanalytic theories, as in human development, change is essential. The past is significant, the present is important, and creating the future is relevant. Stagnation in development is always a pathogenic factor that leads to illness and dissatisfaction. A key aspect of the psychoanalytic experience is the progressive recapture of the experience of the self, which may feel alienated and disconnected from personal and interpersonal discourse. This process enables the analysand to continually discover who they are and what they want to become, fostering a greater potential for both intrapersonal and interpersonal dialogue. Therefore, in the psychoanalytic process, it is crucial to understand and dismantle pathogenic relationships. This involves clarifying what the individual has done with their experiences and how these experiences shape their future. It is important to maintain the understanding that individuals are also influenced by their own actions in the present as they relate to their future. While a supportive, empathetic, and nurturing stance is necessary, a more interventionist approach is also required to help patients uncover new ways of experiencing themselves and their relationships. Additionally, the analyst must recognize the feelings and emotions that have not yet been expressed, so they can be acknowledged as real and integrated into the patient's personal experience.

Keywords: *Self-transcendence, transformation, experience of the self, new ways of being.*

The world is changing rapidly. Acceleration and consumerism push individuals to focus outward, drawing attention away from the self. This shift leads to a set of demands that disconnect people from their selves and from meaningful relationships, resulting in isolation and self-absorption as protective measures for a fragile and unstable identity. This makes it difficult for subjects to cope with pressures that disrupt, harm, and damage mental well-being.

It is through the interaction with other minds that we enrich our emotional lives and promote self actualization (Rogers, 1951, 1961) since relationships nourish and sustain the self (Mitchell, 1988, 1992, 2002, 2003; Blatt, S. J., Auerbach, J. S., & Behrends, R. S.; 2008; Blatt, S., & Luyten, P., 2009) so, the lack of interaction with others impoverishes personal development.

Today's patients differ significantly from those in Freud's time. Their needs no longer focus on resolving Oedipal conflicts or neurotic symptoms. Instead, many patients experience a fragmented sense of self and often lack a coherent narrative. Today´s patients struggle for self-continuity; they cannot look back at their past experiences or envision their future. This void, caused by the absence of emotional experience, underlines the difficulty they face in searching for secure attachments throughout their lives. The absence of sustainable bonds limits the progress of establishing a secure identity. Such secure bonds are essential for trusting one's own emotions and those of others, ideally, based on well-formed and mature idealizations. In the absence of this developmental process, individuals tend to seek out idols or feel pressured to become the idealized version of themselves.

Today´s patients experience a constant sense of risk, which leads to anxiety and panic, some of them are living in a provisioning situation, use it when needed, discarding it when it no longer serves a purpose. The identity is fragile, and individuals, often unaware of their own agency, seek new identities or sensory experiences that promise to evoke feelings of aliveness and a sense of vitality. However, this often shows that individuals do not know how to navigate their own existence or their relationships with others.

Our sense of self and identity is relational, shaped by our interactions with others as there is no self without another, and when relationships weaken or become absent, personal development can become stagnant. If the intersubjective connection between the self and others is missing, it undermines the entire process of self-transcendence (Summers, 1999, 2012; Mesquita, 2016), which refers to everyone's potential to develop aspects of themselves that have not been realized yet.

New relationships can lead to changes in what way we recognize ourselves and our relations with others. Conversely, as we develop new perceptions of ourselves, we seek more mature relationships, creating and expanding the circle of growth (Blatt, & Luyten, 2009; Mesquita & Silva, 2021). This process reflects our agency - the capacity to act with intention and awareness (Frie et Coburn, 2011) which enables us to enhance our relational lives life while continuously evolving and transforming our relational life, reinforcing self-actualization.

We have an innate tendency for growth and self-actualization (Rogers, 1951), and we become ill when this tendency is blocked. Self-expansion is typically theorized as an important individual motivation, achieved through the diversity and complexity of the self-concept by increasing one's novel resources, perspectives, and incorporating that novelty into one's self-definitions (Aron, 1996) and to representations, simultaneously leading to more mature levels of interpersonal relatedness.

The origin of subjectivity is deeply rooted in the inseparable bodily, inter-bodily, emotional, and inter-emotional dimensions of human interactions. The development of self-definition and the development of interpersonal relationships are both central to the psychic development and are always in an interactive and reciprocal way (Blatt, 1996, 2008, 2009). As relationships mature, the possibility for self-development increases simultaneously, a mature self seeks more mature relationships, which in turn enhances emotional and relational life. As Campos & Mesquita (2014) pointed out, the stability, cohesion and development of the self will facilitate the establishment of mature and healthy relationships, which consequently will impel the development of the self, in its continuity and definition. In this perspective, development involves changes in the self, re-interpretations, and new editions that arise from relational experiences and mutual interactions, along with life.

As we know, the capacity to create representations is a highly adaptive trait of the mind (Eagle, 2011). However, along with development, it is essential to assimilate and integrate new realities into these previously formed representations and expectations to foster self-expansion. Rogers (1951, 1961) and Maslow (1968) noted that the self is continually evolving. They argued that the developmental journey involves moving forward by setting new goals and pursuing desires, which generates new meanings while maintaining a sufficient level of internal organization (Atwood & Stolorow, 2014).

The experiences of self and interactive regulation provide the basis for the construction of personal and interpersonal world (Beebe, 1986; Beebe & Lachamnn, 1988; Demos, 1989, 1992; Emde, 1981; 1884,1994; Stern, 1977, 1985). As we now know interactive regulation is present from the beginning of our life, the *competent baby* (Dornes, 1993) or a surprising one (Field, 2007), from the very first moments of his life, seeks a relationship with others rather than seeking pleasure. Stern (1985) and Beebe & Lachmann (1992, 2002) emphasized the importance of feeling effective and having agency over one's environment, highlighting the positive impact this has on self-development (Aron, 1996).

Neuroscience has shown that these interactions serve regulatory functions and became stored in procedural memory - originally developed in the context of a first relationship with the mother - which are typically adaptive and serve to maintain that relationship. However, these internal relational models can become maladaptive over time. As a result, patients may find themselves stuck in a continuous cycle of repeating past experiences, unable to envision a positive future. This can lead to symptoms that reflect the obstruction of their developmental process. A healthy life requires a sense of a meaningful future; however, if that future only offers the promise of sameness, it can be detrimental. When the experiences of the self and of the self in relationships with others remain unchanged, symptoms may arise, denoting a stagnation in personal development.

In this context, we can view the symptom not as a return of the repressed, but rather as an indicator of the self's inability to reveal its true essence. Bollas (1989) described the primary motivator of human experience as the need to be authentic. Rogers (1951) highlighted that when there is a discrepancy between the self-concept and actual experiences, anxiety can arise. This notion is further supported by Bromberg (2003), who asserts that traumatic experiences are linked to a discontinuity in the self's experience.

New ways of being and relating always require new experiences with others, which in turn lead to the continual transformation of our internal models of interaction. The implicit relational knowledge (Lyons-Ruth et al., 1998) must mature throughout life. As Blatt (1996, 2008a) noted, early internalization begins with sensorimotor experiences that help reestablish homeostatic equilibrium, but it is expected to become more complex as development progresses over time. These structures (Internal objects (British object relations theorists), internalized object relations (Fairbairn, 1952, 1963), internal working models (Bowlby, 1988), self -objects (Kohut, 1977), organizing principles of experience (Stolorow & Atwood,

1992; Stolorow, Atwood & Orange, 2002), generalized representations of interactions (Stern, 2000 [1985]), implicit relational knowledge (BCPSG, 2010), pre-symbolic relational representations (Beebe & Lachmann, 2002), implicit relational expectations (Beebe & Lachmann, 2002), self-other relational configurations (Mitchell, 1988), states of the self (Bromberg, 1998, 2006, 2011)) are not fixed; rather, they have been shaped and solidified by historical emotional and relational experiences. However, new emotional and relational experiences can help to expand, diversify, and enrich these structures. This assumption is one of the foundations of psychotherapy, as it facilitates the possibility of change.

The novel relationship in psychoanalysis

The psychoanalytic field has now a considerable number of schools each one focusing on one dimension of human experience (Harris, A; Kuchuck & Rozmarin, 2021), so psychoanalysis is no longer a unified discipline.

Contemporary perspectives suggests that psychoanalysis should shift from the emphasis on psychosexuality, which has traditionally been seen as fundamental for understanding psychic development, to highlighting the process of developing self-continuity and fostering affective attachments.

As we Know now, the psychodynamic nature of the mind extends beyond what Freud originally proposed. Kohut (1984) already suggested that psychoanalysis should move away from a strict focus on Freud's theories and instead concentrate on understanding human beings. Fromm (1947, as cited in Sassenfeld, 2024) emphasized that psychoanalysis should prioritize the recognition and pursuit of happiness and health, which are fundamental aspects of human nature, consequently, psychoanalytic practice should embrace these potentialities.

Some perspectives on relational psychoanalysis suggests that individuals act based on their feelings, whether these feelings stem from conscious awareness or unconscious processes. Importantly, the way they feel is often influenced by the way significant others have done to them and managed their feelings. However, new relational experiences can gradually transform and enrich one’s perspectives on the self and one’s relationships with others. Repetitive patterns continue until a new relational experience arises that contradicts and challenges the unconscious models and beliefs that have been reinforced up until that point. The aim of psychoanalytic psychotherapy is to unravel past experiences, creating new possibilities for life, as the patient must create new ways of relating replacing old patterns.

As contemporary psychoanalytic thought and research finds that our minds are shaped and developed through mutual interactions, the notion that one mind influences another is not accurate. Therefore, psychoanalysis as a therapeutic stance should be a collaborative effort that fosters the investigation of more creative approaches to addressing suffering and enhancing individual freedom from the repetitive old patterns, ultimately allowing for real autonomy from infancy, placing the individual as the author of his own life. Psychoanalytic process is now an encounter between two minds (Aron, 1996; Schore, 2003, 2019; Sassenfeld, 2019a, 2019b) a special talk about meanings, a mutual investigation, a search for a meaning in the emotional life of a human being (Orange, 1995).

As Frederickson (2003) pointed out, what is important to discover in the analytical process is not only what was done to the patient in the past (the impersonal) but, what he is doing with that now (the personal), what he is struggling to maintain. Noticing that the past events cannot have impersonal governance over the present and the future life of the individuals.

We can perhaps consider that patient´s problems do not reside in the past experiences but in the way they are made present, meaning how one reads the present with lenses borrowed from the past which perpetuate the cycle of *re-traumatization* (Bromberg, 2003; Mesquita, 2016).

In addition to analyzing what has happened to a person in the past, it is crucial to examine how they engage with that history in the present and how it influences their life, with their consent. The key focus should be on how the patient has processed his history, which aspects have dominated his experience, which has remained unexpressed, and, importantly, what can still be developed.

It is essential to analyze the maintenance of repetitive patterns and the relational experiences that contribute to their configuration. However, the primary focus of the psychoanalytic process should be on fostering the individual's potential for development. This approach contrasts with a defensive mindset that often results in *pathological accommodation* (Brandchaft, Doctors, & Sorter, 2010).

It is not possible to continue having a conception of the internal world as built by structures which are encrypted, sealed and barred from being transformed by experience (Wachtel, 2008). The unconscious cannot be seen as maintaining its original form without transformation throughout the development, remaining impenetrable in the face of life events and diverse relational experiences. Otherwise, internal world should be conceptualized as having non-metabolized aspects that result from interactions between the self and significative development others (Scharff, 1992; Summers, 2012; Shore, 2003).

Stolorow and Atwood (1992) differentiate between three types of unconscious processes: 1. Pre-reflective Unconscious: This consists of the organizing principles that shape our experiences. 2. Dynamic Unconscious: formed by traumatic experiences, which become defensively separated from our conscious awareness. 3. Unvalidated Unconscious: This includes aspects of experience that remain unconscious because they did not receive acknowledgment from the child's relational environment, failing to affirm their reality and existence.

The concept of the mind developing through an intersubjective relationship introduces new perspectives on the psychoanalytic setting. The analytic process offers the chance to develop a new relational dynamic between the analyst and the patient. Relational analysts emphasize that analysts should embody an attitude of optimal responsiveness (Bacal, 1985), *emotional availability* (Orange, 1995), and *clinical hospitality* (Orange, 2011). Lachmann and Fosshage viewed kindness as essential in the analytic process, and we believe it is also crucial to approach our work with curiosity. This curiosity helps us investigate what contributes to the development of defenses and the persistence of repetitive patterns in patients' lives. Additionally, it fosters hope and belief that we can assist patients in discovering new ways of being and engaging in relationships.

As we know, empathetic relationships alone are not enough for self-transformation and personal development, as it is insufficient for a child to be simply empathized with by a mother or caretaker because the child needs to create meaning through interactions with others. The analytic relationship is crucial for the emergence of unformulated states (Summers, 2012), highlighting the importance of authenticity and creation of new meanings. As a result, personal transformation and the development of new ways of relating to oneself and others are expected to occur within the psychoanalytic context.

The analyst's role is not one of neutrality; rather, it demands a sense of humanity that acknowledges and appreciates each patient's unique experiences, obviously, as Lévinas referred, with the minimal subjectivity that the analyst must have when focusing on the patient´s suffering. This involves striving to understand the theories that patients have about their emotional and relational lives. Instead of maintaining a neutral and objective stance, therapists should present themselves as accessible partners in the therapeutic relationship, using a *transcendent empathy* (Summers, 2012) that reflects the analyst's anticipation of the patient's potential for development.

The relationship between the analyst and the patient is inherently asymmetrical, as one is the creator and the other the facilitator. The psychoanalyst empathizes with the patient's suffering while also promotes self-transcendence and transformation throughout the therapeutic process. The psychoanalyst shifts from a role of unquestionable authority regarding the patient's thoughts to one of collaboration, focusing, not just the patient's aggressive or seductive impulses, but the patient's potential to develop new ways of being and relating, which can lead to a more fulfilling relational life.

Psychoanalytic process should focus on uncovering affects that have lacked an appropriate context for expression within relationships. These unconscious elements have often been repressed because they do not fit with primary relationships, leading to their exclusion from relational contexts. Therefore, psychoanalysis as a therapeutic process serves as an empathetic exploration of the personal and subjective aspects of the patient's inner experience. The analytic pair should delve into the patient's unconscious, where a variety of affects may have gone unacknowledged due to a lack of a responsive and validating relationship. This investigation brings these affects to be recognized and expressed, allowing them to be integrated into the self and consequently, integrated into subject's relational experience.

The motivations and affects identified in the analysis are not psychic entities waiting to be consciously recognized. Instead, they are unformulated psychic states, or as Stern (1997) described, they are ways of being and relating in a potential state (Summers, 1999). The goal of the analytic process is to foster creativity, helping the patient develop new ways of being and relating within the therapeutic relationship. To achieve this, it is important to dismantle the harmful dynamics stemming from the patient's past experiences. This psychoanalytic relationship must be unique, as it encourages the emergence of innovative ways of being and, consequently, new ways of relating to others.

Essentially, the analytic process shifts from discovering our current identity to exploring who we have never been but have the potential to become. Consequently, we must think that individuals develop in relational contexts, but they are not victims of them, they are agents. We are always more than our environments in the sense that, as individuals, we select from context, through selective inattention (Sullivan,1953), what confirms our inner experience, more often than selecting the opposite, and foremost as adults we can change our contexts. In relational contexts, individuals tend to choose experiences and relationships that help them maintain consistent self-representations developed during their emotional upbringing. This reinforcement of self-representations is often necessary to keep their internal relational models active, as these models provide a sense of security to a self that may feel insecure or fragile.

In recent psychoanalytic thinking as relational, intersubjective, and dyadic theories, emotions take precedence over drives in understanding mental life. Human development must be viewed within the context of affective relationships and the evolution of the ability to experience, communicate, and regulate emotions (Schore, 2003). Additionally, this capacity can influence how we regulate our environment, thereby enhancing our sense of agency and effectiveness, which is essential for a healthy self-concept.

While the ability to express emotions is innate, affective dispositions are inborn (Tomkins, 1962) but they are nascent psychic sates (Summers, 2012), they need a response from the caretaker to transform these affective states into affective experiences that can be formed into a self. The capacity for affective experience develops over time along with inter-affectivity (Stern, 1985). Aron (1996) emphasizes that affect and inter-affectivity are fundamental to understanding subjectivity and intersubjectivity. Although, we know that in trans-inter-affectivity contexts, some affects didn´t receive validation, recognition, or acceptance. As a result, these affective psychic states remain disconnected from self-experience due to the lack of a relational framework for their expression in interpersonal interactions. This situation reflects a form of knowledge that is not easily articulated in verbal or cognitive terms; it is a "knowing how" rather than a "knowing what." This understanding consists of a set of affective-motor habits that are automatic and operate unconsciously.

Emotions and affects that have not yet been fully acknowledged need to be recognized by the analyst so that they can be experienced as real and integrated into personal experience. This process parallels the early stages of development, where a baby, despite having innate affects, requires another person to validate them so they can be experienced as part of their self (Bebbe & Lachmann, 1992). If these effects are not recognized/validated, they may be perceived as defective or illegitimate, leading to inhibition or expressed through behaviors or symptoms. Demos (1992) highlighted the importance of trusting one's emotions as a key factor in maintaining a positive and stable self-representation. Being aware of one's ability to manage emotions enhances self-confidence and fosters trust in others, which in turn broadens the opportunities for experiencing life.

One of the main purposes of the psychoanalytic experience is to progressively reclaim the experience of the self that has become alienated and, as a result, remains distant from personal and interpersonal dialogue. This process allows the patient´s to continually discover who they are and who they want to be. We argue that the unconscious contains affects as potentialities that have not yet had the opportunity for expression within a relational context.

In psychoanalysis it is commonly understood (Stern et al., 1988; Summers, 1999) that insight is not sufficient for facilitating change. Simply knowing the reason why the individual behaves in a certain way and how he relates to others, may not be enough to promote change. In the psychoanalytic process, the everyday narrative should be transformed into a psychoanalytic narrative that focuses on the search for meaning. By examining current relational experiences, individuals can begin to make connections with their past experiences. It is precisely because the old patterns, expectations, desires, and emotional schemas become active in psychoanalytic sessions that we can help patients in examining, understanding, and renovating them.

This process helps them develop a sense of presence in their own lives and allows them to gradually recognize themselves not just as containers to events but as active agents – being the authors of their own story. Exploring past experiences goes beyond mere reporting or observation; it is a way to establish emotional connections between past and present, shaping ways of being and constructing a relational framework. The dismantling of pathogenic relationships is related to the fact that the subjects must emancipate themselves from unconscious models that continue subjugating them unconsciously.

The analyst, while helping to explore how past relationships shape ways of being and relating, must also provide a new perspective of the self and its relational experiences. The maintenance of the same patterns is driven by an internal model of relationships that links past experiences of the self to established relationships. This, however, also highlights the patient's fear of embracing new experiences.

In terms of transformative potential, it's important to recognize that we are all different. At the core of psychoanalytic work is the significance of the past, the dismantling of relationships that have shaped one's self-experience, highlighting the development of a new relationship with the therapist and the emergence of new potentialities within that analytic relationship, which should be experienced beyond.

If transformation is central to the analytic process, the analyst must promote the patient's ability to develop mental capacities that allow for new ways of being. An analytic relationship as a novel one means that the analyst should offer another perspective, another version of the analysand self and other possibilities to embrace relationships. It is crucial for the analyst to avoid simply repeating the patterns of the analysand's past relational experiences. As Mitchell (1993) suggested that there is a fundamental conflict in therapy: the hope for a relationship with the therapist that can heal past traumas, versus the fear that this therapeutic relationship will merely replicate the previous painful relational and emotional experiences.

Along with the analytic process, as the analysand begins to perceive himself differently and develop a more valid self-representation that fosters emotional self-synchrony, which enables him to influence his environment, developing a sense of efficacy. This shift allows a movement toward the future, promoting relational changes that can alter emotional dynamics, consciousness, and security. These transformations may affect the inter-affective context, leading to new ways of relating to others and ultimately facilitating the transcendence of the Self.

In this novel relationship between the analysand and the analyst, as new ways of being and relating are discovered and developed, these insights should be extended beyond the therapeutic setting. This process involves transferring the new relationship into the analysand's broader relational world, where the analysand participate actively and feel a sense of agency while exploring new ways of relating. This exploration can promote personal growth and lead to self-transcendence, which means that we, as human beings, are in a continuous process of self-development.

Conclusion

We considered that development is one way to feel in accordance with our human condition. The capacity to create ourselves as human beings searching for relationships that empower our tendency to growth is an important achievement. The relational psychoanalytic perspective proposed here emphasizes that the analytic process should focus on the analysand's potential for development. This involves dismantling internal relationships that constrain new ways of being and relating to others. As we understand, simply having insight and the analyst's empathetic approach is not enough to encourage changes in the self or foster new ways of relating to others. Therefore, we propose a more proactive role for the analyst, one that provides the analysand with a novel perspective on their self and introduces new possibilities for relationships that were previously only potential. So, the novel relationship with the analyst should be transferred to the analysands relational world providing the possibility to have new relations with others enhance the sense of agency. As these new relationships foster the development of the self, a matured self will seek out more meaningful and mature relationships in an expanding manner.

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Biography

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Oral Presentations

EXPLORING THE ROLE OF COMPLEX TRAUMA AND THE NEED FOR THERAPEUTIC ADAPTATIONS IN AUTISTIC AND ADHD INDIVIDUALS

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Abstract

Autistic and ADHD individuals are recognised as a distinct minority group, often experiencing a higher prevalence of co-occurring mental health conditions, including complex trauma. Studies consistently show elevated rates of PTSD, anxiety, depression, substance use, and eating disorders among this population compared to the general population. These mental health challenges are intertwined with developmental experiences, social influences, and ongoing adversity faced across the lifespan. Notably, complex trauma, stemming from chronic and repeated interpersonal victimization is increasingly recognised as prevalent among Autistic and ADHD individuals, contributing significantly to their mental health burden. Research suggests that up to 70% of autistic adults report experiencing at least one potentially traumatic event in their lifetime, with many meeting criteria for complex PTSD, often linked to social camouflaging and repeated experiences of invalidation. This presentation explores the role of attachment, unmet needs, adverse childhood experiences (ACEs), and particularly the impact of complex trauma in shaping schema development among Autistic and ADHD individuals. Studies suggest a strong correlation between ACEs, complex trauma and negative mental health outcomes, with autistic individuals being up to five times more likely to experience four or more ACEs, increasing their vulnerability to trauma and subsequent mental health issues. Attachment patterns, impacted by early social and sensory experiences, are also discussed, considering that insecure attachment styles are significantly higher in autistic and ADHD individuals, potentially contributing to relational difficulties and emotional dysregulation. The presentation also discusses the need for a shift in the narrative surrounding Autism and ADHD within psychotherapy. It advocates for adapting therapeutic approaches, such as Schema Therapy, to address the unique needs of this population, with a particular focus on complex trauma. We will cover specific therapeutic considerations and adjustments required when applying schema therapy, such as addressing sensory sensitivities, accommodating different communication styles, acknowledging the impact of social stigma, and, most importantly, using a trauma-informed approach. Finally, it emphasises the importance of broader societal changes to prevent the formation and reinforcement of maladaptive schemas and complex trauma in Autistic and ADHD individuals throughout their lives, including promoting inclusive education, fostering supportive social environments, and challenging discriminatory practices.

Keywords: *Autism, ADHD, early maladaptive schemas, complex trauma, schema therapy.*

1. Introduction

Autistic and ADHD individuals exhibit a higher prevalence of co-occurring mental health conditions, including PTSD, anxiety, depression, substance use, and eating disorders. The development of early maladaptive schemas (EMS) in these individuals is significantly influenced by attachment styles, unmet core emotional needs, and adverse childhood experiences.

1.1. Prevalence of co-occurring mental health conditions

Autistic and ADHD individuals exhibit a higher prevalence of co-occurring mental health conditions, including PTSD, anxiety, depression, substance use, and eating disorders. Research consistently indicates that, compared to neurotypical individuals, autistic and ADHD individuals experience significantly higher rates of these mental health challenges. Several factors may account for this increased risk, including underlying temperament, neurocognitive differences, attachment issues, unmet core emotional needs, adverse childhood experiences (ACES), trauma, and ongoing distress from being a marginalised group. These factors contribute to the development of EMS, which are deeply ingrained negative patterns of thoughts, emotions, and behaviours that develop in childhood or adolescence and become perpetuated throughout their lifetime.

1.2. Schema therapy and EMS

Schema Therapy is an integrative therapeutic approach that combines elements of cognitive-behavioral therapy, attachment theory, and emotion-focused therapy to address deeply ingrained patterns of thinking, feeling, and behaving known as early maladaptive schemas (EMS). These schemas are often developed in response to unmet emotional needs during childhood and can significantly impact an individual's mental health and well-being. In autistic and ADHD individuals, specific schemas such as abandonment, mistrust/abuse, emotional deprivation, and defectiveness/shame are particularly prevalent due to their unique developmental experiences and social challenges.

1.3. The role of attachment and adverse childhood experiences (ACES)

The development of EMS in autistic and ADHD individuals is significantly influenced by attachment styles, unmet core emotional needs, and adverse childhood experiences. Attachment theory, pioneered by Bowlby and expanded upon by Ainsworth, emphasises the enduring impact of caregiver responsiveness on attachment styles. Secure attachment, fostered by consistent and attuned caregivers, lays the foundation for emotional regulation, healthy relationships, and self-worth. Conversely, insecure attachment styles, such as anxious or avoidant, can develop in response to inconsistent or unavailable caregivers, potentially leading to greater social difficulties, emotional dysregulation, and unmet core emotional needs. Insecure attachment styles are notably prevalent among ADHD populations, and these attachment experiences have been shown to potentially exacerbate challenges throughout childhood and into adulthood. Furthermore, adverse childhood experiences (ACES) such as physical, emotional, or sexual abuse, neglect, and exposure to family violence are correlated with a wide range of negative physical, mental, and social outcomes. Research consistently highlights that autistic and ADHD individuals are at higher risk of experiencing all 10 ACEs compared to the general population.

1.4. Schema therapy adaptations

Schema therapy, which integrates elements from cognitive behavioural, attachment, Gestalt, and psychoanalytic schools, requires adaptations to effectively address the unique needs of autistic and ADHD individuals. Traditional schema therapy may not fully account for the neurocognitive and sensory differences of these individuals. Therefore, it is essential to modify the therapy to include a more personalised approach that considers their specific developmental experiences and social influences. This includes using more concrete and visual methods, allowing for flexibility in the therapeutic process, and incorporating the individual's strengths and special interests into the therapy. Additionally, therapists need to be aware of their own biases and ensure they are providing a neurodiversity-affirming approach.

1.5. Therapeutic considerations

Understanding the developmental experiences, social influences, and continued adversity faced by autistic and ADHD individuals is crucial for effective therapeutic interventions. These individuals often experience a range of challenges, including difficulties with social communication, emotional regulation, and sensory processing. Therapeutic interventions need to be tailored to address these specific challenges and provide a supportive and understanding environment. This includes creating a strong therapeutic relationship, using clear and consistent communication, and being flexible in the therapeutic approach. It is also important to consider the individual's strengths and interests and incorporate these into the therapy to enhance engagement and effectiveness.

1.6. Preventative measures and parenting support

Parental attunement and positive parenting patterns play a critical role in preventing the development of EMS in autistic and ADHD individuals. The Good Enough Parenting approach focuses on preventing EMS and enhancing early adaptive schemas through parent training. This approach involves educating parents about the unique needs of their autistic and ADHD children and providing them with

strategies to meet these needs in a supportive and attuned manner. It also includes helping parents to understand their own EMS and how these may impact their parenting. By fostering a positive and supportive parent-child relationship, it is possible to prevent the development of EMS and promote healthy emotional and social development.

1.7. Neurodiversity affirming paradigm

Adopting a neurodiversity-affirming lens, which values individual differences and promotes inclusivity, is essential for supporting autistic and ADHD individuals and preventing the development of EMS. This approach recognises that neurodiversity is a natural and valuable form of human diversity and seeks to create a more inclusive and supportive societal framework. It involves challenging societal norms and stereotypes, promoting acceptance and understanding of neurodiverse individuals, and advocating for their rights and needs. By adopting this paradigm, it is possible to create a more supportive environment that reduces the risk of EMS development and promotes positive mental health outcomes.

2. Summary

The presentation provides a comprehensive review of the impact of early maladaptive schemas (EMS) on autistic and ADHD individuals, emphasising the need for schema therapy adaptations to address their unique needs. It highlights the prevalence of co-occurring mental health conditions, the role of attachment and adverse childhood experiences in EMS development, and the importance of parental attunement and positive parenting patterns. The paper advocates for a neurodiversity-affirming paradigm to support autistic and ADHD individuals and prevent the development of EMS.

3. Conclusion

The findings underscore the critical need for tailored therapeutic approaches that consider the unique developmental experiences and social influences of autistic and ADHD individuals. Adopting a neurodiversity-affirming lens and promoting positive parenting patterns are essential for preventing the development of EMS and improving mental health outcomes. Future research should continue to explore and refine schema therapy adaptations to better support this population.

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SEEKING PROFESSIONAL HELP AND SATISFACTION FROM THE TREATMENT AMONG DISPLACED AND NONDISPLACED COMMUNITIES FROM WAR ZONES

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Abstract

Following the recent terror attack of the Gaza Hamas movement in south Israel on October 7, 2023, and the war in Gaza that followed this attack, several communities in this area were evacuated. They were placed in hotels in central Israel. Other nearby cities were not evacuated. About three weeks after the attack, we surveyed residents of the city of *Sderot* who were evacuated from their city (sample 1), and about eight months after the attack, while the war between Israel and Gaza Hams was still ongoing, we conducted another survey in the neighboring city of Ofakim who were not evacuated, despite being massively exposed to the October 7 events and the continuous war (sample 2). *Research aims:* Examining the extent of treatment-seeking from the Resilience Center and whether background variables, level of exposure to war events, and psychological distress predict help-seeking behavior in both samples and the level of satisfaction with the treatment in both samples. Samples: Sample 1 consisted of 881 displaced residents of *Sderot*, and Sample 2 and Sample 2 included 387 residents of an Ofakim neighborhood that was attacked by Hamas and were not displaced. Measurement scales included standard scales for ASD, PTSD, anxiety, and depression and questions that were tailor-made for this study. Results show high exposure to terror attacks and war events and high levels of psychological distress in both samples. About half of the participants in sample 1 and one-third in sample 2 sought professional help from the Resilience Centers. In sample 1, seeking treatment was associated with gender (women), being a parent, and higher levels of ASD. In sample 2, seeking treatment was weakly associated with the level of exposure to war and moderately associated with PTSD symptoms, anxiety, depression, and gender. Clients of the Resilience Center expressed high satisfaction with the treatment in both samples. This study highlights the importance of immediate psychosocial treatment for communities in war zones, whether evacuated or not.

Keywords: *Help-seeking, exposure to war, Acute Traumatic Stress, PTSD, crisis treatment centers.*

1. Introduction

Acts of political violence have extensive repercussions on individuals, communities, and societies. On a personal level, political violence is associated with adverse mental health consequences, including posttraumatic stress disorder (PTSD), depression, and anxiety (Rigutto et al., 2021) and decreased levels of optimism and hope (Neria et al., 2008). Displacement is another potential consequence of being in war zones and involves additional physical and psychological burdens and challenges (Dubow et al., 2021). On Saturday, October 7, 2023, a sudden attack took place in the southern part of the State of Israel. The attack, of significant magnitude, was carried out by Hamas terrorist organizations from the Gaza Strip towards Israel. It was aimed at military and civilian targets, particularly in Israeli rural and urban areas close to the Gaza Strip. The attack included massacres and the killing of over 1,200 Israeli and foreign civilians, among them 36 children, involving torture, abuse, dismemberment, and rape. In addition, the terrorists took almost 250 people hostages, 100 of whom are still in captivity at writing time (Dostri, 2023).

It is widely accepted that we should offer trauma-informed psychosocial interventions for people who are exposed to such massive acts of political violence, as soon as possible after exposure. Given a long history of repeated exposure to wars and other types of political violence, local "resilience centers" were designed to help provide effective responses to victims of violence. They aim to provide a safe space for the affected individuals and families to share their traumatic stories, process events, reduce trauma

symptoms, connect with inner strengths, gain coping tools and parenting guidance, reduce dependency, and return to normal functioning. These facilities are free, treatment is voluntary, and waiting lists are usually short. Treatment-seeking behavior occurs when individuals acknowledge facing challenges or difficulties requiring external support (Saint Arnault, 2009). The question is how many of the individuals who resided in communities that were directly exposed to the October 7th events sought professional support and whether their decision was associated with whether they were displaced or not from their home, their level of exposure, and their psychological distress as well as background characteristics.

2. Objectives

- Assess the rate of seeking treatment from the resilience centers in two communities in south Israel near the border with Gaza that were heavily affected by the October 7 terror attacks. Sample 1 -individuals in a community that was displaced to hotels in other areas of Israel (Sderot, 7 km from the border), and sample 2 - individuals in a community that was not displaced (Ofakim, 20 km from the border) based on governmental decision.
- Assess differences or similarities in background, health status, exposure to terror and war events, and psychological distress between those who sought treatment and those who did not in each sample.
- Assess whether levels of exposure to terror and war events and psychological distress predict treatment-seeking in each sample after adjusting for background and health status.
- Assess the level of satisfaction with the treatment in the resilience centers among those who sought treatment in each sample.

3. Methods

3.1. Participants

Sample 1 included 881 individuals (77.4% women) who were displaced to several hotels in Israel (Sderot). Their Age ranged from 18 to 60+; 74.6% had a partner, and 81% had children. The resilience center moved with them to the hotels or provided online treatment. Sample 2 included 387 participants (66.3% women) who resided in a neighborhood severely affected by the October 7 events (*Hagefen*) and were not evacuated or displaced. Their average Age was 39.85 (SD=13.32). Sixty-three percent had a partner, and 84.5% had children.

3.2. Design

We conducted two cross-sectional surveys: About three weeks after the attack (between November 1 and December 13, 2023), we conducted a survey among the displaced community (sample 1). About eight months after the attack (June 2 to August 8, 2024), while the war between Israel and Hamas in Gaza was still ongoing, we conducted a survey among residents of a community who were not displaced from their homes despite being massively exposed to the October 7 events and the continuous war (sample 2).

3.3. Data collection

We constructed an online questionnaire following ethical approval from the authors' university. In sample 1, the link to the questionnaire was distributed by hotels' coordinators to WhatsApp and e-mail addresses of the evacuees in each hotel. In sample 2, research assistants met the participants in person (or by phone) and facilitated the participant's responses to the online questionnaire.

3.4. Measurements

The demographic questionnaire included Age (in sample 1 by categories ranging from (1) ages 18-21 to (6) ages 60+; In sample 2- year of birth), gender (men/women/other), having an intimate partner (yes/no), and having children (yes/no).

Health Status was measured by one-item self-rated health (SRH) measure with a five-point scale (1 = *poor* to 5 = *excellent*) (DeSalvo et al., 2006).

Exposure to October 7 events and the Iron Swords war: Two types of exposure measures were specifically constructed for this study: self-exposure and others' exposure. While others' exposure measures were similar in both samples, the self-exposure measure differed somewhat to adjust it to the specific events that each community encountered and the accumulative experiences of the war.

The *self-exposure* measure in sample 1 included eight items exploring whether the participants experienced each one in person: witnessed invasion by terrorists, hid in a shelter, tried to call for help; their

life was in danger, were under missile attacks that endangered their life, fought the terrorists; saw people getting hurt; treated the wounded. The scale for this measure ranges from 0 to 8 types of events.

The *self-exposure* measure in sample 2 included nine items: witnessing an invasion by terrorists, eye-witnessed massacre of people, hearing the massacre of people, hiding in a shelter, feeling their life was in danger, calling for help because their life was in danger, was under missile attacks that endangered their life, wounded during the war, the war-damaged their house.

Others' exposure measures in both samples included five items: a family relative was wounded, a family relative was killed, friends were wounded, friends were killed, and someone they know in person was kidnapped. The scale for this measure ranges from 0 to 5 types of events.

For the severity of acute stress symptoms (ASD) in sample 1, we used the Adult Scale/National Stressful Events Survey Short Scale (NSESSS). Comprising seven items, the scale for this measure ranges from 0 to 27 (Kilpatrick et al., 2013) (Cronbach's α =0.856).

Posttraumatic Stress Symptoms—In sample 2, because we conducted the survey several months after the main attack, we used the International Trauma Questionnaire (ITQ) (Cloitre et al., 2018) instead of the NSESSS. It includes six items with total score on the scale ranges from 0 to 24. (Cronbach's α = 0.874).

In sample 2, we also included the following: (1) The Generalized Anxiety Disorder-7 measured anxiety (GAD-7; (Spitzer et al., 2006); Cronbach's α = 0.933). (2) The Patient Health Questionnaire-9 measured depression (PHQ-9; (Kroenke & Spitzer, 2002); Cronbach's α = 0.895).

In the two samples, *seeking treatment from the Resilience Center* was measured by one question: Did you seek treatment from the Resilience Center? Response categories were yes/no/not familiar with the Resilience Center. Responses of "not familiar" were excluded from the analyses.

Client's satisfaction: Participants who received treatment evaluated whether it was helpful on seven items (see Table 2 for details) on a scale of 1 "very little extent" to 5 "very great extent." These items were specifically prepared for the present study (α Cronbach in sample 1= 0.899 and in sample 2 0.864).

4. Results

Almost 50% (45.6%) sought treatment among the displaced sample, and almost one-third (31.6%) sought treatment among those who were not displaced (sample 2). Table 1 shows that in both samples, women tended to seek treatment more than men and that those with a perceived worse health state tended to seek treatment more than others. Whereas the level of exposure to terror and war events was not associated with treatment-seeking among the displaced participants, it was significantly associated with treatment-seeking among the nondisplaced participants. Participants with higher ASD in sample 1 and higher levels of PTSD, anxiety, and depression symptoms in sample 2 tended to seek treatment more than others. Results of logistic regression for sample 1 assessing treatment-seeking by exposure to acts of political violence and ASD after controlling for background variables and perceived health status among displaced individuals (not shown in a table) revealed that higher ASD was associated with higher odds for treatment-seeking (OR=1.13, CI 1.07-1.20). In contrast, the level of exposure was not associated with treatment-seeking. In sample 2, separate logistic regressions were run for PTSD, anxiety, or depression as predictors due to multicollinearity (Pearson correlations between PTSD and depression= 0.63; PTSD and anxiety 0.66, and depression and anxiety=0.79). We found that after controlling for background variables and perceived health status, higher levels of anxiety (OR=1.06, CI 1.01-1.11) or depression (OR=1.04, CI 1.00-1.09) were associated with higher odds for treatment-seeking while PTSD symptoms or exposure were not significantly associated with higher odds for treatment-seeking.

Table 2 shows that those who sought treatment from the resilience centers were highly satisfied with the treatment received in both samples. The level of satisfaction was unrelated to background or any other study variables in both samples.

5. Discussion

Our findings support previous literature that war and armed conflicts can overwhelm an individual's ability to cope, leading to high rates of individuals (women more than men) seeking professional help. Displacement from an acute war zone does not seem to reduce distress and perhaps even increase it (Tomasi et al., 2022). Psychological distress alarms individuals to seek professional help. The high satisfaction from the treatment at the resilience centers and the lack of associations between background variables and satisfaction imply that these centers provide professional, impartial, and tailor-made immediate crisis intervention.

Similar to the authors' previous work in a different context (Schiff & Pat-Horenczyk, 2014), seeking treatment was a good indicator of psychological distress in the context of acts of political violence.

This suggests that individuals are good diagnosers of their own stress and are well aware of when they need to seek help.

Study limitations include a cross-sectional design that rules out the prediction of causality. The time elapsed from sample 1 to sample 2 also prevents us from concluding that displacement in the context of political violence is a risk factor for psychological distress. More complex research designs (pre-post and follow-ups) are necessary to argue for the efficacy of the treatment in the resilience center.

Altogether, the results point to the significance of "first aid" trauma-informed psychosocial interventions in the context of mass man-made trauma, which is sought by many survivors and highly appreciated by them.

Table 1. Description of study variables by seeking treatment from the Resilience Center.

	Sample 1			Sample 2		
	Evacuated Seek treatment from the Resilience Centre [3]			Were not evacuated Seek treatment from the Resilience Centre [3]		
Characteristic	Yes (n=341)	No (n=407)	Chi-Square	Yes (n=96)	No (n=208)	Chi-Square
	%	%		%	%	
Gender			19.604***			8.95**
Men	30.2	69.8		20.6	79.4	
Women	49.9	50.1		37.2	62.8	
Has a partner			.001			.001
Yes	48.8	51.2		31.6	68.4	
No	48.6	51.4		31.8	68.2	
Children			23.93***			
Yes	49.8	50.2		33.3	66.7	2.03
No	26.7	73.3		22.9	77.1	
			T			*t*
Age categories[1]/ Age in years	4.43 (1.17,1-8)	4.42 (1.45, 1-8)	0.13	37.77 (12.31, 18-65)	40.48 (14.18, 18-72)	1.52
Perceived health	3.36 (1.06, 1-5)	3.55 (1.03, 1-8)	2.51**	3.02 (1.39, 1-5)	3.42 (1.21, 1-5)	2.51**
Self-Exposure [2]	2.34 (1.90, 0-8)	2.16 (1.66, 0-8)	1.39	4.88 (2.23, 0-10)	4.20 (2.12, 0-9)	2.53**
Others' exposure 2	1.37 (1.39, 0-5)	1.23 (1.31, 0-5)	1.38	3.89 (1.58, 0-5)	3.41 (1.77, 0-5)	2.26*
ASD/PTSD	17.33 (6.17, 0-28)	14.73 (6.92, 0-28)	4.29***	17.07 (6.16, 0-24	14.05 (7.27, 0-24)	3.53***
Depression	---	---	---	14.40 (7.30, 0-27)	10.88 (7.82, 0-27)	3.72***
Anxiety	---	---	---	14.29 (6.63, 0-21)	11.02 (7.04, 0-21)	3.80***

Note. Mean (SD, minimum-maximum). [1] In the first sample we asked about age categories. There were seven age categories ranging from 1=ages 18-21 to 7 over 70. [2] The items in the self and other exposure were adapted to the specific experiences of the committee and the progression of war. Thus, the higher means in the non-evacuated community does not necessarily indicate more exposure. [3] 39 participants in sample 1 and 70 participants in sample 2 did not know what are the resilience centers. They were excluded from the analyses. *t* = t-test for independent samples contrast on estimated means. ***p*<.01****p*<.001

Table 2. Distribution of perceived helping components by those who sought treatment from the resilience centre in the two sites.

	Sample 1				Sample 2			
	Evacuated (n=299)				Were not evacuated (n=91)			
	Moderately extent	Great extent	Very great extent	Mean and (SD)	Moderately extent	Great extent	Very great extent	Mean and (SD)
	%	%	%					
They treated me with respect	3.8	23.6	69.7	4.59 (0.74)	2.2	5.5	87.9	4.75 (0.80)
The service was physically accessible	22.7	29.1	39.8	3.96 (1.08)	13.2	12.1	63.7	4.21 (1.25)
They listened to me carefully	3.1	33.2	62.4	4.56 (0.64)	0.0	11.0	83.5	4.68 (0.91)
They understood me	6.1	34.1	56.8	4.44 (0.78)	2.2	12.2	80.0	4.63 (0.91)
They are professionals	5.8	36.8	56.4	4.48 (0.67)	3.3	11.1	77.8	4.54 (1.03)
They helped me	20.9	31.8	39.7	4.02 (1.01)	7.9	13.5	62.9	4.12 (1.38)
They made me feel I am not alone	12.8	34.0	44.4	4.12 (1.02)	11.4	10.2	67.0	4.23 (1.31)
Total scale				4.29 (0.73)				4.43 (0.86)

Note. Responses range from 1 "very little extent" to 5 "very great extent. We collapsed the first two responses ("very little" and "little" due to the small number of participants who chose response 1

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WHEN HOME BECOMES A MEMORY: THE PSYCHOLOGICAL CONSEQUENCES OF DISPLACEMENT AND LOSS

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Abstract

The Georgian context offers a rich foundation for studying ambiguous loss in displaced communities. While forced to leave their homes, many remain uncertain whether their displacement is permanent or temporary, sustaining hope for return. Adapting to a new environment is particularly challenging for those who spent most of their lives in their homeland, as they grapple with trauma, nostalgia, and a deep attachment to their "true" home. Limited access to mental health services further complicates their resettlement. This study explores how Georgian IDPs experience ambiguous loss, examining its psychological impact and coping mechanisms. A qualitative analysis of 10 life stories highlights an often-overlooked aspect of displacement, providing insights for professionals supporting forcibly displaced populations. Although the research is ongoing, preliminary findings suggest that even 17 years after displacement, individuals continue to struggle with ambiguity, feeling caught between their past and present homes.

Keywords: *Ambiguous loss, displacement, nostalgia, coping mechanisms, resettlement.*

1. Introduction

Forced displacement due to military conflict remains a significant humanitarian and psychological challenge worldwide. In August 2008, the Russia-Georgia military conflict resulted in the forced displacement of over 27,000 Georgian citizens, adding to the hundreds of thousands of internally displaced persons (IDPs) from the conflicts in Abkhazia and the Tskhinvali region during the 1990s (UNHCR, 2008). These displaced individuals often endured multiple life-threatening events, including war, loss of loved ones, and exposure to violence, harassment, and destruction of their property. Despite the substantial number of IDPs, research focusing on post-conflict adaptation and psychological well-being among this population in Georgia remains scarce (e.g., Khechuashvili et al., in press; Khechuashvili, 2020; Panjikidze, 2014). Furthermore, the long-term psycho-social consequences of displacement—encompassing challenges in residential stability, legal status, social integration, relational dynamics, occupational activities, and overall mental health—remain underexplored.

This research aims[1] to address these gaps by investigating the impact of forced displacement and ambiguous loss on psycho-social adaptation and psychological well-being, namely to trace the psychological consequencs of displacement and coping mechanisms emploed by IDPs in Georgia.

2. Traumatic experiences, coping mechanisms and ambiguous loss

2.1. Traumatic experiences and coping mechanisms

Given the prevalence of traumatic events in modern society, psychological research has increasingly focused on factors influencing individuals' coping mechanisms at personal, micro-social, and macro-social levels. While defining a traumatic event remains complex—since what is traumatic for one person may not be for another—potentially traumatic events share common characteristics. According to the DSM-5, trauma refers to experiences that cause physical, emotional, and/or psychological distress or harm, perceived as a threat to an individual's safety or stability (APA, 2013). Individuals who endure trauma may develop symptoms such as recurrent distress, distraction, despair, and irritability. However, not all traumatic experiences fit the conventional framework of trauma and recovery. Certain conditions,

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such as forced displacement and ambiguous loss, represent ongoing, unresolved stressors rather than singular traumatic events, requiring distinct adaptive strategies.

Psychological resilience and coping strategies depend on multiple factors, including the nature of the event, personality traits, cognitive characteristics, and prior life experiences (e.g., Carver, 2009, 2010; Carver & Scheier, 2008; Folkman & Lazarus, 1980). However, existing research on these factors lacks consensus regarding which variables contribute most to resilience and well-being. Unlike trauma caused by a singular event, displacement trauma and ambiguous loss persist over time, complicating coping processes. Thus, understanding how individuals and communities develop adaptive strategies in response to such experiences is critical for fostering psychological resilience.

2.1. Forced displacement and ambiguous loss

The theory of ambiguous loss (Boss, 1991, 1999, 2023) describes situations where loss is uncertain, incomplete, or lacks closure. Unlike definitive losses, ambiguous losses leave individuals in a state of uncertainty, affecting their ability to grieve and adapt. Originally developed within family stress theory, ambiguous loss extends to broader social and cultural contexts, including forced displacement. In such cases, individuals not only lose their homes, land, and property but also face psychological uncertainty about return and belonging.

Boss (2016) identifies two primary forms of ambiguous loss: (a) physical absence with psychological presence (e.g., missing persons) and (b) psychological absence with physical presence (e.g., dementia). Displacement represents a unique case where individuals experience ongoing uncertainty about their past, present, and future. In Georgia, this is intensified by IDPs' persistent hope of return, reinforced by international recognition of occupied territories.

While ambiguous loss has been studied globally (e.g., Hollander, 2016; Robins, 2016; Solheim et al., 2016; Wahling, 2015; Giovannetti et al., 2015), research within the Georgian context is scarce. Few studies have explored its impact on IDPs' psychological well-being and coping strategies (e.g., Khechuashvili et al., in prep.; Odilavadze et al., in press; Gugushvili, 2018). Further investigation is needed to understand how displaced individuals navigate prolonged stress and uncertainty, fostering resilience despite ongoing challenges.

3. Method

The study employes social constructivism framework and interpretive paradigm. Hence, the data collection and analysis are qualitative and revolves around the subjective experiences, feelings, and interpretations reported by the research participants.

3.1. Participants

Demographics and sampling: Ten research participants who have experience of being IPDs due to war conflict in 2008 were recruited via avaliability sampling procedures (M_{age}= 64.6(12), [37 – 75]).

Enrolment criteria: the respondent should have being forced to leave their place of residence due to the war activities in 2008, and permanently reciding in newly formed setelments.

3.2. Instrument and procedures

Instrument. Georgian adapted version of life story interview (Khechuashvili, 2020; McAdams & Pals, 2006) with some modifications is a semi-structured interview containing questions about key points (high, low and turning points, positive and negative childhood, vivid memory and mystical/religious experience), challenges (life and health challenges, stories about loss and failure/regret), and future chapter, dreams/hopes and plans.. Due to the research purposes, the section consisting of several additional questions will be asked, targeting the transition from past to present and day-by-day, ongoing living and functioning of the research participants and the aspects of social adjustment. Audio recorded interviews were transcribed verbatim

Ethical Considerations. All participants read and signed a written informed consent form. Research assistants answered all questions regarding research procedures, withdrawal from the study, anonymity and confidentiality, publishing, etc.

Place and time. Interviews were recorded in 2024-2025, mainly in participants' homes. Each session lasted 70-90 minutes.

3.3. Data analysis

Close readings of interview transripts gives planty of opportunities to reflect on these questions and trace the processes and dynamics as they are seen from respondents' subjective standpoint. With descriptions and interpretations we can proceed on different layers, starting from unique individual experiences to general cultural context and experiences. Due to practical implications individual level of analysis seems the most convinient at this point.

4. Results and discussion

In what follows data are presented in three broader sections, and answers corresponding questions: (a) Grief and mourning in ambiguous loss state – How is the ongoing grief and mourning manifested in life stories of research participants; (b) The coping strategies with ambiguity and uncertainty – How do research participants cope with existing situation, be in ambiguous loss state or already having gained mortal remains of their loved ones; (c) Current day-by-day life and social adaptation – What are the ways to adapt and participate in social life for those in AL state?

4.1. Grief and mourning: "Life on hold" and "unfinished tragedy"

Research participants shared a lot of experiences and many stories about the process and dunamics of mourning, sadness and gried due to disappearance of their loved ones and/or loss of property/home. Although stories vary according emotional tone, content and accents, the main theme of all of them can be summed up in one praze "Frozen life" or "Life on hold": "I had nothing else to think about. All my thoughts and concerns were about my lost son.. and all property I had back there" (Female, 64, N13).

Even though respondents have been living physically almost 17 years since their family members gone missing, and they fleed from their "little motherland", the time has stopped for them and emotinally they are still in the past. In every one and each of them there is a part (no metter how big or small), which followed the missing person/life and refused to continue living. As one of them stated, "My life ended when war happened and I lost my husband" (Female, 53, N15).

One of the source of this intense pain is lack of clearity. They have no feeling of closing the story. As respondents claim, it is better to know that both, their loved ones are dead and buried properly than to cherish irational hope that they will be coming back dead or alive, and they have to continue building up the life on new places and not to cherish the idea of coming back home. It is unbereable for them to live on hold and have "Everything being evolving around this and the issue of being gone missing. No other interests" (Female, 74, N13). Those research participants who are still in ambiguous loss conditions urge for clearity and ending: "We lost my husband's trace and we are still waiting for bringing his body back" (Female, 65, N3).

On one hand, they seek for clearity and knowing, and on another hand, they still cherish beem of irational hope that something may change one day. This ambivalency and containing contradiction is one of the main characteristics of being in ambiguous loss state (Boss, 2006, 2023), and helps individuals not to give up as well as being stuck in moirning process and in life, in general.

> I thought maybe my son will show up… In good or bad condition, I am still alive and waiting to hug him… It has been so long time, be honest, I do not have hope anymore but still, who knows… (Female, 62, N5).

Even though it has been already 17 years since they left the place, some of the respondents still speak of the house and property in present tense, as if it still stands, however on the cognitive level they aware that there is no house there. "Here is my house. I have there everything arranged with my own taste, and the garden I planted with my own hands.. Flowers, fruit tress…" (Female, 65, N7)

Respondents explicitally speak of not only ambiguity and abnormality of their condition, but they underline the ubearable ubiquitous pain accompanying them all the way through life. They refer it as open woinds, neverending pain and even constat torture.

> My tragedy is always follows me and I don't know… I want it to be only my pain, only my cross to carry… This background pain is always there. You cannot order the heart… However, I try to put this pain aside and follow the flow of life (Female, 67, N24).

4.2. The coping strategies with ambiguity and uncertainty

Seach for meaning. Meaning-making coping is often characterized as attempting to see the event in a better light (Pearlin, 1991), or as cognitively "working through" the event (Creamer, Burgess, & Pattison, 1992). It may imply meaning-making mechanisms such as reappraising events – finding more acceptable reasons why an event occurred and who or what is responsible for its occurrence (Baumeister, 1991). In particular, following the death of a loved one, a person may come to see the hand of a loving

God in the event or may redefine the event as an opportunity to learn new coping skills or develop new sources of social support. Meaning-making as coping strategy can be seen as the dynamic process (Parks, 2005), which is particularly relevant in situations that are not solvable or reparable, such as trauma and loss, both, clear and ambiguous.

Research participants tell the stories ranging from no meaning at all, as quantitative analysis prove, to vague meaning, which, mainly consists of focusing on kids/next generation or missing person itself. The following illustrates abovementioned:

> It has been 17 years I ware the same jacket. I do not think of what I wear. I wear the same boots last 8 years. I already didn't go out, do not dress up… Why I need all these if I do not have my son with me and my life, I don't see the meaning (Female, 66, N22).

Religiosity, Religion, as defined as "a search for significance in ways related to the sacred" (Pargament, 1997, p. 32), is central to the meaning systems of many people, although its centrality varies greatly from individual to individual. It ofther senves as an individual's core schema, informing beliefs about the self, the world, and their interaction (McIntosh, 1995), and providing understanding of both mundane and extraordinary occurrences (Spilka, Hood, Hunsberger, & Gorsuch, 2003). Therefore, turn to religion proved to be one of the strongest and common mechanism contributing to and for overcoming trauma of both, clear and ambiguous loss. It provides meaning, support and hope for those who are in need (Parks, 2005). Thus, it was not surprising that for research participants the first and the most common coping strategy was turning to religion. Respondents seek relief, hope and peace in God, church, and community within it. They spoke of different ways of coming to church, and the role God, church and religion played and still playes in their lives.

For some respondents God served as the source of strength and support: "I always respect my God. Because of God I came to today. God helped me on work and sent others to help me" (Female, 84, 14), while for some others God embodies hope and salvation: "I believe in God and God gives me a hope. I am religious, believer" (Female, 66, N22).

Going to church turned to be a way of socialisation for some of the research participants, and a way of therapy – speaking up, starting telling and sharing their stories brought relief and relative peace to them.

Others in one's life: Caring others. One of the important ways of coping with any adversity, and loss in particular, is emotional as well as instrumental coping (Lazarus & Folkman, 1984). This imply receiving both, emotional and instrumental support from others. Research participants told many stories of such experiences. As data show, they got support and help, and solid ground for survival from family members, neighbors and friends, and various authorities. Some illustrations follow: "I often thank my dughter-in-law that she took me to the church" (Female, 73, N13).

Neighbors culturally are the closest people one may and will turn when in need. Hence, stories about good, attantive neighbors, ho are the main helpers are common in the interviews. Furthermore, almost all respondents mentioned importance and power of the community, especially those small communities, which consist of people, who suffered from the similar condition: "It was a challenge that I wanted to meet as many people as possible in the similar condition as mine. I couldn't speak up loudly, but I wished for it silently" (Male, 67, N12). Becides, Authorities from various sectors and organizations played crucial role in lives of the research participants. They were helped and supported in different ways, be it spiritual, social, financial, legal, medical or psychological assistance.

4.3. Current day-by-day life and social adaptation

Although research participants suffered a lot and still struggling with ambiguouty and loss, they had to adjust somehow to the new reality, raise kids, work/earn money and be a member of the community. Some of them succeded much better than others, however, constant sadness and sense of being broken never left them. As Boss (2012) claims, most people experiencing ambiguous loss are not clinically depressed, but they are indeed sad, chronically sad. As did our research participants. Those who couldn't find any meaningful explanation and way to live with ambiguous loss, gave up and continue existence: "Life is a war and who will fall down within it, nobody knows" (Female, 65, N3). Some of the respondents feel that they are burden for families with their never ending tears and misery, whilst others try not to bother other people much and/or isolate themeslves intentionally from others. Or others stopped trying to get in touch with respondents due to multiple useless invitations and refusals from their side. Some of them manage to establish and/or reestablish close relationships with relatives and extended family members, that serves as strong support and motivation to feel better and to live:

> They call me or I call them at least twice a week. I speak with my sisten several times a weel. So, I have all of them, I am in touch with all of them and I have no idea how I survived when I didn't speak with them (Female, 65, N3).

There are some respondents who are more active, and more-or-less managed to adjust themselves and to live with loss, and lead fuller and active life. However, sadness is still there: "[Family, children, new families, happy offsprings] I am happy for all of them but since then, I couldn't find special happiness…" (Female, 66, N22).

One of the achivement in the mourning process and learning to live with the loss, is the sense of presence and inclusion of missing person in the psychological family system (Boss, 2006). As one of the respondents goes:

> I felt my husband.. He was really there, not the hallucination… When misery was unbearable, I used to go to church and speak to my husband. I believe that he is with us, helps and supports our children. I constantly speak with him (Female, 66, N22).

Another strategy of being in current times for some research participants in being actively involved in the volunteer work and contributing in family committee activities, or being involved in self-development: "I have obligations in family committee and following what does search group in ICRC do, may be one day they bring his body back: (Female, 68, N22).

To move forward sometimes sharp changes are required, as one of the respondents put it. In the stories told during interviews, changes varied, for instance, somebody changed place of living, and someone remarried: "Finally, I moved forward, and I got married. It was not easy, people judge me, but I had to do something with my life" (Female, 65, N10)

5. Limitations

First limitation associated with sample size – only 10 internally displaced persons were interviewed and this does not allow extensive quantitative analysis on individual level. Secondly, the exploration of the phenomenology of ambiguous loss was one-sided – only on individual level and from one family member's viewpoint, and other members of the family or second generation were not taken into account.

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PSYCHOSOCIAL CONDITION OF PSYCHOLOGISTS, PSYCHOTHERAPISTS IN TRAINING AND CERTIFIED PSYCHOTHERAPISTS WORKING IN COUNSELING

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Abstract

Providing psychological help or support to other people means being exposed to suffering and all sorts of difficulties on a regular basis. Being an empathetic listener who stays attentive and responsive to other people's needs in such situations can result in emotional exhaustion of a professional. Taken together with no regular self-care and self-help it can lead to compassion fatigue or work burnout. A study was conducted in which the differences between the mean levels of psychological hardiness, perceived social support, and levels of secondary traumatic stress were assessed in groups of psychologists, psychotherapists in training and certified psychotherapists. Also measured was the mean level of early maladaptive schemas in each of the analyzed groups. The study involved a group of 180 respondents aged 24-76 (M=41.20; SD=9.66), including 162 women and 18 men who offer psychological help and psychotherapy to children, adolescents and adults. Among all respondents there were 59 psychologists, 38 psychotherapists in training and 83 certified psychotherapists. All of the respondents filled in sets of questionnaires that included Psychological Hardiness Scale, Multidimensional Scale of Perceived Social Support, Secondary Traumatic Stress Scale, and Young's Schema Questionnaire. It was discovered that among people who do not supervise their work there are psychologists, while most psychotherapists in training and certified psychotherapists regularly supervise their work. Based on the gathered results it was discovered that there are statistically significant differences in the mean levels of early maladaptive schemas (namely: self-sacrifice, entitlement/ grandiosity, and negativity/ pessimism) between groups of psychologists, psychotherapists in training and certified psychotherapists. There was also a statistically significant difference between the mean levels of self-sacrifice schema between respondents who regularly supervise their work and those who do not attend supervision. The results obtained in the study can serve as a starting point for future research concerning risk factors and preventive factors observed in psychologists and psychotherapists working in counseling. It can also be useful while planning preventive programs aimed at maintaining high levels of well-being of mental health specialists.

Keywords: *Psychologist and psychotherapist well-being, psychological hardiness, secondary traumatic stress, maladaptive schemas, prevention.*

1. Introduction

Psychologists offering counseling services are responsible for studying, diagnosing and promoting change in persons complaining about their mental condition or struggling with mental health problems. Diagnosing and treating people who experience different mental health problems is very complex, and requires certain skills. In order to apply relevant methodology and techniques the counselor has to be familiar with current research results on effective treatment methods. They also have to present high levels of flexibility while planning and conducting interventions. Working in agreement with specific standards requires highly developed communication and interviewing skills as well as abilities to observe and document symptoms, and responses of patients. All the work should be done with high levels of emotional stability and empathy for human suffering. Therefore, it is a challenging profession which can cause mental problems and work burnout symptoms in counselors themselves.

A lot of studies conducted until now are concentrated on burnout symptoms (e.g. McCormack, MacIntyre, O'Shea, Herring, & Campbell, 2018; Van Hoy & Rzeszutek, 2022), since data concerning other mental problems observed in psychotherapists is inconclusive. There are studies proving that in comparison to general population mental health care professionals suffer from higher levels of mental health problems (e.g. Tay, Alcock, & Scior, 2018) or experience less mental problems than the general public (e.g. Schaffler et al., 2022). There is also data proving psychotherapists suffer from high levels of

stress (e.g. Probst, Humer, Stippl, & Pieh, 2020). According to other results the mental condition of psychotherapists corresponds to other factors such as income, physical activity, type of facility they are employed in, experience in the field, a patient load, and self-care routine (e.g. Schaffler, Probst, Pieh, Haid, & Humer, 2024). All of the above-mentioned factors correspond to external conditions in which counselors conduct their professional duties. It is therefore important to verify whether there are any connections between counselors' mental condition and their internal features, namely their levels of hardiness, perceived social support, secondary traumatic stress, and early maladaptive schemas.

According to the literature, hardiness helps an individual to overcome negative effects of stressful events and deal with obstacles due to promotion of resilience (Maddi, 2002). A hardy person has a purposeful life and believes to be an efficacious individual who knows how to cope with stress in an adaptive way (Maddi, 2004). According to the research conducted until now hardiness can serve as a protective factor increasing the quality of life of counselors (Justin, Haroon, & khan, 2023). Perceived social support understood as a feeling of connectedness corresponding to being supported by others is positively correlated with psychological well-being (Wills & Shinar, 2000). It is connected with a belief that an individual is respected, cared for, and their social needs are met. According to the data given in the literature, perceived social support from family members and friends is a strong predictor of individuals' well-being (Ateş, 2016). Secondary traumatic stress is a phenomenon observed in counselors working with trauma survivors. It includes symptoms of intrusive memories corresponding to the patient's trauma, hypervigilance, sleeping problems, feelings of sadness and grief, difficulties in concentrating, avoidance of traumatic contents, and decrease in compassion and empathy for traumatized patients (Collins & Long, 2003). Experiencing secondary traumatic stress leads to the decrease in mental well-being and job satisfaction in professionals (Collins & Long, 2003). Early maladaptive schemas are described as persistent themes developed during childhood, and elaborated on throughout the life course, based on experiences regarding oneself and one's relationships with others, especially within a hostile, critical, abusive, and neglectful environment (Young, Klosko, & Weishaar, 2003). According to the research results published in the literature, the most common early maladaptive schemas observed in counselors are unrelenting standards and self-sacrifice (Simpson et al., 2019).

2. Objectives

The main aim of the study was to verify the mean levels of hardiness, perceived social support, secondary traumatic stress and early maladaptive schemas in psychologists, psychotherapists in training, and certified psychotherapists working in counselling.

3. Methods

3.1. Participants

The study involved a group of 180 respondents aged 24-76 (M=41.20; SD=9.66), including 162 women and 18 men who offer psychological help and psychotherapy to children, adolescents and adults. Among all respondents there were 59 psychologists, 38 psychotherapists in training and 83 certified psychotherapists. Most of the respondents (77%) worked in their own counseling offices, 43% worked in mental health clinics, 15% of respondents worked in schools, 13% were hired in hospitals, 6% worked in kindergartens, 6% in different foundations, 3% in orphanages, 3% in crisis centers. In general, most of the respondents perform their work both in the private sector, in their own offices, and in some other public mental health facility. The mean number of years of work for all of the respondents was M=14.09 (SD=9,80), with time working in a profession ranging from one year to 53 years, with median Me=13 years of work.

3.2. Procedure

At the starting point of the research potential respondents were identified. The database of professionals was created based on the two main sources of information: (1) data available in an official registry of mental health specialists, and (2) on the websites of psychotherapeutic societies where the information about certified specialists is given. Based on the above-mentioned search email addresses of specialists given to the public were collected and used in order to inform professionals about the possibility of participation in the study. People who responded to the email that was sent to them were given additional information. All potential respondents were informed that there is a chance to participate in the study concerning psychological well-being of psychologists and psychotherapists. They were informed that the research is anonymous, and voluntary, and that the results will serve as a starting point for a preventive program for development and maintenance of resilience of mental health specialists. Then all potential respondents were asked for informed consent to participate in the study. All of the

people who agreed to participate were sent sets of questionnaires consisting of Psychological Hardiness Scale, Multidimensional Scale of Perceived Social Support, Secondary Traumatic Stress Scale, and Young's Schema Questionnaire. Then they were asked to fill in the questionnaires and to send them back to the researcher. All the data was collected anonymously, so after the first e-mail contact with each participant it was not possible to identify the questionnaire set filled in by a specific respondent. Whenever respondents had any questions, they were encouraged to ask them, and they were given necessary answers and explanations. Additionally, all the respondents interested in receiving information concerning group results after finalization of the research project were contacted and given necessary explanations. The study was conducted in compliance with ethical principles.

3.3. Materials

Four standardized psychological tests were used in the study. Hardiness was assessed with the Psychological Hardiness Scale. Perceived social support was measured with Multidimensional Scale of Perceived Social Support. Secondary traumatic stress was assessed with Secondary Traumatic Stress Scale. Early maladaptive schemas were measured with Young's Schema Questionnaire.

Psychological Hardiness Scale (Ogińska-Bulik & Juczyński, 2008) assesses general psychological hardiness and its five components: (1) perseverance and determination in action, (2) openness to new experiences and sense of humor, (3) personal competencies to cope and tolerate negative emotions, (4) tolerance of failures and perceiving life as a challenge, (5) optimistic attitude to life and the ability to act in difficult situations. Reliability of the whole scale (α = 0.89), and of each subscales were satisfactory (perseverance and determination in action α = 0.69, openness to new experiences and sense of humor α = 0.59, personal competencies to cope and tolerate negative emotions α = 0.89, tolerance of failures and perceiving life as a challenge α = 0.61, optimistic attitude towards life and the ability to act in difficult situations α = 0.70.

Multidimensional Scale of Perceived Social Support (Buszman & Przybyła-Basista, 2017) assesses the mean level of perceived social support received from family, friends, and meaningful others. Cronbach alphas of the questionnaire are satisfactory: for the general result of the scale: α = 0.70, for the family α = 0.87, for friends α = 0.85, and for meaningful others α = 0.86.

Secondary Traumatic Stress Scale (Ogińska-Bulik, 2018) is used to assess the levels of general secondary traumatic stress, and its three subscales: intrusions, avoidance, and arousal. Cronbach alphas of the questionnaire are satisfactory: for the general result of the test: α = 0.88, for the intrusion α = 0.66, for avoidance α = 0.73, and for arousal α = 0.76.

Young's Schema Questionnaire (Oettingen, Chodkiewicz, Mącik, & Gruszczyńska, 2018) is used to assess the levels of 18 schemas: Emotional deprivation, Isolation, Mistrust, Unrelenting standards, Negativity, Subjugation, Recognition-seeking, Failure, Abandonment, Self-sacrifice, Entitlement, Punitiveness, Insufficient self-control, Defectiveness, Enmeshment, Emotional inhibition, Dependance, Vulnerability to harm or illness. All the reliability coefficient assessed with Cronbach alphas were satisfactory: Emotional deprivation α = 0.92, Isolation α = 0.87, Mistrust α = 0.84, Unrelenting standards α = 0.90, Negativity α = 0.89, Subjugation α = 0.83, Recognition-seeking α = 0.86, Failure α = 0.91, Abandonment α = 0.85, Self-sacrifice α = 0.78, Entitlement α = 0.73, Punitiveness α = 0.81, Insufficient self-control α = 0.85, Defectiveness α = 0.91, Enmeshment α = 0,76, Emotional inhibition α = 0.86, Dependance α = 0.83, Vulnerability to harm or illness α = 0.77

4. Results

Before conducting the main analyses, the normality of the distribution of all the variables was verified with the Shapiro-Wilk test combined with an analysis of indexes for skewness and kurtosis. Gathered results met the criteria for normal distribution (e.g. Field, 2018; George & Mallery, 2019) therefore in order to analyze the differences in the mean levels of hardiness, perceived social support, secondary traumatic stress and early maladaptive schemas in groups of psychologists, psychotherapists in training and certified psychotherapists it was decided to use parametric tests (Field, 2018). Statistically significant differences between groups are given in detail in Table 1.

Table 1. Statistically significant results of ANOVA analyses for mean levels of analyzed variables in groups of psychologists, psychotherapists in training and certified psychotherapists.

	psychologists N=59		in training N=38		certified N=83		F	p	η^2
	M	SD	M	SD	M	SD			
self-sacrifice	19.10	5.45	15.79	4.55	16.59	4.60	6.69	.002	.070
entitlement	13.15	4.80	11.84	5.47	10.58	3.78	5.62	.004	.060
negativity	11.61	6.42	11.37	6.45	9.06	4.12	4.51	.012	.048

Based on the post hoc analyses it was discovered that there are statistically significant differences in the mean levels of self-sacrifice schemas between psychologists and therapists p=.009, and between psychologists and psychotherapists in training p=.004. There are also statistically significant differences between the mean levels of entitlement schemas in groups of psychologists and certified psychotherapists p=.003, and in the mean levels of negativity in groups of psychologists and certified psychotherapists p=.026.

It was also proved that persons supervising their work experience statistically lower levels of self-sacrifice (M=16.77; SD=4.80) in comparison to people who do not supervise their work (M=18.95; SD=5.5), $F_{(1,178)}$=5.85; p=.017; η^2=.032.

5. Discussion

The results obtained in the study prove that there are differences in functioning of psychologists, psychotherapists in training and certified psychotherapists according to the mean levels of certain early maladaptive schemas. No differences were found in the mean levels of hardiness, perceived social support or secondary stress. Additionally, it was also verified whether there are any differences in the mean levels of analyzed variables between counselors who supervise their work and those who do not work under the supervision. It was discovered that those two groups differ only in the levels of self-sacrifice schema. The above-mentioned results stay in partial congruence with previous studies. Simpson and colleagues (2019) discovered that counselors, among others, present high levels of self-sacrifice schema. In the study presented in the article it was proved that the highest levels of self-sacrifice schemas are typical for psychologists who are not certified psychotherapists and do not supervise their work. It is therefore possible that those specialists rely mostly on their own experiences and knowledge. Since they do not regularly consult their difficulties with others and do not have to meet any external requirements to participate in additional courses etc., they might be more biased in comparison to psychotherapists in training and certified psychotherapists, and therefore they can experience higher levels of self-sacrifice. This hypothesis should be empirically verified in future studies.

There are no studies in which the functioning of counselors who are recruited from the group of psychologists, psychotherapists in training and certified psychotherapists were compared. It is possible that such a research gap is a result of specific regulations available for psychotherapists in particular countries. Taking into account the results gathered in the study described in the article it can be stated that additional requirements and training can serve as protective factors for mental well-being of counselors. It seems that psychotherapists in training and certified psychotherapists in comparison to psychologists present not only lower levels of self-sacrifice schema but also lowered levels of entitlement and negativity schemas. It is therefore possible that during their training they receive additional tools to overcome their maladaptive schemas. This hypothesis should be tested in future studies.

Since there were no group differences between the mean levels of hardiness it can be hypothesized that all of the respondents present relatively high quality of their mental health and counseling services they offer to their patients (Justin et al., 2023). There were no differences between groups in the levels of perceived social support either. It is possible that all of the respondents have their meaningful others and support groups where they seek help whenever they need it. At the same time it is important to conduct further studies in order to verify the size and quality of such groups as well as the type of problems respondents from each group share with their meaningful others. It is possible that there are some differences in the above-mentioned factors among psychologists, psychotherapists in training and certified psychotherapists. It is also possible that both factors, i.e. individual levels of hardiness and perceived social support serve as protective factors for secondary traumatization (Ateş, 2016; Maddi, 2013; Zerban et al., 2023). It is possible that the similar levels of secondary traumatic stress obtained in the study result from different loads of work with traumatized patients (lowest for psychologists and highest for certified psychotherapists), and not for their similar experiences. Probably specialists with different educational backgrounds offer their services to different groups of patients and therefore they present similar levels of secondary traumatic stress levels, but this hypothesis has to be verified in future studies.

To sum up, the results obtained in the study are very interesting. They fill the research gap on the differences between mental health professionals with different educational backgrounds. They can serve as a starting point for future research concerning risk factors and preventive factors observed in counselors. Also, it can be useful while planning preventive programs aimed at maintaining high levels of well-being of mental health specialists.

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EMOTIONAL IMPULSIVITY AND ATTACHMENT: A COMPARATIVE STUDY BY GENDER

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Abstract

Impulsivity is widely recognized as a central construct in personality psychology. This study investigates how emotional dimensions of impulsivity, as measured by the UPPS-P model, differ across four distinct attachment styles, with gender included as a comparative variable. A total of 693 women and 206 men, ranging in age from 18 to 84, completed the Relationship Scale Questionnaire to assess attachment patterns and the S-UPPS-P to evaluate impulsivity traits. Results indicate that the dismissive-avoidant attachment style was consistently associated with the lowest levels of impulsivity compared to the other styles. Statistically significant differences were observed between the dismissive-avoidant and preoccupied styles concerning both positive and negative urgency across both genders. These findings underscore the subtle yet meaningful associations between attachment styles, emotional impulsivity, and gender, offering valuable insight into the psychological underpinnings of impulsive behavior.

Keywords: *Attachment, emotional impulsivity, gender comparison.*

1. Introduction

Impulsivity represents a central personality dimension with strong associations to various forms of psychopathology and is frequently identified as a diagnostic criterion in the DSM (Cyders, 2015). This research centers on the UPPS-P model of impulsive personality traits, with a particular emphasis on emotional impulsivity. Specifically, it examines *negative urgency*—the propensity to act rashly under distress—and *positive urgency*—the tendency to engage in impulsive behavior during heightened positive emotions (Whiteside & Lynam, 2001; Cyders et al., 2007). These constructs capture how affective states may shape impulsive actions.

Attachment styles, conceptualized as affect regulation frameworks (Vrticka et al., 2012), appear to influence these impulsive tendencies. Prior findings (Barbara & Naomi, 1999) suggest that emotional experiences differ in intensity depending on one's attachment orientation. Individuals with secure or dismissing attachment tend to report less intense emotional reactions, whereas those with preoccupied or fearful attachment often experience greater emotional intensity. Additional research reinforces these associations: preoccupied attachment correlates with elevated negative emotional responses, while avoidant attachment is linked to blunted positive affect (Cohen & Shaver, 2004; Rognoni et al., 2008). These variations in affective intensity and regulatory strategies—whether hyperactivating or deactivating—may, in turn, influence expressions of emotional impulsivity.

Gender is another important factor that may shape how impulsive traits are expressed. Previous studies have consistently reported that men score higher in positive urgency (Coskunpinar et al., 2013; Cyders, 2013), whereas women tend to report greater negative urgency (Billieux et al., 2012). Despite this growing body of evidence, the intersection between attachment styles and the UPPS-P framework has yet to be explored in depth. This study therefore seeks to fill that gap by examining how emotional components of impulsivity, as captured by the UPPS-P model, vary across different attachment styles—both secure and insecure—while also considering differences among the three insecure subtypes.

Regarding these aims, we formulated the following hypothesis:

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H_1 : Both male and female preoccupied individuals would report higher scores than dismissing avoidant individuals for the emotional dimension of UPPS-P (*negative and positive urgency*)

2. Method

This study was approved by the local Research Ethics Committee (no. CER 2021-03-01).

2.1. Sample and procedure

The study included 915 individuals aged between 18 and 84 years. Among them, 693 identified as female (M = 27.03, SD = 11.03) and 206 as male (M = 26.82, SD = 10.75). Participants were recruited via an online questionnaire distributed through the Sphinx platform across multiple regions in France. The average educational attainment corresponded to approximately 14 years of formal education, aligning with the second year of undergraduate studies. No statistically significant differences emerged between male and female participants regarding educational level, $t(954) = 1.45$, $p = .14$. Similarly, gender differences were not significant with respect to relationship status—whether single, married, in a civil partnership, cohabiting, or in a registered union ($\chi^2 = 1.9$, $p = .06$)—nor with respect to living arrangements, including living alone, with a partner, or in shared housing ($\chi^2 = 0.5$, $p = .06$).

2.2. Instruments

2.2.1. Relationship Scale Questionnaire (RSQ). Attachment styles were assessed using the Relationship Scale Questionnaire (RSQ), initially developed by Griffin and Bartholomew (1994) and adapted for French populations by Guédeney, Fermanian, and Bifulco (2010). The RSQ consists of 30 self-report items, each rated on a 5-point Likert scale. For the purposes of this study, the framework outlined by Feeney and Hohaus (2001, Model 3B) was applied. This model differentiates between avoidance (items 1, 2, 3, 4, 6, 8, 10, 14, 26, 30) and anxiety (items 5, 7, 9, 11, 12, 13, 16, 17, 18, 21, 23, 25, 28) dimensions, with Cronbach's alpha values of .68 for avoidance and .79 for anxiety dimensions.

2.2.2. Short UPPS-P Impulsivity Scale. The abbreviated version of the UPPS-P Impulsivity Scale (S-UPPS-P) was employed to evaluate five impulsivity components: negative urgency (NU), positive urgency (PU), lack of premeditation (LPL), lack of perseverance (LPER), and sensation seeking (SS). Each subscale comprises four items, rated on a 4-point Likert scale from 1 ("Strongly agree") to 4 ("Strongly disagree"). This investigation focused exclusively on the NU and PU dimensions, which demonstrated satisfactory internal consistency, with Cronbach's alpha scores of .83 and .76, respectively.

2.3. Data analyses

Participants were categorized into four attachment groups through a median split approach based on their anxiety and avoidance scores. These groups included: secure (low anxiety, low avoidance), preoccupied (high anxiety, low avoidance), dismissive-avoidant (low anxiety, high avoidance), and fearful-avoidant (high anxiety, high avoidance). All statistical analyses were carried out using IBM SPSS Statistics version 29 (IBM Corp., Armonk, NY).

3. Results

Table 1. Summary of Means, Standard Deviations, Mean ranks of UPPS-P traits in four attachment styles.

	Secure (n=142)		**Preoccupied** (n=172)		**Dismissing** (n=205)		**Fearful** (n=180)	
Women	**Mean (SD)**	**Mean rank**	**Mean (SD)**	**Mean rank**	**Mean (SD)**	**Mean rank**	**Mean (SD)**	**Mean rank**
NU	9.01(3.07)	299.93	10.81 (3.31)	412.82	8.88(2.81)	293.59	10.38(2.96)	393.75
PU	11.45(2.51)	346.08	12.44 (2.51)	419.17	10.62(2.75)	289.15	11.55 (2.56)	356.30
	Secure (n=42)		**Preoccupied** (n=55)		**Dismissing** (n=63)		**Fearful** (n=47)	
Men	**Mean (SD)**	**Mean rank**	**Mean (SD)**	**Mean rank**	**Mean (SD)**	**Mean rank**	**Mean (SD)**	**Mean rank**
NU	9.33(3.14)	106.43	10.38(3.08)	127.17	7.60(2.53)	72.13	9.77(2.68)	117.44
PU	11.59(2.56)	118.08	11.00(2.58)	106.01	9.79(2.86)	81.32	11.55(2.43)	119.47

Table 2. Comparison of UPPS-P Dimensions Across Four Adult Attachment Styles: Kruskal-Wallis Test and Dunn's.

	Kruskal-Wallis test	**Post Hoc Test**					
	H (df)	**Dunn's post hoc test**					
Women		1-2	1-3	1-4	3-2	3-4	2-4
NU	50.23***(3)	-112.85***	6.43	-93.81***	-119.19***	-100.16***	19.04
PU	39.51***(3)	-73.81***	56.94	-10.22	-130.02***	-67.16***	62.86**
Men							
NU	28.82***(3)	-20.74	-34.30**	-11.01	-55.05***	-45.31***	9.74
PU	14.73**(3)	12.07	36.77**	-1.38	-24.69*	-38.15***	-13.46

Note. 1: Secure attachment style, 2: Preoccupied attachment style, 3: Avoidant Dismissing attachment style, 4: Avoidant Fearful attachmeent style; ** $p < .05$; ** $p < .01$; *** $p < .001$*

As presented in *Table 2*, the Kruskal-Wallis test indicated statistically significant differences in emotional impulsivity scores across attachment styles for both female and male participants.

Women : In the female subsample, scores on *negative urgency (NU)* differed significantly according to attachment style, $H(3) = 50.23$, $p < .001$. However, no significant differences were observed between participants with secure and avoidant-dismissing styles, or between those with preoccupied and fearful attachment. Women classified under the preoccupied style displayed the highest NU scores, whereas the avoidant-dismissing group recorded the lowest levels of emotional impulsivity. Regarding *positive urgency (PU)*, the Kruskal-Wallis test also revealed significant group differences, $H(3) = 39.51$, $p < .001$. Post hoc comparisons showed that only the avoidant-dismissing group significantly differed from all other styles, reporting the lowest levels of PU. **Men** : Among male participants, a similar pattern was observed. For *NU* ($H(3) = 28.82$, $p < .001$), significant differences were found solely between avoidant-dismissing, which exhibited the lowest levels, and all other attachment styles. The same pattern was observed for *PU*.

4. Discussion

The present study investigated how attachment styles relate to the emotional facets of impulsivity, as conceptualized by the UPPS-P model, in male and female participants. Results confirmed the initial hypothesis, showing significant variations in impulsivity across attachment categories. Specifically, individuals with a dismissing-avoidant attachment style exhibited the lowest levels of emotional impulsivity, significantly differing from those with preoccupied and fearful attachment patterns, both of which were associated with elevated impulsivity scores.

4.1. Preoccupied attachment and emotional impulsivity

These results are consistent with prior findings that link attachment-related anxiety—central to preoccupied attachment—with higher levels of *negative urgency* (Cyr et al., 2018; Estévez et al., 2018). The preoccupied style is marked by emotion regulation strategies that amplify affective responses (Kobak & Bosmans, 2019; Mikulincer & Shaver, 2019; Tammilehto et al., 2023; Verhees et al., 2021). Such hyperactivating strategies lead to heightened negative emotional states and elevated emotional baselines (Dančík et al., 2021; Dugan et al., 2022; Kerr et al., 2019; Tammilehto et al., 2023). When considering *positive urgency*, individuals scoring high on attachment anxiety tend to display weaker inhibitory control mechanisms compared to those with dismissing attachment tendencies (Dewitte, 2011). Evidence also suggests that they exhibit reduced inhibition of facial responses to positive stimuli and may exaggerate expressions of positive emotion to foster closeness and fulfill attachment-related needs (Gillath et al., 2006).

4.2. Dismissing-avoidant attachment and emotional impulsivity

Participants with a dismissing-avoidant attachment style consistently reported the lowest levels of both *negative* and *positive urgency*, across both genders. This outcome aligns with Iliceto et al. (2012), who found a negative though nonsignificant correlation between avoidance and impulsivity. Avoidant attachment styles are typically associated with deactivating strategies, such as emotional suppression, avoidance of threat cues, and downregulation of emotional responses (Gentzler et al., 2010; Kobak & Bosmans, 2019; Mikulincer & Shaver, 2019). These strategies serve to suppress attachment-related needs and reduce the likelihood of system activation (Bowlby, 1980). As a result, individuals employing deactivation mechanisms may experience lower levels of emotional arousal, which in turn decreases impulsive reactions to emotionally charged situations (Dančík et al., 2021; Dugan et al., 2022; Tammilehto et al., 2023). The systematic suppression of emotional expression and experience may not only contribute to lower impulsivity but also limit opportunities for emotional correction, potentially reinforcing avoidant tendencies and distancing behaviors over time.

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SAFER-MH: FEASIBILITY STUDY OF A DISCHARGE PLANNING CARE BUNDLE

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Abstract

Care transitions are widely recognised as a vulnerable, high-risk stage in the care pathway with multiple professionals involved across sectors. In the UK, a large proportion of people who died by suicide have recently been discharged from secondary mental health services. Improving systems, processes and support during this critical period has the potential to be life-saving. Patients being discharged from inpatient mental wards often describe safety risks in terms of inadequate information sharing and involvement in discharge decisions. Through stakeholder engagement, we co-designed a care bundle intervention, SAFER Mental Health (SAFER-MH), to address these concerns through the introduction of new or improved processes of care. We conducted a feasibility study to understand whether a definitive trial for SAFER-MH is feasible and, if so, how it should be designed, and how many patients/wards should be included. A before-and-after feasibility study design with a 6-week usual care phase followed by 6-week intervention phase was conducted on three wards in the North of England. During the intervention phase, all participants received the intervention. We used quantitative (validated questionnaires, e.g. EQUIP, CTM) and qualitative (interviews) methods to assess the acceptability and feasibility of SAFER-MH. This study report presents the qualitative findings of using the Theoretical Domains Framework to assess and understand implementation with 16 clinician interviews conducted during the post intervention phase. The Framework analysis highlighted issues that can be used to guide future implementation of the SAFER-MH intervention, indicating that most clinicians felt they had the knowledge and skills to implement SAFER-MH. However, focus should be on integrating the intervention into standard practice to mitigate the effects of external factors such as ward acuity, which was identified as key driver for nonadherence. The findings highlight the importance of the development and embedding of targeted Behaviour Change implementation strategies in future studies.

Keywords: *Mental health services research, care transitions, inpatient mental health services, communication, shared decision making.*

1. Background

Individuals admitted to inpatient mental health services are at higher risk of adverse outcomes such as shorter life expectancy; increased risk of homelessness and many other adverse psychosocial outcomes, including loneliness and isolation (Walter et al., 2019). Transitions into and out of acute psychiatric hospitals are associated with risk factors for patient safety incidents. For example, the absence of continuity of care, difficulties with medication management across the care system, insufficient housing, social or community care provision resulting in delayed discharge and insufficient information sharing between services (Tyler et al., 2021; Walter et al., 2019).

Multifaceted interventions have been increasingly used to improve patient safety and reduce readmissions in complex care transitions (Tyler, Hodkinson, et al., 2023). The SAFER patient flow bundle is an exemplar multifaceted intervention, developed by NHS England/Improvement to improve discharge from acute hospitals to the community (Improvement, 2016). The SAFER patient flow bundle

consists of five components: (1) senior review (before midday); (2) expected discharge date and clinical criteria for discharge; (3) early assessments to improve patient flow; (4) early discharge (aiming to discharge patients before midday) and (5) a multidisciplinary review for patients with increased length of stay. Many of the individual components of the SAFER bundle are used as standard practice or best practice guidelines in policy (NICE, 2016). Preliminary evidence from case studies across the country is promising, demonstrating that SAFER has resulted in reduced length of patient stay in different hospitals, fewer discharge delays with minimal complications and decreased readmissions or contact with primary care. Furthermore, patient and clincian satisfaction have increased.

Although protocols, webinars, and/or other tools have been developed to facilitate the implementation of SAFER, there is currently a lack of evidence examining its appropriateness within a mental health setting. To address this gap, we conducted expert consensus exercises using the RAND/UCLA methodology (Tyler, Planner et al., 2022) and a series of co-design empirical studies with multiple stakeholders including patients, carers, clinicians and academics (Tyler, Angelakis, et al., 2023). Through stakeholder engagement, we co-designed the SAFER care bundle for inpatient mental health settings (SAFER-MH, hereafter) which aims to address these concerns through the introduction of new or improved processes of care. Since the co-production of SAFER-MH, we have aimed to generate data on its feasibility and acceptability, which will contribute to the evidence base for its potential wider adoption within the NHS (Tyler, Angelakis, et al., 2023). Implementing new practices and/or changing existing practices in healthcare services require changes in individual and collective behaviour (Atkins, Francis, Islam, O'Connor, et al., 2017). Changing clinician behaviour requires an understanding of the influences on behaviour in the context in which they occur. This paper outlines how we used the Theoretical Domains Framework of behaviour change (Atkins, Francis, Islam, O'Connor, et al., 2017) to investigate clinician behaviour change during implementation in the SAFER-MH Feasibility study.

2. Objectives

The primary objectives were as follows:

- To identify specific principles of SAFER-MH that need adaptation to enhance feasibility, acceptability and increase the likelihood of long-term implementation.
- To explore healthcare professional behaviours associated with implementation and investigate whether engagement with the SAFER-MH intervention can be improved using evidence-based behavioural science techniques.

3. Methods

3.1. Intervention

SAFER-MH is a co-designed adapted version of the SAFER patient flow bundle (NHS Improvement) intervention and was delivered to patients as part of their normal care pathway. The intervention was adapted based on 35 stakeholder interviews and RAND consensus methods with multidisciplinary experts and clinicians (Tyler, Planner et al., 2022). First, we aimed to identify the elements of existing practice in the pilot sites before implementing the SAFER-MH intervention. The intervention focused on promoting best practice guidance and has three key stages: admission, discharge and weekly tasks, and are discussed below:

- ***Admission:*** at admission, the intervention group will complete three key tasks: (1) setting criteria for discharge and an estimated discharge day, (2) identifying early social information that will help plan for discharge and (3) introducing the patient written discharge plan. This will be structured within two documents including the admission's social information capture document and the transition's checklist, which will be completed at multiple times in the patient journey.
- ***Weekly tasks:*** there are three weekly tasks that will form part of this assessment: (1) senior review of discharge readiness, (2) multidisciplinary discharge team meeting and (3) multiagency discharge team meeting.
- ***Discharge:*** at discharge, there will be two key tasks: (1) co-producing a high-quality patient written discharge plan and (2) ensuring the patient has their copy of the patient written discharge plan.

3.2. Design

A before-and-after feasibility study with a 6-week usual care phase followed by 6-week intervention phase in each participating ward. We examined the feasibility and acceptability of the SAFER-MH intervention in inpatient mental health settings for patients aged 18 years or older, from admission through to discharge. SAFER-MH was implemented in three wards, across different trusts within the North England. During the intervention phase, all patients received the intervention.

3.3. Analysis

The feasibility study used quantitative (validated questionnaires, e.g., EQUIP, CTM) and qualitative (interviews) methods to assess the acceptability and feasibility of SAFER-MH. Qualitative data were analysed in three ways: (1) Thematic analysis to assess key themes across the study participants and periods relating to discharge quality and safety pre and post intervention (2) Framework analysis of interviews with clinicians using the Theoretical Domains Framework and Theoretical Framework of Acceptability to assess professional perceptions of implementation and associated behaviour change, and (3) Collaborative coding with members of the patient and public involvement and engagement group to assess perceptions of the data from a lived experience perspective. This paper reports on the learning from the framework analysis using the Theoretical Domains Framework.

3.4. Ethics

Ethical approval was obtained from the National Health Service Cornwall and Plymouth Research Ethics Committee and Surrey Research Ethics Committee (reference: 22/SW/0096 and 22/LO/0404).

4. Results

Interviews were conducted with 55 participants across the pre and post intervention phases. Questionnaires were completed by 80 participants. This analysis focuses on interviews with 16 clinicians in the post-intervention phase. The Theoretical Domains Model Framework analysis, highlighted barriers and facilitators to clinician behaviour change during SAFER-MH implementation. The Theoretical Domains Framework consists of 14 domains based around the capability, opportunity and motivation of clinicians. Findings suggested that while most staff felt confident in their knowledge, skills, and capacity to deliver the intervention, environmental factors (e.g., time, resources, and workload), decision-making processes (e.g., prioritisation), and intentions/consequences needed to be addressed. These elements must be optimised to seamlessly integrate SAFER-MH into existing practice by streamlining the process. Table 1 summarises the Framework analysis of the professional interviews in relation to each domain of the theoretical domains model.

5. Discussion

This research found that the biggest barriers to effective implementation of SAFER-MH were clinicians perceived lack of time, resources and workload challenges. Other key challenges included prioritisation of SAFER-MH alongside other procedures and cognitive processes (forgetting, not meeting deadlines). These findings mirror similar research studies that address clinical behaviour change (Barley et al., 2011; Mather et al., 2022; O'Brien et al., 2016), with a recent systematic review finding that time, workload and general resources (in addition to knowledge) were the most important themes when assessing barriers to implementation of clinician behaviour change (Mather et al., 2022). This framework analysis provides an evidenced-based resource to develop and embed targeted behaviour change techniques into future iterations of testing SAFER-MH. Addressing these common barriers through associated behavioural change intervention functions such as education, training, restriction, environmental restructuring and enablement, and policy changes, should be prioritised. These efforts could encourage clinicians to modify clinical practice and adhere to the principles of SAFER-MH.

Table 1. Framework analysis of the professional responses in line with the theoretical domains framework.

TDF domain	Summary of theme
Knowledge	Every professional that was interviewed felt that had the knowledge to adequately engage with the intervention. Many clinicians described it as 'self-explanatory'. *S4 'I think a lot of it very straightforward, it was easy to use, self-explanatory on there yeah, there was nothing really I felt was yeah, that I would struggle with.'*
Skills	Every professional that was interviewed felt they could draw upon pre-existing skills to engage with the intervention and felt it was simple and self-explanatory. *S5 'Yeah, yeah, pre-existing skills, yeah, I thought it was straightforward.'*
Social/professional role and identity	The intervention was primarily used by nursing staff, most of the clinicians interviewed felt that engaging with SAFER-MH was a key part of the professional role and saw the benefits that it offered. *S8b 'Yeah, I suppose, yeah, 'cause it's something that's necessary, isn't it, and beneficial.'* However, whilst many nurses engaged with the premise of the intervention aligning with their professional role, some expressed how factors like ward acuity and workload pressures make it difficult to engage with it and suggested that many components of the intervention implementation might be better suited to nursing assistant role. *S7b 'Yeah, it felt like the nursing assistants could also support with some of the information'*

Beliefs about capabilities	All of the nurses interviewed believed they had the capability to deliver SAFER-MH, but concerns were raised around the capability to effectively deliver SAFER-MH during times of high acuity and staff shortages. Ensuring SAFER-MH is integrated into existing admission and discharge processes was often discussed as a way to improve beliefs in individual practical ability to realistic incorporate the intervention. Some felt that extra training for nursing assistants would be beneficial in ensuring they felt capable to deliver SAFER-MH. *S7b 'But if we had it in, like, just to be done on the full admission I think it'd be done more, completed well.'*
Optimism	The majority of clinicians interviewed had initial optimism about SAFER-MH and could see the value it had in terms of improving quality and safety of care transitions, whilst many remained optimistic, some felt that optimism reduced as ward pressures increased. Many felt that when SAFER-MH was integrated into standard practice and duplication was avoided, optimism would be less likely to reduce at times of high acuity. *S4 ' Yes, I would say more initially, but I think again that's only because of that really busy patch we had in the middle.'*
Beliefs about consequences	As the intervention was introduced as part of a research study, the majority of clinicians agreed there weren't any significant consequences if the intervention wasn't delivered (or wasn't delivered as intended) and research was generally not prioritised over existing clinical duties. Many identified the critical patient safety consequences of an unsafe discharge and understood the importance of the intervention from this perspective. S8b *' it would be a disadvantage when they are discharged and they do need support and they don't know where to find it.'*
Reinforcement	As this was a research study, many staff felt that there was little reinforcement for delivering the intervention, but that there was reinforcement for not delivering existing transitions standard practices. Many felt that when the intervention integrated with standard practice, there would be significant reinforcement around disengagement. *S6 'you can't forget. Because you...like I said, the care plan, the discharge plan is there. So towards the end of discharge, like I said, the discharge plan/care plan has to be involved.'*
Intentions	At the beginning of the study most clinicians agreed they had strong intentions to use the intervention. As the study progressed many clinicians felt less able to commit to their intentions and didn't always deliver the intervention as intended, largely due to ward pressures. Also the timelines that the intervention specified sometimes caused issues for implementation. *S4 'we did struggle a little bit with that… So, the 24 hours and the 48 hours. We did have a period in the middle of the study…where we were rally acute…unfortunately, that little part of the study in the middle it did drift off.'*
Goals	The majority of the ward managers had intended to deliver the intervention as expected, but sometimes felt ward pressures made it hard to achieve the goals, despite putting procedures in place with staff to try to achieve implementation. *S4 ' you know. 'Cause [name] kept a track of it for me and she'd feedback, you know, somebody's gone and they've not done this'*
Memory, attention and decision processes	There was a lot of the discussion around clinicians mental capacity to remember, give attention and make decisions around implementing the intervention. Firstly, as this was not standard practice forgetting to deliver the intervention often happened, many described how the time specifications affected this, when the deadline passed people didn't adhere to it. *S7b 'I feel like it got missed because people are seeing them as deadline dates and it's like, oh it's passed it now so there's no point in doing it kind of thing,* In terms of the effort and decision processes around prioritisation, certain elements of the intervention were not prioritised and staff made a decision not to engage with some components during busy periods. *S5 'I think the medication was quite lengthy having to fill that bit in'* Decisions around whether to deliver the intervention were often made based on ward acuity, and some described it as an unconscious decision. S4 'To be honest it wasn't more of a conscious decision, it was more of a...what was going on at the time in the ward yeah, yeah, I would say.'
Environmental context and resources	Environment of a busy acute inpatient ward was a key influence throughout all of the interviews in relation to adherence of the intervention, almost all instances of nonadherence were related to environmental pressures such as time, document storage and duplication and staffing. *S8b 'We're very time-limited on the ward sometimes with the demands, especially on an acute mental health ward…on top of all the other documents…along with everything else that's happening on the ward..it does get missed.'*
Social influences	From a patient perspective, staff identified some particular social groups that were less likely to engage with the intervention, such as patients with a strong desire to leave or stay on the ward, those who don't speak English and illicit drug users or people with social elements of their life that they might not want to disclose. *S6' So...and they might need, kind of, convincing, you want to give them...because they just want to leave the ward'*

Emotion	From an emotional perspective, many staff agreed that discharges need to be safer and engaging with the intervention can improve this by delivering person centred care. Many felt like SAFER-MH aligned with their core personal and professional values. *S7b 'It's more…it makes the care more centred, like, patient centred when you're looking into it'*
Behavioral regulation	Some clinicians that were interviewed took action to try to encourage other staff to engage with the intervention and some felt they were able to change behaviours of other staff as they advocated for the value of SAFER-MH, however this was more positive with less experienced staff. *S9 'The preceptees, yes, the ones that have been there a while, no'*

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INTELLECTUAL CONTROL AS INTEGRAL PART IN THE SYSTEM OF PERSON'S MENTAL RESOURCES

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Abstract

The article deals with basic approaches in the theoretical research of such unexplored topic as intellectual control. The sources of explored topic and basic theoretical approaches to the named phenomenology are examined. On the base of author's methodic is held the research of the intellectual control and in particular the interrelation between the intellectual control scale and the psychological regulation index by the Rorschach test. The role of intellectual control is defined as an important psychological characteristic, which determines the efficacy of the psychological regulation in the situation of social interaction.

Keywords: *Metacognitive experience, intellectual control, compensation, motivation of controlling, Rorschach test.*

1. Statement of the problem

The development of theoretical and methodological approaches to understanding the psychological nature of an individual's intellectual resource capabilities is characterized by the search for new explanatory models in understanding the complex nature of intelligence, the usage of motivation concepts and regulation in explaining the nature of intellectual processes. The trend towards updating the research paradigm, due to the emerging crisis in methodological directions in this area of research, determines the search for new models and explanatory schemes (Sternberg et al., 2000) The study of metacognitive experience is a current trend in modern psychology and creates a need for practical applicability in various areas of activity and turn to the study of various aspects of experience. This can be seen quite clearly in the approaches of different researchers: metacognitive monitoring of activity by R. J. Sternberg, the development of various aspects of control in the direction of cognitive controls (Witkin, 1974). Aspects of subjective regulation of intellectual activity come to the fore in this context.

2. Theoretical foundations for studying the nature of intellectual control

The topic of control has acquired particular significance in the study of metacognitive aspects of experience in recent studies. The beginning of scientific ideas development in this area relates to metacognitive concept of J. Flavell (reference from S. Folkman, 1984, procedural characteristics of cognitive processes – 1970th) and the problem of locus of control and attribution theories. J. B. Rotter identified the characteristics of the locus of control as an independent unit of analysis (Rotter, 1966).

Contemporary control research is undergoing a shift in research direction toward the study of self-efficacy expectations. One of the main differences between recent trends in the study of the problem of control compared with previous approaches (the theory of cognitive attribution, locus of control) is that "perceived control" is considered not as a motive or a need, but as a cognitive assessment.

It is also extremely important that in modern developments the term "control" is used to denote both subjective perception and the object of self-regulation (Skinner, 1995).

Subsequent development of this topic is aimed at finding explanatory models of how the experience of control ensures the effectiveness of individual interaction in the surrounding social environment. Theories focus around two main functions of control:

1) regulation of the quality of actions during execution;

2) interpretation of the quality of the performed action after its implementation.

The noted theories are also associated with the study of the experience of mastery - helplessness (success - failure).

Further development of scientific ideas was fulfilled in the works of Flammer (90s - reference from Folkman, 1984). The works of this author represent one of the first formulations of metacognitive theory, although in most modern publications the beginning of the problem's development, as already indicated. The special significance of the author's developments on this topic is associated with the distinction between two important concepts:

• control of the objective conditions of the present (the aspect of controlling active actions carried out by the subject);

• control beliefs (aspect of regulation of subjective ideas and execution strategies).

The author considers the second of the mentioned aspects as more significant in the regulation of behavior, as well as a more dynamic cognitive formation. The author identified the term *control-believe*, defined as subjective representations of one's own ability to influence ongoing events. From the very beginning, the development of the perceived control problem included empirical models for studying this quality in real life circumstances, which significantly distinguished from traditional studies in laboratory conditions. Subjective controllability significantly influences various behavioral characteristics, and, accordingly, the effectiveness of activity in general. In particular:

• choice of activity type (indirectly influences the level of aspirations);

• persistence and diligence in achieving goals, more successful planning for achieving goals;

• type of emotional response (individual differences in perceived self-efficacy are associated with manifestations of anxiety during the performance of activities);

• initiation of activity;

• development of strategies and step-by-step structuring of activities;

• regulation of efforts to overcome obstacles during implementation.

3. Methodology and methods of empiric research

For the purpose of empirical study of the phenomenology control was developed the author's own research methodology based on the principle of repertory grid technique (Vinogradova, 2009). The implementation involved two stages: first one – selection of an emotionally difficult situation and its specification; second is their assessment according to statements reflecting the characteristics of intellectual control. Based on the results, the repertoire grid matrix was filled in. Descriptions of such situations related to the following areas of life: professional and business interaction, intimate and personal relationship, self-knowledge.

These descriptions were general in nature and covered a whole range of specific situations of an emotionally difficult nature. The subject was required to select from the proposed list descriptions of those situations that seemed significant or interesting for assessment to him or her (at least five). The results of working with the technique were subjected to statistical processing.

Let us move on to presenting the main results of the empirical research conducted, which aims to study the substantive specificity of this phenomenology. The sample of subjects with developed compensatory motivation consisted of 47 individuals with a stable motivation to compensate for undesirable psychological qualities with others that are more acceptable from the standpoint of the individual. If there is a stable motivation for personal change, self-monitoring is actively involved, this allows for a more in-depth study of control processes. All those studied showed good adaptation in conditions of constant social interaction. Individuals who successfully coped with the task of compensating for the desired qualities were selected for the study.

The empirical research program included: working with the author's methodology described above and conducting G. Rorschach's projective test (2003), followed by statistical processing and in-depth analysis of the study results. We have turned to phenomenology of compensation of some psychological characteristics by others. Successful compensatory activity presupposes the development of effectively functioning self-monitoring, since during the formation of the desired qualities of behavior activity and more flexible adaptation. Let us move on to the interpretation: thus, indicators of intellectual control give direct correlations with the following indicators of the Rorschach test:

• realistic index ($r = 0.76$ $p < 0.01$);

• the subject's ability to carefully use his or her own psychological resources ($r = 0.75$ $p < 0.01$);

• sum F (form) the ability to consciously control the thinking processes ($r = 0.45$ $p < 0.05$);

• ability to independently initiate activity ($r = 0.69$ $p < 0.01$);

• negative correlation with the degree of control over the objective conditions of what is happening during social interaction: F+% indicator ($r = - 0.37$ $p < 0.005$).

• sum C - ($r = 0.26$ $p < 0.005$) - the degree of control a person has over open emotional reactivity.

As we can see, higher rates of intellectual control are associated with the economical use of one's own psychological resources, more successful regulation of emotional states and with the initiation of activity in the mental plane. The negative correlation of intellectual control with the indicator of the degree of control over the objective conditions (Rorschach test), namely the control of a behavioral act, demonstrates its specificity precisely as a mental strategy of analysis and self-monitoring. Optimal indicators of intellectual control make it possible to build adaptive mental models and build different behavioral strategies, help a person to cope better with these tasks and are generally associated with the success of the operational activation of cognitive resources.

4. Conclusion

The results provide a deeper understanding of the substantive specificity of intellectual control and, in our opinion, allow us to conclude about the commonality of intellectual control and the mechanisms of subject's metacognitive regulation. This research is showing the significance of this characteristic as the most important parameter of the psychological regulation and operational activation of the subject's cognitive resources.

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SPOUSAL BEREAVEMENT AMONG WOMEN IN TÜRKİYE: A QUALITATIVE STUDY OF POST-LOSS AND COPING EXPERIENCES

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Abstract

Introduction: The loss of a spouse is considered one of the most distressing life events, linked to various psychological, social, and physical challenges. As such, it represents a significant stressor that may result in conditions such as depression and prolonged or complicated grief. This study aims to explore the emotional and practical experiences of spousal bereavement among women in Türkiye, focusing on how they navigate grief and cope with these challenges. Method: This study investigated the mourning process of eight women (age range 42-59) living in Türkiye using in-depth semi-structured interviews. The inclusion criterion is having lost a spouse at least six months ago. The data gathered from the interviews were analyzed by using phenomenological analysis in MAXQDA 22. Results: Two main themes emerged: post-loss experiences and coping experiences. The theme of post-loss experiences consists of two sub-themes: intense emotions and increased responsibility. Women expressed feelings of emptiness and pain after the loss of their spouse, as well as shock and paralysis. Some of them stated that they could not remember the first moments they experienced due to the shock. Participants also mentioned depressive symptoms such as hopelessness about the future, feeling disconnected from friends and family, and loss of a sense of pleasure. In addition, women talked about their increased responsibilities after the loss. Participants were worried about having to take on all the responsibilities, especially those related to the house and children, and it was difficult for them to think about these responsibilities along with the pain they experienced after losing their husbands. Another emerging theme was coping experiences, consisting of three sub-themes: receiving psychological support, social support, and religious beliefs and rituals. Some participants mentioned that psychotherapy and psychiatric medication support were beneficial for them. Others did not receive psychotherapy or medication support, resorted to religious coping mechanisms during their mourning process, and shared their pain with friends and family. Participants reported a sense of relaxation and spiritual peace with the small communities they formed with their friends and family members and the religious rituals they performed there. Conclusion: The findings provide insights for mental health professionals working with bereaved individuals, highlighting the role of both emotional and practical support in the grieving process.

Keywords: *Grief, bereaved women, bereavement, loss, meaning, qualitative study.*

1. Introduction

The death of a spouse is universally acknowledged as one of the most challenging life events, with profound and far-reaching consequences for the bereaved. Spousal loss often triggers a range of psychological, social, and physical difficulties that may persist for months or even years (Holm et al., 2019). The grief process is marked by intense emotions, including sadness, anger, and guilt, as well as a sense of emptiness and disconnection from others. These experiences are compounded by practical challenges, such as managing household responsibilities and adjusting to life without a partner, which may further exacerbate the stress of bereavement (Seiler et al., 2020). For women, particularly in cultural contexts where traditional gender roles prevail, the loss of a spouse can bring unique challenges that require closer examination.

Grief is a complex and multidimensional process that varies significantly across individuals and cultures. While some individuals adapt to their loss over time, others may develop prolonged or complicated grief characterized by persistent distress and an inability to return to daily functioning (Sekowsk and Prigerson, 2022). Cultural norms, social expectations, and individual coping mechanisms are critical in shaping the grieving process. In Türkiye, a society that blends traditional and modern elements, bereavement practices are deeply influenced by cultural and religious values (Çaksen, 2024; Kaya et al., 2024; Ümmühan et al., 2022). Rituals, social support networks, and spiritual beliefs often

provide solace and a sense of continuity for the bereaved. However, these same cultural expectations can also pressure individuals to conform to specific grieving behaviors, potentially hindering personal expression and healing (Tanacıoğlu ve Erdur, 2022).

The psychological impact of spousal loss has been widely studied in Western contexts, where individualistic cultural norms often emphasize personal autonomy, financial wellbeing in coping with grief (Bonanno et al., 2004; Chami & Pooley, 2023). In contrast, collectivist cultures like Türkiye emphasize interconnectedness and communal support, which may shape the grieving process differently (Jasmita et al., 2024; Turkish women may face unique challenges due to societal expectations surrounding widowhood (Ergün-Başak, 2024). They are often expected to prioritize family responsibilities and maintain composure in public, even while experiencing profound personal pain (Gedik, 2018). Understanding these cultural nuances is essential for providing effective psychological support to bereaved individuals in Türkiye.

Research on bereavement has highlighted the importance of various coping mechanisms, including psychological interventions, social support, and spiritual practices (Rogalla, 2020; Sullivan & Infurna, 2020; Purrington, 2023). Studies have shown that psychotherapy and counseling can help individuals process their grief, develop adaptive coping strategies, and rebuild their sense of purpose (Asgari et al., 2023; Zuelke et al., 2021; Den Elzen et al., 2024). Social support, whether from family, friends, or community networks, also plays a crucial role in alleviating feelings of isolation and promoting emotional well-being (Gai et al., 2024; Scott et al., 2020). Additionally, religious and spiritual practices often serve as vital coping resources, offering comfort and a sense of meaning in the face of loss (Martins et al., 2024; Park & Halifax, 2021). In Türkiye, Islamic traditions and rituals provide a framework for mourning and remembrance, which can help bereaved individuals navigate their grief journey. Despite the wealth of research on grief and bereavement, there is a relative paucity of studies focusing specifically on the experiences of bereaved women in Türkiye. Existing literature often overlooks the interplay between cultural, social, and personal factors in shaping the mourning process (Aksoz et al., 2018; Ergün-Başak, 2024). This gap highlights the need for qualitative research that captures the lived experiences of bereaved women, shedding light on how they navigate the emotional and practical challenges of spousal loss.

This study aims to address this gap by exploring the post-loss and coping experiences of bereaved women in Türkiye. Using a phenomenological approach, the research seeks to uncover the emotional, social, and cultural dimensions of grief, providing a comprehensive understanding of how women adapt to life after the loss of a spouse. The findings will contribute to the growing body of literature on bereavement and inform culturally sensitive interventions for mental health professionals working with bereaved individuals. By examining the unique experiences of Turkish women, this study also aims to highlight the broader implications of cultural context in shaping the grieving process.

2. Research design and method

In this study, a descriptive phenomenological design, a widely used qualitative approach, was adopted to explore the experiences of bereaved women who have lost their spouses. This design enables a detailed examination of participants' lived experiences, allowing the development of an in-depth understanding of the phenomena by analyzing their expressions (Forrester, 2010; Patton, 2014).

Eight participants were selected using purposeful sampling to ensure they met the inclusion criteria. These criteria included (1) being a woman aged between 30 and 60, (2) having lost their spouse at least two years prior to the study, and (3) possessing sufficient cognitive capacity to comprehend and answer the interview questions. Eight women participated in the study, with a mean age of 48.5 years. All participants resided in Türkiye and provided informed consent to participate in the study. The study's primary aim was to understand the lived experiences and coping mechanisms of women navigating spousal loss. Data were collected through semi-structured interviews, and the information was analyzed using phenomenological analysis with MAXQDA 22 software. This approach provided insights into both the emotional and practical challenges faced by the participants and highlighted their adaptive strategies for coping with grief.

2.1. Data collection and analysis

The semi-structured interview questions were the main data collection tool in this study. Interview questions, which the authors created, were checked by two clinical psychologists, and the final version of questions was asked to participants. The interviews were carried out online as a Zoom meeting. The interviews were recorded for transcription and lasted about 20 minutes. Some example questions were: "Can you describe the process of losing your spouse?; If you shared your experiences with your

family after your loss, how would you describe this? How did it make you feel?; What do you think is the role of religious beliefs in the grieving process?".

Interviews were transcribed verbatim were fed into the MAXQDA20 computer program to complete the data analysis. Each transcript was read multiple times, and recurrent themes were defined. Initial codes were identified by the author, and then an inquirer checked the codes and discussed the themes with the author (Patton, 2014). Until saturation was achieved, the process of coding themes was continued. In order to ensure rigor, the author wrote reflexive notes and completed an audit trail (Forrester, 2010).

3. Results

Two main themes emerged: post-loss experiences and coping experiences. The theme of post-loss experiences consist of two sub-themes: intense emotions and increased responsibility.

Women expressed feelings of emptiness and pain after the loss of their spouse, as well as shock and paralysis. Some of them stated that they could not remember the first moments they experienced due to the shock. Some quotations from participants are:

Participant 4 (P4): "I feel like I'm bursting inside like I'm going to go crazy. There's nothing outwardly wrong, but inside, there's anxiety and stress. That stress is unbearable. It's so painful, like knives stabbing your heart over and over every second. It was very painful. I thought I would never smile again, let alone laugh. It's such intense pain like your soul is being crushed."

Participant 1(P1): "I cried all night when he first passed away. I would cry, and then suddenly remember that he was gone, and it would jolt me—it's like a void."

In addition to intense emotions, participants mentioned the increased responsibilities they faced after their loss. They expressed that the shared duties and tasks they once carried out with their spouses were now solely their responsibility. This included the added burden of parenting their children alone. Participants shared concerns about their children and noted that thinking about these responsibilities, coupled with the pain of their loss, was particularly challenging for them.

Participant 3: "Along with the loss, you also take on the responsibilities you once shared, like caring for the children or anyone else involved."

Participant 5: "Even if I was worried, I didn't have financial concerns like whether the kids would get into university or if I could afford to send them to tutoring. I used to think, 'My husband will handle it.' I didn't have such worries. But after the loss, the father's role fell to changed. I work so much now. Life is different."

Another emerging theme was coping experiences, consisting of three sub-themes: receiving psychological support, social support, and religious beliefs and rituals.

Some participants mentioned that psychotherapy and psychiatric medication support were beneficial for them. Those who underwent psychotherapy shared that this support helped them navigate the grieving process in a healthier manner. Participants who received psychiatric and medication support mentioned that the medication made them feel happier and enabled them to view life more positively. However, some participants experienced difficulties in finding the right medication for themselves, had to switch medications, and struggled with emotional regulation during this process.

Participant 4: "I started, it didn't suit me, I didn't quit but switched. I started again, it didn't suit me, so I stopped and restarted. Then, I found more comfortable medications. Of course, I felt better. I'm still using them."

Participant 7: "After starting medication, I got better. I became calmer and happier with the medications. I started treating those around me better. I forgot how to cry. Even though my heart was bleeding inside, I smiled at everyone around me. It made me look at life more positively. That's why the support was beneficial."

Participant 2: "I personally received psychiatric and psychological support, and I made sure my children did too. The three of us underwent EMDR therapy — me and my two daughters. After the therapy with our psychologist, we accepted this trauma and started returning to a more routine life. I think I acted consciously in this regard."

Others did not receive psychotherapy or medication support, resorted to religious coping mechanisms during their mourning process, and shared their pain with friends and family. Participants reported a sense of relaxation and spiritual peace with the small communities they formed with their friends and family members and the religious rituals they performed there.

Participant 2: "I believe religious beliefs have a significant impact. Accepting death is difficult. Let me put it that way. In such times, faith becomes much more important. You want to believe in something and hold on to something. Knowing that you will reunite with them someday and see them again is important. That's why you cling to religion, to your faith."

Participant 7: "I have 3-4 close friends. Two of them lost their spouses before I did. They never left me alone. They were very close family friends and visited me often, and sharing with them made me feel better. Even now, they are always there for me. Day or night, if I have a problem, they are my safety net, my second door to turn to. That's why having support is essential."

4. Discussion

The findings of this study offer valuable insights into the multifaceted nature of spousal bereavement among women in Türkiye, underscoring the interplay between emotional and practical challenges and the role of cultural and social dynamics in shaping the grieving process. This discussion contextualizes the results within existing literature and highlights their implications for mental health professionals and bereavement interventions.

Consistent with prior research, the participants in this study reported intense emotional distress following the loss of their spouse, including feelings of emptiness, pain, and hopelessness (Holm et al., 2019; Sekowski & Prigerson, 2022). These findings align with Western studies on grief but reveal unique cultural nuances specific to Türkiye. In collectivist societies, such as Türkiye, cultural norms often emphasize stoicism and familial responsibility, which may inadvertently suppress individual expressions of grief (Ergün-Başak, 2024). Participants' experiences of shock and paralysis, as well as the loss of pleasure in daily activities, reflect the profound psychological toll of spousal loss. However, societal expectations to prioritize family and maintain composure in public can exacerbate this burden, complicating the mourning process and potentially hindering emotional healing (Gedik, 2018).

Participants highlighted their practical difficulties, including taking on sole responsibility for household and child-rearing duties. These findings resonate with existing studies that document the additional stressors bereaved women encounter when they assume roles previously shared with their spouses (Seiler et al., 2020). In Türkiye, where traditional gender roles often assign caregiving and household management to women, the loss of a spouse places an immense burden on widows. This increased responsibility, coupled with the emotional strain of bereavement, underscores the need for targeted support systems that address both psychological and practical challenges.

The coping strategies identified in this study—psychological support, social support, and religious rituals—highlight the diverse ways in which women navigate their grief. While some participants benefited from psychotherapy and psychiatric medication, others relied on social networks and religious practices. These findings align with research emphasizing the significance of social and spiritual resources in collectivist cultures (Jasmita et al., 2024; Park & Halifax, 2021). The role of religion appears to provide a dual benefit: fostering a sense of continuity through rituals and offering spiritual solace. Participants' reports of finding comfort in small, supportive communities and religious gatherings illustrate the importance of culturally sensitive interventions that leverage these existing social and spiritual structures.

Compared to studies conducted in individualistic cultures, where personal autonomy and professional interventions are often prioritized, this study's findings highlight the centrality of communal support and shared rituals in the grieving process in Türkiye (Bonanno et al., 2004; Chami & Pooley, 2023). While beneficial, reliance on family and community networks may also impose constraints on personal expression and hinder access to professional mental health resources. This dynamic underscore the need for a balanced approach integrating communal support with individualized care.

Mental health professionals working with bereaved women in Türkiye should adopt a culturally informed approach that acknowledges the dual importance of individual and collective coping mechanisms. Interventions should address grief's emotional and practical aspects, offering both therapeutic support and resources to manage increased responsibilities. Additionally, professionals should consider incorporating religious and cultural elements into therapeutic practices to enhance their relevance and effectiveness. For instance, facilitating support groups that blend psychological counseling with culturally resonant practices may provide a more holistic form of care.

This study's sample size and focus on women from a specific cultural context limit the generalizability of its findings. Future research could explore the experiences of bereaved men and individuals from diverse cultural backgrounds to provide a more comprehensive understanding of spousal bereavement. Longitudinal studies examining the evolution of grief over time would also offer valuable insights into the dynamic nature of the mourning process.

The findings of this study contribute to the growing body of literature on bereavement by shedding light on the unique experiences of women in Türkiye. By emphasizing the interplay between emotional, practical, and cultural factors, this research highlights the importance of culturally sensitive and multifaceted approaches to supporting bereaved individuals. Ultimately, understanding these

experiences can inform more effective and compassionate interventions, helping women navigate the complexities of grief and rebuild their lives after the loss of a spouse.

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GROUP THERAPY WITH CHILDREN/ADOLESCENTS: THE FUTURE OF MENTAL HEALTH

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Abstract

Significant global events, such as pandemics, wars, or divorce, have led to increased levels of stress and anxiety, particularly for children and adolescents, necessitating profound changes in psychological services. However, the demand for psychological support far exceeds the available services for individuals of all ages worldwide, but more so for children. Based on research, group therapy is as primary or supplementary form of treatment, presenting an effective solution. However, children are not traditional clients, they require unique methods of group treatment. In this presentation I introduce small intimate groups based on emotional interaction, influenced by the Emotion Focused Theory (Greenberg, 2002). The goals of these groups are to reduce stress and anxiety and increase a sense of control. To achieve these goals, we use various therapeutic methods, such as art therapy, bibliotherapy, therapeutic cards and games. These methods are necessary to engage children in the therapeutic process. A large body of studies indicated the validity of such groups. In this presentation I will show the results of some selected articles. Specifically, they showed positive outcomes on the reduction of stress, aggression, anxiety, traumatic symptom, and behaviour problems, and increase in self-confidence, social relationship, school adjustment, and school achievements. Moreover, these groups were as effective as individual therapy, and more effective compared to psychoeducational groups. These groups are evidence-based, effective and efficient with various populations.

Keywords: *Group, therapy, child, adolescent, research.*

1. Introduction

Significant global events, such as pandemics, wars, or parent divorce, have led to increased levels of stress and anxiety, for many individuals of all ages worldwide, necessitating profound changes in psychological services. The demand for psychological support far exceeds the available services for individuals of all ages, and even more so for children. Based on recent research, group therapy is a primary or supplementary form of treatment, presenting an effective solution (Whittingham, Marmarosh, Malow, & Scherer, 2023). However, group therapy is way underused, mainly because psychologists lack training in group therapy. The situation for children and adolescents, in this respect, is even worse. Children present a particularly vulnerable population, but they are probably the last to receive psychological help. They can be easily reached in schools and community centers and yet, most psychologists prefer to work with an adult population, because children are particularly difficult clients, requesting trained therapists.

2. Objectives

1. *Introduce the Emotion Focused Mode* (Greenberg, 2002): Most group interventions with children are psychoeducational and cognitive-behavioral oriented. To address current difficulties of children, I suggest a relatively new model of intervention that focuses on emotions. These small intimate groups are mostly non structured, based on mutual disclosure of feelings, distress and difficult events, with strong provision of social and emotional support. The goals are to reduce stress, increase self-confidence and a sense of control.

2. *Introduce therapeutic methods*: To engage children in a therapeutic process we use various therapeutic methods, such as art therapy, bibliotherapy, therapeutic cards, and therapeutic games. Art therapy is more often used with children; however, the use of stories, poems, and photos are quite rare, and yet they are extremely useful. We use these methods according to the stages of group development,

the type of population and problems, and age. At the beginning stage we use them to increase a sense of safety, a language of feelings, and the provision of support. At the working stage we use them to increase self disclosure, deepen the processes of self-exploration, and the development of insight. At the termination stage we evaluate personal functioning in the group, summarise personal gains, and deal with separation (for more information see Shechtman, 2007).

3. *Demonstrating the validity of this group modality*: A large body of studies evaluated this group modality. The groups were conducted in schools and included a variety of children demonstrating emotional, social and behavioral problems. Groups usually contained 5-8 children and lasted between 12 to 15 45-minute sessions. Most quantitative studies used an experimental design based on questionnaires reported by self, teacher, or parent. In addition, we also collected qualitative data to help explain the results.

3. Method

For this presentation I selected several of our studies to demonstrate the achievements of these groups. Treatment of aggression was one of our focus. Results indicated the reduction of stress, aggression, anxiety (Shechtman, 2000; Shechtman & Ben David, 1999; Maixner-Schindel & Shechtman, 2020), traumatic symptoms (Shechtman & Mor, 2010), behavior problems (Maixner-Schindel & Shechtman, 2020). Friendship was another focus with excellent outcomes (Shechtman, Vurembrand, & Hertz-Lazarowitc, 1994). School adjustment and academic success was a third subject with very good results (Shechtman, Gilat, & Fos, 1999; Pastor & Shechtman, 2005). In addition, studies indicated that these groups were as edffective as individual therapy (Shechtman & Ben David, 1999) and more effective when compared to psychoeducational groups (Pastor & Shechtman, 2005).

4. Discussion

Quantitative methods were used along with questionnaires. They confirmed the rational of our method. When verbal responses were analyzed, results pointed to two major outcomes: a *sense of relief* (I feel better after sharing", "I am less anxious"," I am less angry"), and improved friendship ("People like me more", "I have more friends", I am less rejected") (Meixner & Shechtman, 2020). These results suggest that our goals to reduce stress and improve relationships were achieved. We tend to explain the outcomes by the cohesiveness established in the groups. Cohesiveness is a major therapeutic, as suggested in the literature (Yalom & Leszcz, 2020) and found as the most important factor in children's groups (Shechtman & Gluk, 2005).

5. Conclusions

Overall, the EFT modality works effectively with troubled children and youth, leading to many positive outcomes. However, the process is quite challenging, especially at the beginning stage of the group. The therapist must be knowledgeable of the child development theory so he/she can adjust the therapeutic methods to the age and problem of the participants. The therapist needs to demonstrate good functioning skills including self-disclosure, as self-disclosure of the therapist appears to be a crucial skill in child group therapy (Leichtentrtit & Shechtman, 1998). The groups are safe, useful, and helpful, and should be used more frequently to increase child and adolescent mental health.

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EVALUATING THE IMPACT OF SKIN DISEASES ON ANXIETY, DEPRESSION, LONELINESS AND QUALITY OF LIFE

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Abstract

Background/aim: The aim of the current study is to find out the impact of skin diseases (acne, melasma, vitiligo, atopic dermatitis and alopecia) on anxiety, depression, loneliness, and quality of life. *Materials and methods*: Two hundred individuals with a mean age (35.89 ± 10.83) participated in the study. Among these 100 were skin diseases patients, whereas another 100 matched in age, education, and socioeconomic status served as controls (healthy) group. The measures used were a demographic sheet, the hospital anxiety and depression scale (HADS), the Loneliness scale, and the WHO-Quality of life (QOL). Purposive sampling technique was used to collect the data. *Results*: Multiple regression analysis indicates a significant impact of predictor variables (acne, melasma, vitiligo, atopic dermatitis and alopecia) on anxiety (R2= .76, p <.001), depression ((R2= .78, p <.001), Loneliness (R2= .65, p <.001), and QOL (R2= .58, p <.001). However, alopecia has no significant effect on the outcome variables. *Conclusion*: Acne, melasma, vitiligo, atopic dermatitis, and alopecia have significant effects on anxiety, depression, loneliness, and quality of life. Alopecia has no significant impact on the outcome variables.

Keywords: *Anxiety, depression, loneliness, quality of life, skin diseases.*

1. Introduction

Skin disorders refer to all the diseases that occur on the skin, mucous membrane, and skin appendages. For instance, the primary symptom of psoriasis is characterized by red scaly skin plaque, and severe itching and recurrent skin lesion are symptoms of atopic dermatitis (Eczema). Both have a negative impact on patients' ability to work, live a normal life, study, and sleep (Henderson et al, 2023). It affects patient's appearances and self-esteem, which leads to psychiatric co morbidities (Picardi, et al,2000). Acne, hair loss, and not only impair a patient's physical appearance as well as their emotional, psychological, and social circumstances. The patients' quality of life is considerably decreased by some chronic skin conditions consequently this lead to develop pessimistic emotion (Balieva, et al,2017). Evidence indicated that skin diseases are associated with substantial comorbidity with mental health conditions. According to a study (Dunn,et al; 2011), the proportion of people with skin conditions who also have psychological illnesses like anxiety ranges from 25% to 43%. Ghajarzadeh et al (2012) discovered that depression was the root of patients' poor quality of life. Traditionally, it was thought that skin diseases had a negligible impact on patients' quality of life. Whereas recently, there has been a widespread acceptance that skin diseases can affect physical, social, and psychological aspects of patients' daily lives, as well as their partners, family, and friends. This study was aimed to understand the prevalence of some common skin diseases e.g., acne, melasma, vitiligo, atopic dermatitis and alopecia on patients of Peshawar (north area of Pakistan) and its association with pathogenesis of depression, anxiety, loneliness and poor QOL.

2. Materials and methods

2.1. Study population

In total, 200 individuals participated in this study. Among these hundreds, individuals diagnosed with chronic skin disease meeting inclusion and exclusion criteria from different outdoor patients of derma wards of Peshawar. Whereas another 100 individuals matched in age, education, and socioeconomic status (SES), served as a healthy control group (without skin diseases). Researchers took this group of participants from the normal population. For this study, demographic data sheet, hospital anxiety and depression scale(Zigmond & Snaith ;1983), reported cronbach alpha α = .64, Loneliness Scale(De Jong-Gierveld & Tilburg; 1999) α = .83, WHO Quality of life(Noerholm,et al; 2004)α = .88 used as a measures. From

March 2022 to July 2022, we conducted this cross-section and study. Purposive sampling technique was used to collect the data. The researchers sought permission from the medical directors of the concerned hospital. We briefed all participants that this study is based on research/educational purpose, and we will keep all data highly confidential. The volunteered participants had a right to the withdraw from this study at any stage. Post written consent, a booklet comprised consent form, demographic sheet (HADS), LS, and WHOQOL was given to the participants. The author guided them wherever they need any help to fill out questionnaires. This study taken all measures regarding ethics and took institutional ethical review board approved (IERB) decision no16338 /Dy/ reg/PGMI.

3. Result

Two hundred individuals with a mean age of 35.89 ± 10.83 years with at least matriculation education participated in the study. Among these, 24% were unmarried, 34% were unemployed, whereas 66% employed. Multiple regression analysis was performed using acne, vitiligo, melasma, atopic dermatitis, and alopecia as independent variables.

Table 1. Multiple regression analysis for predictors of anxiety, depression, loneliness and quality of life among skin diseases patients and healthy controls (N=200).

Anxiety

		95% CI			collinearity Statistic	
Variable	B	LL	UL	Sig	Tolerance	VIF
Constant	15.486	14.831	16.142	0.001		
Acne	-5.569	-6.778	-4.36	0.001	0.836	1.197
Vitiligo	-5.757	-6.953	-4.56	0.001	0.728	1.373
Melasma	-5.605	-6.845	-4.365	0.001	0.655	1.526
Atopic dermatitis	-6.127	-8.989	-3.266	0.001	0.974	1.027
Alopecia	-0.534	-1.983	0.915	0.468	0.748	1.336
R2 =.764						

Depression

		95% CI			collinearity Statistic	
Variable	B	LL	UL	Sig	Tolerance	VIF
Constant	15.462	14.797	16.13	0.001		
Acne	-6.5	-7.732	-5.269	0.001	0.836	1.197
Vitiligo	-6.025	-7.732	-4.807	0.001	0.728	1.373
Melasma	-5.942	-7.244	-4.68	0.001	0.655	1.526
Atopic dermatitis	-6.552	-9.467	-3.637	0.001	0.974	1.027
Alopecia	-0.279	-1.755	1.197	0.71	0.748	1.336
R2= .783						

Loneliness

		95% CI			collinearity Statistic	
Variable	B	LL	UL	Sig	Tolerance	VIF
Constant	9.881	9.432	10.33	0.001		
Acne	2.723	1.895	3.552	0.001	0.836	1.197
Vitiligo	3.589	2.77	4.409	0.001	0.728	1.373
Melasma	2.999	2.149	3.849	0.001	0.655	1.526
Atopic dermatitis	3.555	1.593	5.517	0.001	0.974	1.027
Alopecia	-0.691	-1.685	0.303	0.172	0.748	1.336
R2= .657						

Quality of life

		95% CI			collinearity Statistic	
Variable	B	LL	UL	Sig	Tolerance	VIF
Constant	61.033	58.416	63.649	0.001		
Acne	11.419	6.522	16.247	0.001	0.836	1.197
Vitiligo	14.328	6.552	19.104	0.001	0.728	1.373
Melasma	15.394	10.444	20 .345	0.001	0.655	1.526
Atopic dermatitis	14.713	3.287	26.139	0.001	0.974	1.027
Alopecia	-1.82	-7.607	3.967	0.172	0.748	1.336
R2 = .534						

4. Discussion

The findings identified acne, melasma, vitiligo, and atopic dermatitis may trigger depression, anxiety symptoms among skin diseases patients. These finding are in line with the study conducted by Guo et al (2020) suggests that acne, psoriasis and atopic dermatitis may lead to depression and anxiety. Palatsidaki et al. (2023) reported depression, anxiety, QOL importance in patients with melasma. Acne, acne related QOL and depression were reported by adolescent and young adults (Tasneem et al; 2023). Because of their susceptibility to different psychosocial stressors, such as perceived stigma and negative self-image, people with chronic skin disorders may be more prone to depression and anxiety than the general population. In the present study, melasma cases were 72% reported as the second highest skin diseases, causing depression, anxiety, among skin diseases patients. Another study (Nowowiejska et al., 2022) estimates depression, anxiety, and Poor QOL in melasma patients. Kanish, et al. (2017) also concluded that 84% depression, anxiety among melasma patients. Depression, anxiety, poor QOL and lineless in patients with acne and melasma are because both mostly occur on the face. Indeed, one explanation could be that the face is related to cosmetic beauty part of our body for which we valued a lot of others' opinion. The positive and negative judgment may trigger depression and anxiety among the skin diseases sufferers. Naseer, et. al (2021) suggests a vitiligo effect on both physical and mental status of the skin diseases patients. Yew et al. (2022) reported after a population-based study that individuals with skin diseases are more prone to develop depression, anxiety, social isolation, loneliness and lower QOL. The present study shows no significant results for alopecia as a predictor of depression, anxiety, loneliness and QOL. These findings are contrary to the existing literature, e.g., Boghossian, et al (2015) reported depression and anxiety among alopecia patients. Similarly, Marahatta et al. (2020) revealed anxiety and depression are common in alopecia patients. Our finding is not in line with the previous studies may be because we accepted alopecia as a normal physical trait predominately in men population. However, limited sample size and reported alopecia cases may challenge the solidity of the findings.

5. Conclusion

The results of the current study connote the importance of the skin diseases with anxiety, depression, loneliness and quality of life. Our findings suggest that acne, melasma, vitiligo has a significant impact on anxiety, depression, loneliness and QOL. Whereas no significant statistical relationship of alopecia with outcome variables. Acne, followed by melasma and vitiligo, reported as more prevalent skin diseases. The findings of the present study established the significance of psychotherapeutic interventions for the skin diseases patients.

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RESILIENCE AND WAR-RELATED ANXIETY: EXPLORING ETHNIC DIFFERENCES

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Abstract

Since the October 7th, 2023, events, Israel has been in a continuous war. The aim of the study was to look at the role of ethnicity and resilience as predictive factors of anxiety among Jews and Arabs, citizens of Israel, post October 7th events. The current study utilized a cohort, followed over 8 months in two time points. Before the October 2023 events (July 2023, referred to as T1), 512 participants filled in an online questionnaire of demographic details, resilience and anxiety. Of the 512 participants, 250 (126 females; 156 Jewish; M age= 42.12 (SD = 10.58)) filled post attack questionnaires (March 2024 referred to as T2). The post attack questionnaires included: Demographic information, resilience, and anxiety scales. Results showed that resilience at baseline was negatively associated with anxiety and that higher levels of anxiety are attributed to Arabs. Furthermore, the interaction term was significant as well, meaning that ethnicity moderated the relationship between resilience and anxiety. Conditional effect analyses indicated that resilience was negatively related to anxiety among Arabs only but not for Jews. These findings suggest different interactions of resilience with war related anxiety, between and within the two ethnicities. The empirical evidence yields critical implications for developing and implementing culturally responsive mental health interventions that honor diverse ethnic perspectives and lived experiences.

Keywords: *Resilience, war related anxiety, ethnicity.*

1. Introduction

In October 2023, Hamas attacked Israel's southern region causing civilian casualties, taking hostages and leading to a war. Research indicates that people living under persistent warfare conditions risk developing various psychological conditions, including anxiety, depression, and PTSD, which can have enduring impacts on mental wellbeing.

Resilience, defined as converting adversity into growth (Joseph, 2012; Seligman, 2011), has been extensively researched in mental health contexts. Studies show it negatively correlates with depression (Chuning et al., 2024), anxiety (Lara-Cabrera et al., 2021), and PTSD (Bensimon, 2012; Lee et al., 2014), while serving as a protective mediator between stress and psychological symptoms (Lara-Cabrera et al., 2021; Dhungana et al., 2022). In war contexts specifically, research on Ukrainian child refugees (Urbański et al., 2023) and Iraqi adult refugees (Arnetz et al., 2013) has demonstrated resilience's protective role against various mental health conditions. Research shows diverse levels of resilience among different ethnic groups facing war (Groweiss at al.,2024; Kimhi et al., 2017). As well as an ethnicity moderation of the relationship between resilience and PTSD (Zheng et al., 2020).

Resilience extends beyond individual traits to include environmental factors that enable growth (Ungar, 2004). This ecological perspective emphasizes the interaction between individuals and their surroundings (Shaw et al., 2016; Ungar, 2013), where access to vital support during crisis is shaped by one's socioeconomic and cultural circumstances. The ecological model of resilience emphasizes two essential aspects of the individual-environment interaction: First, it represents a mutual process where both parties play vital roles - individuals must actively seek out resources, while systems and institutions bear responsibility for ensuring these resources are readily available and accessible.

Israel's population dynamic presents a significant contrast in how its Jewish majority (78%) and Arab minority (22%) interact with societal systems and cope with adversity. Arab citizens face a complex reality marked by economic disparities, cultural integration challenges, and limited access to public resources, leading to a persistent trust deficit with state institutions. This has resulted in Arab communities primarily relying on family and local community networks for support. In contrast, the Jewish majority's closer alignment with institutional and socioeconomic systems enables them to access both governmental

and familial support networks during crises (Kimhi et al., 2020; Tannous-Haddad et al., 2022). This broader access to resources correlates with research findings showing that Arabs generally report higher anxiety and lower resilience levels compared to Jews in regular times (Braun-Lewensohn, 2014; Kimhi et al., 2017). These established differences in institutional trust, resource accessibility, and support network utilization provide the foundation for examining how both populations experience anxiety and resilience during times of conflict.

The primary goal of the current study was to examine resilience and anxiety among Jews and Arabs in Israel during war. The current study has three hypotheses:

1. Anxiety scores will be higher for Arabs than for Jews.
2. Resilience at baseline will have a negative relationship with anxiety following the attack.
3. Ethnicity will moderate the relationship between resilience at baseline and anxiety following the attack

2. Method

2.1. Participants

The current study utilized a cohort, followed over 8 months in two time points. Before the October 2023 events (July 2023, referred to as T1), 512 participants filled in an online questionnaire. To be included, participants had to be 20-60 years old and speak the language in which the survey was administrated (Hebrew or Arabic). Of the 512 participants with October events questionnaires, 250 (126 females; mean age 42.12 (SD = 10.58); 156 Jewish) had post attack questionnaires (March 2024 referred to as T2).

2.2. Procedures

The authors collected the data via in a cross-sectional survey conducted in Israel. Qualtrics (https://www.qualtrics.com) was used to create an anonymous questionnaire, which was distributed online by iPanel (https://www.ipanel.co.il), a large Israeli panel service. The complete study protocol was approved by the College Institutional Review Board. The questionnaire completion was voluntary, and respondents were told they could stop their participation at any point. Data from participants who completed the survey was excluded from the final analysis if their responses were implausible (e.g., they chose the same answer throughout the questionnaire). The final analysis included 250 participants.

2.3. Measures

2.3.1. Demographic. The demographics questionnaire included items on ethnicity, gender, age, residence, religion and education.

2.3.2. Anxiety. Depression, Anxiety, and Stress Scale–21 Items (DASS-21; Lovibond and Lovibond, 1995). In the current study we used a Hebrew and Arabic versions, retrieved from the DASS21 website (http://www2.psy.unsw.edu.au/dass/). Looking back over the previous week, the assessment consists of 21 items measuring three distinct categories: depression (7 items, with statements like "I felt sad and depressed"), anxiety (7 items, including questions such as "I was aware of dryness of my mouth"), and stress (7 items, with examples like "I tended to over-react to situations"). Each item is rated on a 4-point scale from 0 (never) to 3 (most all the time). The scoring thresholds indicate severe depression when scores exceed 11, severe anxiety when scores surpass 8, and moderate to severe stress levels when scores are greater than 9. The measurement demonstrated strong internal consistency in this study, with Cronbach's alpha values of 0.91 across all three dimensions - depression, anxiety, and stress.

2.3.3. Resilience. The Connor-Davidson Resilience Scale (CD-RISC) was applied in this research using the shortened version created by Campbell and Stein (2007). This measurement tool examines resilience through three fundamental aspects: 1. Locus of Control: This element measures how strongly participants feel they can shape their life outcomes. For instance, one statement reads: "I am in control of my life." 2. Challenge of Action-Oriented Behavior and Self-Efficacy: This aspect gauges participants' determination and their confidence in managing difficulties. An illustrative item states: "I am not easily discouraged by failure." 3. Optimism: This component assesses participants' ability to maintain optimism during challenging times. One example statement is: "I can stay focused under pressure.". Each statement was scored by participants using a 5-point scale, ranging from 1 (not at all) to 5 (extremely). The combined ratings yield an overall score, where higher totals reflect stronger psychological resilience. The instrument showed reliable internal consistency, with a Cronbach's α of ... for the complete sample. For this study, bilingual professionals performed a two-way translation between English and Arabic following Cha et al.'s (2007) methodology.

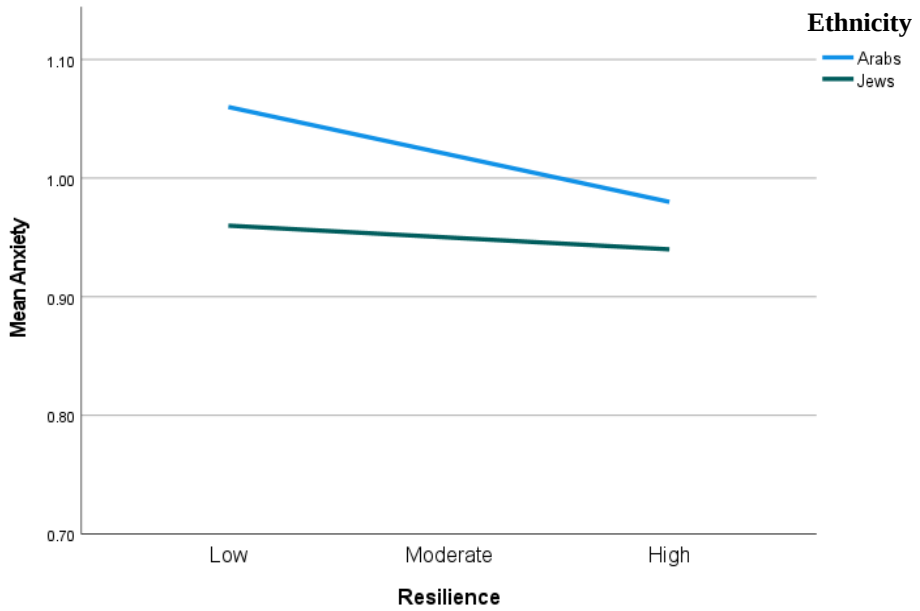
3. Data analysis

All statistical analyses were carried out with Statistical Package for the Social Sciences (SPSS) version 28.0. Descriptive statistics are given as mean ± standard deviation. Normality of distribution was explored using Kolmogorov-Smirnov test and log transformation was applied in cases of skewed distribution. Paired-sample t-tests were used to assess changes pre and post attack in the current study variables. Bonferroni correction was performed, and results were considered significant at the .006. The PROCESS macro for SPSS (version 4.1) (model 1) was used to determine the moderating effects of ethnicity on the effect of resilience on anxiety, controlling for age, sex, and pre-attack symptoms levels (anxiety). Significant interactions were decomposed using the procedures described by Aiken and West (1991).

4. Results

To examine the hypotheses, a moderation analysis was performed after adjusting for covariates, with anxiety scores as the predicted variable, resilience levels at baseline as the predictor variable, and ethnicity as the moderator. Resilience was found to be a significant predictor and had a negative effect on anxiety, thus supporting Hypothesis 2. That is, the lower the resilience levels, the higher the anxiety levels. In addition, ethnicity was found to be significant too and had a negative effect on anxiety, thus supporting Hypothesis 3. That is, higher levels of anxiety are attributed to Arabs. Furthermore, in Hypothesis 3, the present study assumed that the correlation between baseline resilience and anxiety will be moderated by ethnicity. The interaction term was significant as well, meaning that ethnicity moderated the relationship between resilience and anxiety. Conditional effect analyses (Hayes, 2013) were conducted to determine the precise nature of this difference, which indicated that the resilience was negatively related to anxiety among Arabs only (B = -0.38, SE = 0.11, p < .001) but not for Jews (B = -0.08, SE = 0.10, p = .396; see Figure 1).

Figure 1



5. Discussion

The current study aimed to examine war-related anxiety and resilience among Jews and Arabs in aftermath Israel. Anxiety and resilience were measured in T1 and T2. Compared to Jews, Arabs showed higher levels of anxiety after the attack. This is consistent with former studies indicating that even in regular times minorities, compared to majority, report higher levels of anxiety (Braun-Lewensohn, 2014; Kimhi et al., 2017).

In accordance with the second hypothesis, individuals with higher resilience before the attack showed lower levels of anxiety afterward. Our data strongly supported this relationship, demonstrating that pre-existing resilience was significantly linked to reduced psychological distress following the traumatic event. This aligns with the broader research literature that identifies resilience as a key protective factor against mental health challenges after trauma. (Arnetz et al., 2013; Urbański et al., 2023).

The third hypothesis explored whether ethnicity influenced the relationship between baseline resilience and aftermath anxiety. The analysis revealed that ethnicity did indeed moderate this relationship, with an important distinction: the protective effect of resilience against anxiety was only statistically significant among Arab group members. Consistent with Zheng et al. (2020), these results suggest that resilience may function differently across cultural groups, potentially involving distinct psychological and social mechanisms in different population.

Our findings have direct implications for clinical practice and research in war related anxiety treatment. Mental health professionals need to recognize that resilience factors may operate uniquely within different cultural contexts, especially when addressing collective trauma. This understanding should inform both the development of culturally-tailored interventions and the adaptation of existing treatment approaches. Rather than applying a one-size-fits-all model of resilience, practitioners should consider how cultural background, community resources, and traditional support systems might influence the effectiveness of their interventions. This nuanced approach is essential for delivering effective, culturally-competent care in the aftermath of collective traumatic events.

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AGAIN AND NEW LIFE EVENTS STRESS SCALE DEVELOPMENT STUDY: SCALE DEVELOPMENT AND INITIAL VALIDITY STUDIES

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Abstract

In this study, life events were focused on assuming that life changes represent reasonable conceptual stressors. It is seen that existing measurement tools lose their validity after a while due to the dynamic structure of life and cultural differences. In this direction, it was aimed to develop a new stress scale based on current and life events. Thus, it was considered to use information about individuals' recent and current life events in the form of a self-report checklist for measurement purposes. The study began by writing items asking individuals to evaluate which life events they had recently experienced using short stem descriptors (e.g., change in economic situation...). 111 Items were written considering the literature and existing scales. Response options were created in which the items were asked to be scored as percentages between 1 and 100. The items were first applied to 1523 people, 697 male (45.8%) and 826 female (54.2%), aged between 18 and 70 (mean = 26.89, s = 10.47). The number of items was reduced to 50 through item analysis. When the items were ranked in order of importance, the first three items with the highest evaluation were “High cost of living”, “Economic environment (inflation, economic crisis, etc.)” and “Death of a close family member”. It was determined that the items were evaluated between 38.55% (Repairs, renovations in the apartment, street, neighborhood, etc. environmental and municipal services) and 82.00% (Cost of living) in the whole group, between 37.95% (Minor legal violations such as traffic tickets) and 84.72% (Cost of living) in the female group, and between 36.83% (Repairs, renovations in the apartment, street, neighborhood, etc. environmental and municipal services) and 78.73% (Cost of living) in the male group.

Keywords: *Stress scale, life events, stressors, scale development.*

1. Introduction

Psychological distress experienced against stress factors based on daily life events plays a role in the emergence of emotional disorders (Hammen, 2005; Parrish et al., 2011; Van Winkel et al., 2008). Changes in immune and metabolic parameters that occur with the release of physiological mediators are protective and necessary in the short term (O'Connor et al., 2021). In this respect, the stress response helps to cope with acute life-threatening events (Miller and Rasmussen, 2010). However, chronic stress increases the risk of emotional disorders and becomes harmful to health (Miller and Rasmussen, 2010; McEwen, 2000; O'Connor et al., 2021; Word et al., 2022).

The level of controllability over daily negatively evaluated events causes these events to be perceived as stressful (Henderson et al., 2012; Miller and Rasmussen, 2010). Stress factors based on life events are also shown as a predictor of emotional disorders (Charles et al., 2013). In this way, life events play an important role in individual health (Almeida, 2005). Health problems, family problems, job changes, etc. can be given as examples of life events (Almeida, 2005; Scholten et al., 2020). However, it is difficult to convert subjectively perceived stressful events into objective normative measurements and to distinguish between chronic and acute stressors (Hahn and Smith, 1999). Another problem is the relative intensity of events such as traffic jams and traffic accidents and whether they occur daily (Farmer et al., 2017; Miller and Rasmussen, 2010). For this reason, significant weaknesses or inadequacies are observed in the measurement of stress (Harkness and Monroe, 2016).

In this study, it was assumed that all kinds of life changes represent stressors and the focus was on possible life events without making any distinction between major or minor. In addition, the self-report checklist used by Holmes and Rahe (1967) was also taken into account. However, it was observed that the measurement tools lost their relevance over time due to the dynamic flow of life and cultural differences.

In this study, it was aimed to develop a measurement tool using short sentence stem descriptors by taking all these into consideration and focusing on current life events.

2. Methods

2.1. Item pool

An item pool was created by considering existing scales and current life events. The items were created in the form of short sentence body descriptors (e.g. change in living conditions...). The 111 items were applied with the option of answering according to the level of importance, between 1 (lowest) and 100 (highest).

2.2. Participants

A total of 1523 people participated in the study, 697 males (45.8%) and 826 females (54.2%), aged between 18-70 (mean = 26.89, s = 10.47). Of the participants, 1161 were single (76.2%), 325 were married (21.3%), 33 were widowed or divorced (2.2%) (4 people did not specify their marital status (%0.3)), 87 were primary or secondary school graduates (%5.7), 270 were high school graduates (%17.7), 1163 were university graduates or students (%76.4) (3 people did not specify their educational status (%0.2)), 234 had a low income status (%15.4), 1009 had a medium income status (%66.3) and 247 had a good income status (%16.2) (33 people did not specify their income status (%2.2)).

2.3. Application

The application of the study was carried out in 2024 using a printed form. The application form also included a survey form. The application took approximately 10-13 minutes for one person.

2.4. Results

In the analysis of the data, firstly the item analysis was conducted for the Life Events Stress Scale. As a result of the item analysis, 61 of the draft scale items were removed and the number of items was reduced to 50. The Cronbach Alpha internal consistency reliability coefficient for the selected items was .94. The item analysis results for the selected items are given in Table 1.

Table 1. Item analysis results for selected items of the Life Events Stress Scale.

Items (n = 1523)	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
1. Changes in family meetings or gatherings	1289.44	653458.67	.29	.94
2. Repairs, renovations, etc. in the apartment, street, neighborhood, environmental and municipal services	1287.50	655882.07	.27	.94
3. Festivals, weddings, etc. ceremonies	1287.14	652424.88	.30	.94
4. Changes in eating habits	1273.44	647786.98	.35	.94
5. Divorce	1304.29	647209.59	.49	.94
6. Sexual problems	1299.25	651290.85	.36	.94
7. Changes in working hours or conditions	1282.61	637851.67	.50	.94
8. One of the children leaving home	1297.86	643768.67	.46	.94
9. Earthquake, flood, etc. natural disasters	1258.18	641722.07	.40	.94
10. Change in religious or belief activities	1296.52	645614.85	.44	.94
11. Change in income status	1259.94	639926.94	.45	.94
12. Retirement	1304.03	651479.52	.40	.94
13. Economic environment (inflation, economic crisis, etc.)	1246.58	650378.65	.30	.94
14. Having an argument with a spouse	1296.02	643017.79	.48	.94
15. Spouse starting or quitting a job	1303.77	646548.28	.52	.94
16. Death of a spouse	1305.74	643187.84	.60	.94
17. Separation from spouse or home, moving away	1298.80	639784.69	.55	.94
18. New family member coming home (birth, relative moving in, etc.)	1297.21	638694.80	.55	.94
19. Getting married	1303.48	641749.63	.60	.94
20. Reconciliation, reconciliation, reunion in marriage	1304.17	643337.50	.60	.94

21. Switching to a different job, field of work or sector	1295.93	639807.22	.54	.94
22. Being subject to foreclosure proceedings	1303.88	641308.62	.62	.94
23. Pregnancy	1304.71	646500.54	.52	.94
24. Imprisonment	1303.99	643185.66	.57	.94
25. High cost of living	1240.95	653204.17	.27	.94
26. Having legal or judicial problems	1297.39	638336.75	.58	.94
27. Change in address (moving, etc.)	1291.59	642100.28	.46	.94
28. Climate and environmental change (drought, extreme heat, etc.)	1280.29	641822.70	.46	.94
29. Having problems with co-workers	1297.14	641525.33	.57	.94
30. Change in responsibilities at work	1297.07	642471.71	.54	.94
31. Problems at work, with a manager or boss	1298.31	640282.04	.59	.94
32. New arrangements or changes at work	1297.98	642576.55	.56	.94
33. Being laid off or fired	1302.17	640490.38	.62	.94
34. Changes in personal habits	1276.55	640739.71	.48	.94
35. Personal illness or injury, etc. health problems	1281.31	636472.57	.53	.94
36. Loan (home, car, etc.) debts	1293.01	638402.07	.54	.94
37. Credit card (or other) debts	1285.26	637681.37	.51	.94
38. Changing schools or universities	1301.53	646059.63	.49	.94
39. Starting or finishing school or universities	1287.23	643091.20	.40	.94
40. Having significant personal success or failure	1273.95	637270.08	.49	.94
41. Changes in social activities	1277.23	646280.85	.38	.94
42. Vacation	1281.84	642349.72	.41	.94
43. Minor legal violations, such as traffic tickets	1302.59	650157.60	.45	.94
44. Traffic accident	1300.68	642010.82	.56	.94
45. Changes in sleeping habits	1269.01	644178.82	.38	.94
46. Political environment in the country	1255.61	647343.09	.31	.94
47. Death of a close family member	1288.64	634384.34	.52	.94
48. Death of a close friend	1295.91	634182.27	.60	.94
49. Health problems experienced by a close person (friend, family member, etc.)	1281.51	636328.90	.52	.94
50. Changes in living conditions and standards	1266.50	639660.65	.46	.94

When the items selected for the Life Events Stress Scale were ranked in terms of the average score (importance level) given by all participants (n = 1523) while answering, the cost of living, economic environment and political environment were the first three most important items (Table 2).

Table 2. Descriptive statistics for the Life Events Stress Scale.

Items (ordered by importance level) n = 1523	Minimum	Maximum	Mean	Mean	Std. Dev.
25. High cost of living	1	100	73.86	73,86	33,54
13. Economic environment (inflation, economic crisis, etc.)	1	100	68.24	68,24	36,17
46. Political environment in the country	1	100	59.20	59,20	40,42
9. Earthquake, flood, etc. natural disasters	1	100	56.63	56,63	40,13
11. Change in income status	1	100	54.87	54,87	38,12
50. Changes in living conditions and standards	1	100	48.31	48,31	38,06
45. Changes in sleeping habits	1	100	45.80	45,80	38,46
4. Changes in eating habits	1	100	41.37	41,37	35,30
40. Having significant personal success or failure	1	100	40.86	40,86	38,65
34. Changes in personal habits	1	100	38.26	38,26	35,35
41. Changes in social activities	1	100	37.58	37,58	35,08
28. Climate and environmental change (drought, extreme heat, etc.)	1	100	34.52	34,52	34,85
35. Personal illness or injury, etc. health problems	1	100	33.50	33,50	36,56
49. Health problems experienced by a close person (friend, family member, etc.)	1	100	33.30	33,30	37,70
42. Vacation	1	100	32.97	32,97	38,07
7. Changes in working hours or conditions	1	100	32.20	32,20	37,08

37. Credit card (or other) debts	0	100	29.55	29,55	36,85
3. Festivals, weddings, etc. ceremonies	1	100	27.67	27,67	31,80
39. Starting or finishing school or universities	1	100	27.59	27,59	38,15
2. Repairs, renovations, etc. in the apartment, street, neighborhood, environmental and municipal services	1	100	27.31	27,31	27,80
47. Death of a close family member	1	100	26.17	26,17	39,96
1. Changes in family meetings or gatherings	1	100	25.37	25,37	30,75
27. Change in address (moving, etc.)	1	100	23.22	23,22	35,09
36. Loan (home, car, etc.) debts	1	100	21.80	21,80	33,99
48. Death of a close friend	1	100	18.90	18,90	35,31
21. Switching to a different job, field of work or sector	1	100	18.88	18,88	32,36
14. Having an argument with a spouse	1	100	18.79	18,79	32,21
10. Change in religious or belief activities	1	100	18.29	18,29	31,38
30. Change in responsibilities at work	1	100	17.74	17,74	29,38
29. Having problems with co-workers	1	100	17.67	17,67	29,08
18. New family member coming home (birth, relative moving in, etc.)	1	100	17.60	17,60	33,10
26. Having legal or judicial problems	1	100	17.42	17,42	31,85
8. One of the children leaving home	1	100	16.95	16,95	32,45
32. New arrangements or changes at work	1	100	16.83	16,83	28,72
31. Problems at work, with a manager or boss	1	100	16.50	16,50	29,41
17. Separation from spouse or home, moving away	1	100	16.01	16,01	32,19
6. Sexual problems	1	100	15.56	15,56	28,73
44. Traffic accident	1	100	14.13	14,13	29,30
38. Changing schools or universities	1	100	13.28	13,28	28,01
33. Being laid off or fired	1	100	12.64	12,64	28,11
43. Minor legal violations, such as traffic tickets	1	100	12.22	12,22	24,94
19. Getting married	1	100	11.33	11,33	27,59
15. Spouse starting or quitting a job	1	100	11.04	11,04	25,90
22. Being subject to foreclosure proceedings	1	100	10.93	10,93	27,25
24. Imprisonment	1	100	10.82	10,82	27,57
12. Retirement	1	100	10.78	10,78	26,00
20. Reconciliation, reconciliation, reunion in marriage	1	100	10.64	10,64	25,91
5. Divorce	1	100	10.52	10,52	26,54
23. Pregnancy	1	100	10.10	10,10	26,28
16. Death of a spouse	1	100	9.07	9,07	26,05

3. Discussion

Lack of control over unpleasant events causes these events to be perceived as stressful (Mansell, 2005). At the same time, there is a relationship between stress and physical and mental illnesses (Vaessen et al., 2021). It is reported that research on daily hassles provides a useful framework. On the other hand, some of the events do not occur daily but occasionally. However, these events can still have a negative effect on mental health (Miller and Rasmussen, 2010). The effects of stress depend on the type, intensity and duration of stress. The stress effect intensities of life events also vary. Therefore, it is necessary to examine the effects of different intensities and different types of stressors (Zelena et al., 1999).

Studies support the usefulness of measuring acute psychological reactions. Because these can be important indicators of preventable trauma-related morbidity and mortality that require intervention in the long term (Garfin et al., 2018). In the scale developed in this study, the item selection was made by taking all these into account.

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ALCOHOL USE DISORDER AND DUAL DIAGNOSIS: PROFESSIONALS' PERSPECTIVES ON THE PROVISION OF SERVICES TO CLIENTS IN MALTA

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Abstract

This study explores the experiences of professionals providing services to clients with Dual Diagnosis (DD), focusing on Alcohol Use Disorder (AUD) within the Maltese Islands' unique sociocultural context, where alcohol occupies a strong cultural foothold. Against this backdrop, the research examines how professionals address, treat and manage DD. The study also investigates barriers to treatment, opportunities for intervention, and the most common co-morbid mental health conditions (MHC) accompanying AUD. Additionally, it examines the perspectives of professionals on the adequacy of local services for DD clients. Guided by a qualitative methodology and positioned in an interpretivist biopsychosocial framework, this study aims to capture the experiences and perspectives of Maltese professionals working in the field of addiction. Five semi-structured interviews were conducted with a psychologist, a therapeutic facilitator, two social workers and a psychiatric nurse recruited through purposive sampling from treatment services in Malta and Gozo. Adopting Braun and Clarke's six-step Thematic Analysis framework key patterns and themes were generated from the transcribed interviews. This inductive approach allowed themes to emerge organically, capturing the rich and nuanced perspectives of participants. A lack of resources, stigma, and institutional delays were the most frequently mentioned systemic barriers, yet embedded within these challenges were windows of opportunity, and turning points, such as moments of personal insights, small but significant achievements and external support that underscored the potential for meaningful change and recovery. The findings also highlight the need for more integrated service provision. Professionals often face a fragmented service infrastructure that exacerbates gaps in care, highlighting the pressing need for cohesive, forward-thinking strategies to address the complex needs of this client group. This study contributes to the limited research on AUD and DD locally, providing a deeper understanding of the challenges faced by professionals, and identifying opportunities to enhance service provision. The findings offer valuable recommendations for culturally sensitive, evidence-based strategies to improve treatment outcomes for individuals with DD.

Keywords: *Dual Diagnosis, Alcohol Use Disorder, professionals, specialised services, complex needs*

1. Introduction

Alcohol Use Disorder (AUD) affects millions of individuals worldwide and is a leading cause of global morbidity and mortality (Grant et al., 2015). Over the past three decades, there has been increased awareness and concern about the prevalence of co-morbidity between AUD and mental health conditions (MHC) (Yule & Kelly, 2019). Co-morbidity is the expectation, with research indicating that young individuals with a history of MHCs are more likely than their peers to begin using alcohol, progress to regular consumption, and eventually develop AUD (Conway et al., 2016). Meanwhile, individuals with AUD are at higher risk of developing psychiatric disorders such as depression, anxiety, bipolar disorder, schizophrenia, and suicide ideation (Jeanblanc, 2015, American Psychological Association, 2012).

While the global prevalence of AUD remains high (WHO, 2024), Malta faces similar challenges. High alcohol accessibility among Maltese youth (Azzopardi et al., 2021) may contribute to its ranking as the second most misused substance among adolescent psychiatric inpatients in Malta (Grech & Axiak, 2015). Notably, the prevalence of alcohol use among these inpatients mirrors trends observed in broader international studies, where alcohol is often used to mitigate symptoms associated with various psychiatric conditions (Mangerud et al., 2014). According to Fantuzzi and Mezzina (2020), despite its prevalence, DD is often underdiagnosed and inadequately treated globally. Although the need for a comprehensive, individualised approach has long been recognised, conflicting treatment models have hindered effective care (Subodh et al., 2018). To date, no local studies have examined professionals' perspectives on working

with individuals, who have both AUD and a DD. This gap is concerning, as most research on substance use disorders (SUD) disproportionately focuses on illicit drug addiction, often overlooking alcohol addiction. This may be due to the criminalisation of drugs drawing more attention in policy and practice, while alcohol, though harmful, is socially and traditionally accepted and intricately woven into daily life as a ritualistic and social artifact (Room et al., 2005). Given the widespread impact of AUD, it is essential that alcohol addiction receives the same level of attention in research and professional practice as other forms of addiction.

2. Design

This research lends itself to a qualitative methodology. A qualitative approach was deemed appropriate for the purpose of this study, which sought to understand professionals' views and experiences on service provision for this specific client group. Due to the multifaceted nature of AUD, this study adopted a biopsychosocial framework, as it looks at the issue from "multiple levels of organisation" (Borrell-Carrió et al., 2004, p. 576).

2.1. Objectives

The primary objective of this study was to explore how participating professionals treated and managed DD in AUD. Specifically, the study aimed to identify barriers to treatment and opportunities for intervention encountered by professionals working with this client group. It also sought to examine the interventions used to address the complex biopsychosocial needs of these clients, and to understand how professionals experienced the provision of local services. Ultimately, the study aimed to inform policy development and provide recommendations for improving treatment provision.

3. Methods

All institutions providing services to individuals with an AUD and DD were approached. Recruitment, via purposive sampling, started after full ethical approval from the University of Malta's ethics board was granted, and permissions from the gatekeeper of these institutions. Eligible individuals received invitations to opt-in and partake in the study. Those in training or without at least 3 years work experience with this client group were not deemed eligible to participate.

Five professionals (a psychologist, a therapeutic facilitator, two social workers and a psychiatric nurse) from both governmental and non-governmental organisations were recruited from the three drug rehabilitation centres across Malta and Gozo; the Foundation for Social Welfare Services (FSWS), Caritas Malta, the OASI Foundation in Gozo, as well as Mount Carmel Hospital's Dual Diagnosis Unit and Gozo's mental health service under Gozo General Hospital. The authors acknowledge that this purposive sample is a limitation of this study, and that their perspectives may not reflect the views of other professionals working in the field. A 14-item semi-structured interview schedule informed by the literature and in-keeping with the study's aims was developed and used for the interviews. Interviews were audio recorded and transcribed verbatim, enabling the researcher to engage deeply with the transcripts. The transcribed data was analysed using thematic analysis. Data analysis followed an inductive approach, allowing themes to emerge organically from the data rather than conforming to pre-established categories.

4. Results

The main themes and sub-themes generated from the data analysis, together with a brief description and accompanying verbatim quotes are presented in Table 1.

Table 1. Emerging Themes and Sub-Themes from the Data.

MAIN THEME	SUB-THEME	DESCRIPTION	VERBATIM QUOTE
Windows of Opportunity	Wake-Up Calls	Significant life events often act as catalysts for urgent behaviour change. Common wake-up calls include physical or mental health issues, hospitalisation, serious financial, familial, or legal challenges, and losing a significant other to alcohol.	*The police brought him to hospital, he was very embarrassed. He said, 'I can't do this anymore'*
	Little Wins	Small, incremental successes during treatment foster hope, essential for building self-efficacy and sustaining motivation. These achievements help clients recognise their capacity for change, reinforcing confidence in recovery and self-efficacy.	*If the person suffers from social anxiety and initially he was so scared to talk, but now he's talking to one person, that's a big improvement!*
	The Breeze of Hope	A strong support system plays a crucial role in sustaining individuals throughout treatment, providing the emotional boost needed to maintain motivation and resilience.	*Having a good support system makes a huge difference to our work*
Locked Doors, Lost Pathways	The Health Hurdle	The physiological effects of alcohol can cause severe cognitive impairments, such as Korsakoff's syndrome, hindering clients' ability to understand or accept interventions. These challenges make seeking, engaging with, or benefiting from treatment difficult.	*They confabulate, they start inventing things, and it's very difficult, once there is cognitive impairment… sometimes they (rehabs) won't even accept them*
	The Battle Within	Denial, pride, shame, and guilt often prevent individuals from accepting timely help, even when faced with clear evidence of alcohol's harmful effects. These emotions reinforce resistance, delaying intervention and recovery.	*Denial is supreme… Until you finish up with your face in the mud, you will not admit that you have a problem.*
	The Waiting Game	Long waiting periods and placement in inappropriate services can delay treatment access, leading to frustration and discouragement, and reducing motivation.	*Sometimes they have to wait three four five months to be admitted*
	The Social Cage	The legal status and societal acceptance of alcohol create unique challenges, particularly in Malta, where it is deeply embedded in cultural practices. This normalisation delays recognising problematic use. Additionally, social stigma, judgment, and cultural norms deter individuals from seeking help, hindering recovery.	*Sometimes it becomes the norm, even within the family context. Malta is small… there's stigma when it comes to seeking help*
Present Routes, Future Roads	Lost in the Labyrinth	The absence of multidisciplinary teams well-versed in AUD and DD undermines treatment effectiveness. Healthcare providers juggle multiple roles, risking burnout and inadequate client support. Inconsistent aftercare services further weaken long-term recovery.	*Clients who are not fit for rehab, yet who don't benefit from staying in hospital… what do we do with them?*
	The Way Forward	Many individuals with DD cycle through services due to systemic gaps, with homeless clients facing even greater instability.	*We don't have all the members of the team we need. Money! If you have more funds, you have more qualified people. We need qualified people. Believe me*

5. Discussion

Clinical and social outcomes are poorer amongst individuals with DD in AUD (Kubiak et al., 2011). Physical health is generally impoverished and often aggravated by social marginalisation and the direct consequences of mental health problems and substance use (Rethink, 2004). On that count, these individuals, presenting with multiple need requirements that require addressing (Weaver et al. 2004) are "a kind of mental health underclass" left to navigate fragmented systems of care (Hawkings and Gilburt 2004, p. 58). Given the vulnerabilities of this service user group, there is a clear need for a more comprehensive service response. Service users frequently experience the 'ping pong' effect of being bounced around or shunted between services. A comprehensive service response would incorporate a holistic, integrated biopsychosocial approach that acknowledges and addresses the interaction and interplay of multiple predisposing and maintaining biological, psychological and socio-cultural factors (Skewes & Gonzalez, 2013). Furthermore, with more optimal treatment services, the windows of opportunity for progress and recovery may be further enhanced therapeutically and practically. Research on mental illness-related stigma in health care has shown that when patients are made to wait excessively long or when they are given insufficient information about their condition and their treatment plans or when they are addressed in a patronising and condescending manner, they feel stigmatised and can become non-compliant and difficult to handle (Hamilton et al., 2014). These issues can generate barriers to treatment, such as non-disclosure of problems, interruption of treatment and strained therapeutic relationships (Henderson et al., 2014). The interaction of the environmental stressors and intrapersonal factors does not augur well for adherence to psychiatric interventions and therapeutic circumstances (Bunyan et al., 2017). Other studies have found that individuals with DD in AUD often face issues of treatment effectiveness. Consequently, a change of culture in clinical mental health service is needed to effectively treat these individuals (Clark, 2013).

6. Concluding note

Individuals with DD in AUD not only contend with multiple complex issues but they also face the challenge of navigating fragmented treatment systems. While investment in specialised, integrated, and multidisciplinary service provision for this client group is undoubtedly warranted, it is equally important to critically evaluate whether the professional response adequately addresses their needs. In conclusion, this study does not merely expose the cracks in the system; it also seeks to trace a way forward. With the right investment, training, coordination, and compassion, a better path is not only possible but within reach. Malta has the opportunity to build a treatment system that no longer leaves DD clients behind, but walks beside them; every step of the way.

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EXAMINING THE MEDIATOR ROLE OF EMOTIONAL REGULATION ON CHILDHOOD MALTREATMENT AND QUALITY OF LIFE IN YOUNG ADULTS

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Abstract

Early exposure to maltreatment can cause lasting harm to children's mental, social, academic, and emotional development. Individuals who experienced maltreatment as children may struggle with emotional dysregulation, which could then contribute to decreased quality of life outcomes. Exploring the mediating influence of emotional regulation may provide important insights into how childhood adversity shapes adult well-being. This study investigated the potential mediating role of emotional regulation in the association between childhood maltreatment and quality of life in Turkish young adults. A sample of 249 participants was analyzed using hierarchical regression in SPSS. Results indicated that childhood maltreatment significantly predicted difficulties in emotion regulation (β =-0.529, $p < 0.001$) and lower quality of life (β = -0.392, $p < 0.001$). Furthermore, emotion regulation difficulties mediated the impact of childhood maltreatment on quality of life (β = -0.267, $p < 0.001$). These results highlight the significance of addressing emotional regulation as a key mechanism in mitigating the detrimental effects of childhood maltreatment. Insights from this research can inform targeted interventions to improve the life quality for individuals with histories of childhood adversity.

Keywords: *Adverse childhood experiences, emotional dysregulation, quality of life, young adult.*

1. Introduction

Child maltreatment refers to acts or failure to act by a caregiver that harm or pose a risk to a child, encompassing emotional, physical, and sexual abuse, as well as various forms of neglect (WHO, 2010). This issue is more prevalent globally than often recognized. Specifically, the estimated prevalence rates of childhood maltreatment are approximately 16% for neglect, 18% for physical, 27% for psychological, and 12% for sexual abuse (Stoltenborgh et al., 2015).

Childhood maltreatment is considered a distal risk factor that shapes cognitive and behavioral patterns, heightening vulnerability to psychological issues such as depression, substance abuse, suicidal behavior, anxiety, stress, and trauma (Molendijk et al., 2017; Newbury et al., 2018). In addition to psychological problems, child maltreatment causes some physical problems, including cancer, heart problems, and sexually transmitted diseases (WHO, 2019). Furthermore, experiencing adverse life events during childhood raises the likelihood of developing a psychiatric disorder (e.g., PTSD, conduct disorder, and eating disorder) later in life (Greger et al., 2015). Also, such mental health problems are linked to poorer social relationships, lower academic performance, and well-being (Arslan & Genç, 2022; Jozefiak et al., 2015). Consequently, these harmful results of child maltreatment might affect the individual's life quality and emotional functioning in life. Quality of life (QoL) is defined as the subjective experience of physical, psychological, and social well-being (Post, 2014). The effects of early adversity particularly impact these aspects of well-being, as maltreatment undermines the foundational skills needed for resilience and life satisfaction (Ustuner-Top & Cam, 2021).

Emotional regulation skill serves as a key mechanism linking childhood maltreatment to quality of life. Emotional regulation skills refer to being capable of recognizing, understanding, and managing emotional reactions in a healthy manner (Gratz & Roemer, 2004). This is a critical skill in helping the individual to cope with and navigate stressful situations, build and maintain healthy interpersonal relationships, and ultimately enjoy life satisfaction. It enables individuals to grapple with destructive feelings such as rage, misery, or fear while promoting pleasant ones such as joy and hope. However, experiencing childhood maltreatment generally hinders emotion regulation abilities (Cheng & Langevin, 2023; Dvir et al., 2015). Growing up in an unpredictable family environment, where the needs of children

are not addressed, emotions are dismissed, and families are not supportive, children are unable to learn healthy ways of dealing with their emotions (Milojevich et al., 2018). Consequently, children exposed to maltreatment are at higher risk of adopting maladaptive emotion regulation strategies, including emotional suppression, heightened emotional responses, poor impulse control, and difficulty recovering from negative emotional states (Aldao et al., 2010; Dvir et al., 2015).

Emotional dysregulation plays a pivotal role as a mediating factor in the link between childhood maltreatment and diminished QoL. It amplifies the psychological and social challenges stemming from early trauma, making it harder for individuals to achieve emotional stability, build meaningful relationships, and find satisfaction and purpose in life (Weidi & JeeChing, 2023). These findings highlight the significance of interventions designed to improve emotion regulation skills as a means of breaking the cycle of harm caused by childhood maltreatment. Such interventions could pave the way for better mental health outcomes and enhanced life satisfaction. Accordingly, this study explores the function of emotion regulation in the connection between maltreatment and QoL, with the aim of informing strategies to build resilience and support recovery for those affected.

2. Method

2.1. Participants

The participants of the study were 249 young adults residing in Turkey. This study sample was composed of 63% female and 37% male, with ages ranging from 18 to 30 years old (M=22.39, SD= 2.5). The data was gathered through a web-based survey on an online platform, which included the study measures and demographic questions. Many participants reported medium socio-economic status, with 70%, 23% reporting lower socioeconomic status, and only 7% reporting upper socio-economic status. Regarding education level, most participants were college students (75%), one-fifth were high school students (21%), and 4% were graduate students. Before taking the survey, the voluntary nature and goals of the study were explained to the participants.

2.2. Measures

2.2.1. Childhood Trauma Questionnaire (CTS). CTS is a 5-point Likert scale with 28 items, was developed by Bernstein et al. in 1994 and adapted to Turkish culture by Şar et al. in 2012. It evaluates emotional and physical neglect as well as sexual, physical, and emotional abuse in childhood across five sub-dimensions. Some sample items are "People in my family hit me so hard that it left me with bruises or marks" and "I had to wear dirty clothes." The Cronbach Alpha coefficient was reported as .93 in the Turkish validity and reliability study (Şar et al., 2012). For the current study, the internal consistency coefficient for the total CTS score was $\alpha = 0.86$.

2.2.2. Quality of Life Scale (SF-12). The SF-12 is developed by Ware et al. in 2006 and translated into Turkish by Soylu and Kütük (2021). This 12-item, 5-point Likert scale evaluates two health components: physical and mental well-being. Sample questions include, "During the last 4 weeks, how much did pain interfere with your normal work?" and "During the last 4 weeks, how often have you felt nervous or downhearted?". The internal consistency coefficient in the adaptation study was 0.73, while in this study, the reliability coefficient of the scale was 0.71.

2.2.3. Difficulty in Emotion Regulation Scale-Short Form (DRE-16). The 16-item scale assesses difficulties in emotion regulation developed by Bjureberg et al. in 2016 and was adapted for a Turkish sample by Yiğit and Guzey-Yiğit in 2019. It includes five subscales: "clarity, goals, impulse, strategies, and non-acceptance". Sample items include, "I have difficulty making sense of my emotions" and "I have difficulty focusing on other things when I feel bad." The Cronbach alpha was found to be 0.92 (Yiğit & Guzel-Yiğit, 2019). In the current study, the internal consistency coefficient was $\alpha = 0.94$.

2.3. Data analyses

Descriptive statistics, normality tests, and internal consistency reliability estimates were performed for the measured variables. The normality assumption was assessed using kurtosis and skewness statistics, with values used to identify deviations from normality. The relationships between quality of life, childhood trauma, and difficulties in emotion regulation were tested using the Pearson Product-Moment Correlation Coefficient. A mediation analysis was then conducted to explore the function of emotion regulation in the association between childhood trauma and QoL, using hierarchical regression analysis, with the significance of the mediation tested through the Sobel test.

3. Result

3.1. Preliminary analyses

Descriptive statistics and bivariate zero-order correlations for the measured variables are presented in Table 1. Preliminary analysis showed that skewness and kurtosis scores ranged from −.60 to 1.99, indicating that all variables fell within the acceptable range for normal distribution. The internal reliability (α) of the variables in the present sample ranged from .71 to .94, demonstrating adequate consistency. Pearson product-moment correlation analysis revealed small to medium associations between the variables. Childhood maltreatment was positively correlated with emotion dysregulation (r = .27, p < .001) and negatively correlated with quality of life (r = −.39, p < .001). Additionally, quality of life was negatively correlated with emotion dysregulation (r = −.53, p < .001).

Table 1. Descriptive statistics and correlation results of variables.

Descriptive statistics						Correlations		
Variables	Mean	SD	Skew.	Kurt.	α	1	2	3
1. CTS	33.7	9.4	.96	1.41	.86	-	-.39**	.27**
2. SF	49.13	8.51	.82	-.46	.71	-.39**	-	-.53**
3. DRE	38.59	11.88	.84	.23	.94	.27**	-,53**	-

Note: Correlation values are significant at the 0.01 level (2-tailed). CTS = Childhood maltreatment, SF = Quality of Life, and DRE= Difficulty in Emotion Regulation

3.2. Mediating effects

A mediator analysis based on regression analysis (Baron & Kenny, 1986) was performed to identify the mediator role of the difficulty in emotion regulation in life quality. The results showed that childhood trauma negatively affected quality of life (ß = −.392, p = .001), and emotion regulation difficulties negatively impacted quality of life (ß = −.529, p = .001). Also, childhood trauma positively affected emotion regulation difficulties (ß = .275, p = .001). When both childhood maltreatment and emotion regulation were included in the model, childhood trauma still had a significant negative effect on QoL (ß=-.267, p=.001), and difficulty in emotion regulation also had a significant negative effect on OoL (ß=-.456, p=.001). According to these results, when difficulty in emotion regulation was included in the model as a mediator, the effect of childhood trauma on quality of life decreased (ß=-.267, p=.001) but remained statistically significant. Initially, childhood trauma explained 15% of the variance in quality of life, but this increased to 35% with the inclusion of emotion regulation difficulties (see Table 2). These findings suggested that emotion regulation partially mediated the relationship between childhood trauma and quality of life, with the Sobel test confirming the significance of this mediation (Z = −2.13, p = .032).

Table 2. Results of the Hierarchical Regression Analysis on the Mediating Role of Emotion Regulation Difficulty in Predicting Quality of Life.

			B	*S.H*	ß	R^2	*F*	*P*
1st Step	CTS	SF	-,335	0,84	-,392	,154	44,795	,001
2nd Step	CTS	SF	-,216	,022	-,529	,280	96,003	,001
3rd Step	CTS	DRE	,574	,128	,275	,075	20,132	,001
4th Step	CTS	SF	-,228	,046	-,267	,346	64,971	,001
	DRE		-,187	,022	-,456			,001

4. Discussion

This study investigated how emotion regulation mediated the association between childhood maltreatment and quality of life in Turkish young adults. The results indicated that experiences of maltreatment in childhood significantly are significant predictors of difficulties in emotion regulation and decreased level of life quality. Moreover, challenges in emotion regulation act as a crucial mediating factor, intensifying the negative impact of childhood maltreatment on individuals' life quality. This highlights the fundamental importance of emotion regulation in understanding and explaining this connection.

While aligning with existing studies, this research also established an association between childhood abuse, difficulties in controlling individuals' emotions, and lower life satisfaction (Dvir et al., 2015; Gratz & Roemer, 2004). Experience of maltreatment, on the other hand, has always been related to difficulties in the abuse of emotions that should be in place within oneself (Cheng & Langevin, 2023; Milojevich et al., 2018). These emotions and thoughts can lead individuals to develop certain destructive

behavior patterns to cope with the situation, such as uncontrolled craving and automatic phobia (Aldao et al., 2010). Such patterns can hinder adults from constructively dealing with difficult emotions. As a result, these deficits in regulation can lead to deficits in the quality of interpersonal relationships, lower levels of life contentment and cause deterioration in overall mental health.

It was also revealed that emotion regulation difficulties were a mediator in the link between childhood maltreatment and QoL. This result implies that certain conduct in the management of emotions, especially post-trauma, can be detrimental to the quality of life of survivors of child abuse. One possible reason is that people) with a history of maltreatment tend to become more stressed and worse at preventing negative emotional outbursts (Weidi & JeeChing, 2023). These factors are likely to lower their general quality of life. As such, the findings highlight the need for training of young adults in emotion regulation to lessen the effects of negative early experiences.

These findings grant a good foundation for the design of interventions targeting the plight of persons who suffered from maltreatment as children. Particularly, therapeutic modalities such as Dialectical Behavior Therapy and Emotion-Focused Therapy could be useful in making the individual more emotionally aware and accepting of the mastery of emotional regulation skills. It follows that adding emotion regulation skills training into prevention and intervention programs might lessen the effects of maltreatment and enhance welfare outcomes.

While this research adds further knowledge relative to emotion regulation skills among young adults who have experienced abuse, it has limitations. Firstly, the cross-sectional design of the study restricts the power to determine causal links among study variables. Second, using self-reported data might lead to bias, which could impact the validity of the findings. Third, the exclusive focus on young adults in Turkey limits the generalizability of findings to diverse cultures. To enhance the power of future studies, it is recommended that longitudinal designs facilitate a more detailed analysis of the processes that underlie the development of emotion regulation ability and its association with quality of life.

In sum, this study's results emphasize the essential function of emotion regulation as a mediating factor in the link between childhood maltreatment and QoL in young adults. This underscores the necessity of incorporating strategies to improve emotional regulation within therapeutic frameworks, particularly for those individuals who have endured adverse experiences during childhood, to foster better life outcomes.

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HIGHS AND LOWS: PSYCHOLOGICAL FLEXIBILITY AS AN EXPLANATION FOR THE CANNABIS USE-MENTAL HEALTH RELATIONSHIP

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Abstract

Background: Cannabis use (CU) has rapidly grown worldwide. Cannabis use disorder (CUD) is associated with a three-fold increase in internalizing disorders such as depression and anxiety. Psychological flexibility (PF) encompasses an individual's ability to be open and accepting of emotional experiences (openness to experience; OE), and to adjust their behaviours (behavioural awareness; BA) to be in line with their personal values (valued action; VA). PF can be targeted and improved through Acceptance and Commitment Therapy (ACT), which has been shown to be effective for addressing depression and anxiety symptoms; however, the role of PF in substance use is less explored and mechanisms underlying the comorbidity remain unclear. *Rationale*: The aim of this study was to examine the mediating role of PF in the relationship between CU patterns (i.e., daily use, disordered use), and internalizing symptoms. *Method*: Individuals from an Atlantic Canadian University, the general population, and Prolific (N = 525) completed measures assessing CU patterns (meeting criteria for DSM-5 CUD, daily use), anxiety and depressive symptoms, and PF. *Results*: Daily CU was positively associated with depressive and anxiety symptoms. CUD symptoms were also positively associated with depressive and anxiety symptoms. Daily CU was negatively associated with PF total and with two PF dimensions (OE, BA). As expected, CUD symptoms were negatively associated with PF and with all three PF dimensions. Six mediation models were tested, with daily CU/CUD symptoms entered as independent variables, depression and anxiety as the dependent variables, and total PF or its dimensions as mediators. The three dimensions of PF (OE, BA, VA), and PF total partially explained the relationship between CUD symptoms, and both depressive and anxiety symptoms. The same was found for the relationship between daily CU and depression but only the dimensions of OE and BA mediated the relationship between daily cannabis use and anxiety symptoms. *Conclusions/Impact*: Problematic cannabis users appear lower in PF, which may partly explain why they experience more internalizing symptoms. Interventions aiming to increase PF, such as ACT, may be appropriate for such individuals.

Keywords: *Cannabis use, psychological flexibility, depression, anxiety, substance use.*

1. Introduction

Cannabis use (CU) is common worldwide (Wang et al., 2024). Specifically, CU has increased in Canada since its legalization in 2018 (Public Health Agency of Canada, 2024). In 2024, 1 in 6 people reported CU in the past 30 days and 6% of individuals reported daily or almost daily use of cannabis. Individuals with mental disorders are twice as likely to also have a co-occurring substance use disorder (SUD; Centre for Addiction and Mental Health [CAMH], n.d.). In 2023, the U.S. reported that about one third of individuals with any mental disorder also had a SUD and that access to addiction care continues to be a challenge with only 1 in 4 individuals receiving treatment (SAMHSA, 2023). Individuals with anxiety/depression are more likely to use cannabis or to have a cannabis use disorder (CUD; Kedzior & Laeber, 2014). Specifically, CUD is associated with a three-fold increase in internalizing disorders such as depression and anxiety (Onaemo et al., 2021). The relationship between internalizing disorders and SUDs is complex, however, much of the evidence suggests that internalizing disorders are risk factors for SUDs (O'Neil et al., 2010) and that the self-medication hypothesis may be a contributing factor. To cope with symptoms of internalizing disorders, individuals may use substances through a negatively reinforcing loop (Walters et al., 2018). The comorbidity between internalizing disorders and CUD is well established, however, the role of psychological flexibility (PF) in this relationship remains to be explored.

1.1. Psychological flexibility

PF is the ability to engage in the present moment as a conscious being, and to adapt or maintain behaviours depending on the situation to align with one's values (Hayes et al., 2006). PF consists of six processes: (1) accepting unwanted thoughts, feelings, or sensations without trying to alter them, (2) recognizing thoughts as experiences instead of truths or facts, (3) malleable awareness and attention of the present moment, (4) self-as-context (being flexible in taking perspective from the self or others), (5) identifying fundamental goals and values, and (6) committed actions that correspond with one's goals and values (Boykin et al., 2020). These processes can be captured under three pillars of PF: (1) openness to experience (OE), (2) behavioural awareness (BA), and (3) valued action (VA). An individual who demonstrates high PF would be more aware and accepting of emotional experiences while having the capacity to engage in challenging behaviours or activities to pursue life goals in line with their personal values (Kashdan & Rottenberg, 2010). PF can be improved through Acceptance and Commitment Therapy (ACT; Swash et al., 2017), which helps individuals prevent negative thoughts and feelings from driving their behaviour, as well as encouraging mindfulness and increasing resilience. ACT targets the psychological processes underlying mental health symptoms rather than observable symptoms (Dindo et al., 2017), highlighting its potential as a transdiagnostic target of intervention.

1.1.1. Psychological flexibility and internalizing disorders. About 4% of the population worldwide suffer from depression, similar to the prevalence of anxiety disorders (World Health Organization [WHO], 2023). Approximately 1 in 4-5 adults in the U.S. experience symptoms of anxiety or depression (Terilizzi & Zablotsky, 2024). In individuals with psychopathology, psychological inflexibility (PI), characterized by experiential avoidance and diminished daily functioning appears to be present (Bond et al., 2011). For example, in depression, this presents as rumination, aversive emotional states resistant to change, and incapacity to derive pleasure from the environment (Kashdan & Rottenberg, 2010). In anxiety disorders, PI is associated with anxiogenic thought processes (e.g. catastrophizing) and behavioural responses that exacerbate symptoms, such as avoidance. PI acted as a partial mediator between perceived stress and both general anxiety and depression among COVID-19 patients (Huang et al., 2021). ACT, which enhances PF, can address symptoms of depression and anxiety (Twohig & Levin, 2017). This evidence supports PI in the development and maintenance of internalizing disorders.

1.1.2. Psychological flexibility and cannabis use/cannabis use disorder. There is limited literature on PF in SUDs, and even fewer studies examining its role specifically in CU/CUD. Theoretically, it has been proposed that PF should lead to reduced substance use as it addresses negative experiences rather than avoiding them (Ii et al., 2019). ACT is associated with decreased drug use and disordered use, suggesting that it is a promising treatment option (Lee et al., 2015). Individuals receiving opioid agonist therapy who exhibit more PF are less likely to engage in the continued use of illicit substances (Rosen et al., 2020). However, few studies have directly examined the role of PF in the etiology of SUDs. There is potential to enhance treatment outcomes in those with CUD, as interventions are typically plagued with low abstinence and high relapse rates (Gates et al., 2016).

2. Present study

There is a gap in the literature on the role of PF in SUDs, especially for cannabis. The current study expands knowledge on the factors that contribute to the relationship between CU/CUD and mood and anxiety symptoms. It was hypothesized that individuals who report greater CU behaviours (daily/almost daily use, disordered use) would report greater internalizing symptoms (i.e., depression and anxiety) and that PI would partially contribute to this relationship. No specific hypotheses were formulated regarding the contribution of specific dimensions of PF given the lack of previous research.

3. Method

3.1. Participants

A total of 525 participants (M_{age} = 29, *SD* = 14.01, 62.2% women, 33.5% men, 4.1% other), including 271 undergraduate students from the University of New Brunswick, Canada and 254 participants from the community and Prolific, a Crowdsourcing tool, were recruited. Community participants could participate if they were 19+ and were residents of Canada/U.S.

3.2. Measures

An internally generated *demographics questionnaire* assessed participants' age, ethnicity, gender affiliation, occupation, level of education, relationship status, and income. An abbreviated version of the *Addiction Severity Index* (ASI; McLellan et al., 1992) was used to assess past-year frequency (i.e. never to

almost daily/daily) of CU. The 11 *DSM-5 CUD symptom criteria* (i.e. "Used cannabis in larger amounts or over a longer period of time than you intended") assessed past-year CUD symptoms using a Yes/No checklist. The *Generalized Anxiety Disorder* Scale (GAD-7; Spitzer et al., 2006) includes seven-items to assess general anxiety (e.g., "how often have you been bothered by feeling nervous, anxious or on edge?") on a four-point Likert scale (i.e., "not at all" to "nearly every day"). Higher scores indicate more symptoms of anxiety (α = .92). The *Patient Health Questionnaire* (PHQ-9; Kroenke et al., 2001) measures depressive symptoms using nine items (e.g., "little pleasure or interest in doing things") on a four-point scale ranging from "not at all" to "nearly every day." Higher scores on the PHQ-9 indicate more depressive symptoms (α =. 89). The *Comprehensive Assessment of Acceptance and Commitment Therapy* scale (CompACT; Francis et al., 2016) was used to assess PF. The CompACT is a 23-item measure with three subscales: (1) OE (e.g., "I work hard to keep out upsetting feelings"), (2) BA (e.g., "I find it difficult to stay focused on what's happening in the present"), and (3) VA (e.g., "I behave in line with my personal values"). Items are assessed on a seven-point scale ranging from strongly disagree to strongly agree. Higher scores reflect greater PF (α = .88).

3.3. Procedure

The current study received institutional research ethics approval. Participants accessed the online study through a link provided in advertisements. They were first presented with an informed consent form and then the randomized survey. Participants were given the option to be entered in a draw for one of three $20 Amazon gift cards. Those recruited from Prolific received the equivalent of 10£ (GBP)/hour which was prorated to the time taken to complete the survey.

4. Results

For descriptives on study variables, please contact the primary author (molly.nash@unb.ca). Pearson's *r* correlations showed that daily/almost daily CU was positively associated with depression ($r(511) = .163$, $p < .001$) and anxiety ($r(512) = .091$, $p = .038$) symptoms, as hypothesized. Greater self-reported CUD symptoms were also positively associated with depression ($r(517) = .167$, $p < .001$) and anxiety ($r(519) = .127$, $p = .004$) symptoms. Daily/almost daily CU was negatively associated with PF ($r(506) = -.123$, $p = .006$) and with two PF pillars (OE; $r(506) = -.116$, $p = .009$, BA; $r(507) = -.145$, $p = .001$). As expected, increased CUD symptoms were also negatively associated with PF ($r(512) = -.179$, $p < .001$) and with all three PF dimensions (OE; $r(512) = -.158$, $p < .001$, BA; $r(513) = -.126$, $p = .004$, VA; $r(512) = -.119$, $p = .007$). Six mediation models were tested with either daily/almost daily CU or CUD symptoms as the independent variables, depression and anxiety as the dependent variables, and PF (total CompACT score) or its three dimensions (CompACT: OE, CompACT: BA, CompACT: VA) as mediators. The three dimensions of PF, and PF total partially explained the relationship between CUD symptoms, and both depressive and anxiety symptoms. The same was found for the relationship between daily/almost daily CU and depression but only the dimensions of OE and BA mediated the relationship between daily/almost daily CU and anxiety symptoms. See Table 1.

5. Discussion

In the current study, CU patterns were associated with internalizing symptoms, consistent with previous research. Cannabis is commonly used for its relaxing and sedative effects (Turna et al., 2019). The elevated rates of individuals with depression and anxiety using cannabis may be reflective of the belief that it can alleviate symptoms of these disorders (Kuhns et al., 2022). CU can result in short-term symptom alleviation due to its anxiolytic and antidepressant effects (Li et al., 2020) but can contribute to worsening mental health conditions and negative long-term outcomes (Health Canada, 2018). The mediation analyses conducted suggest that cannabis users appear lower in PF, which may partly explain why they experience more internalizing symptoms. Individuals who exhibit PI often struggle with experiential avoidance which has been shown to play an important role in CU (Buckner et al., 2016). Cannabis users who are low in PF may find it difficult to tolerate negative emotions, leading them to use cannabis to dampen these symptoms. ACT may be a promising intervention for individuals with internalizing disorders and CU. Limitations in the present study include generalizability concerns (Canadian and U.S. participants) and weak (but significant) correlations between the variables of study. It is likely that stronger relationships would have emerged in a sample of individuals with CUD. Despite these limitations, these findings contribute to a greater understanding of PF as a transdiagnostic factor in the comorbidity between internalizing disorders and CUD.

Table 1. Mediation Model of Psychological Flexibility in the CU/CUD and Anxiety/Depression Relationship.

Variable (Y)	Effect (*b*)	Bootstrap *SE*	Boot LLCI	Boot ULCI
GAD-7				
CUD → Y	0.0105	0.0127	-0.0145	0.0355
Total	0.0365	0.0088	**0.0199**	**0.0541**
CUD →OE→ Y	0.0190	0.0057	**0.0087**	**0.0309**
CUD →BA→Y	0.0122	0.0044	**0.0044**	**0.0217**
CUD →VA→Y	0.0053	0.0025	**0.0013**	**0.0109**
DCU → Y	0.0238	0.0840	-0.1413	0.1889
Total	0.1937	0.0610	0.0741	0.3125
DCU →OE→ Y	0.0920	0.0396	**0.0192**	**0.1743**
DCU →BA→Y	0.0939	0.0298	**0.0394**	**0.1549**
DCU→VA→Y	0.0078	0.0130	-0.0174	0.0352
CUD → Y	0.0104	0.0129	-0.0149	0.0358
CUD →PFTOT→ Y	0.0366	0.0085	**0.0202**	**0.0533**
DCU → Y	0.0522	0.0848	-0.1143	0.2187
DCU →PFTOT→ Y	0.1654	0.0578	**0.0527**	**0.2780**
PHQ-9				
CUD → Y	0.0170	0.0099	-0.0025	0.0366
Total	0.0332	0.0079	**0.0182**	**0.0492**
CUD →OE→ Y	0.0128	0.0040	**0.0055**	**0.0209**
CUD →BA→Y	0.0120	0.0041	**0.0047**	**0.0207**
CUD →VA→Y	0.0085	0.0035	**0.0022**	**0.0159**
DCU → Y	0.1528	0.0654	**0.0244**	**0.2812**
Total	0.1661	0.0541	**0.0602**	**0.2743**
DCU →OE→ Y	0.0623	0.0272	**0.0126**	**0.1191**
DCU →BA→Y	0.0909	0.0280	**0.0390**	**0.1485**
DCU→VA→Y	0.0128	0.0204	-0.0265	0.0537
CUD → Y	0.0167	0.0100	-0.0029	0.0364
CUD →PFTOT→ Y	0.0335	0.0079	**0.0180**	**0.0491**
DCU → Y	0.1662	0.0655	**0.0375**	**0.2949**
DCU →PFTOT→ Y	0.1526	0.0533	**0.0468**	**0.2604**

Note. CUD = Cannabis Use Disorder. DCU = Daily/Almost Daily Cannabis Use. OE = CompACT: Openness to Experience. BA = CompACT: Behavioural Awareness. VA = CompACT: Valued Action. PFTOT = Total Psychological Flexibility score on CompACT.

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DESIGNING AND PILOTING A QUESTIONNAIRE TO UNCOVER CONSCIOUS AND UNCONSCIOUS MOTIVATIONS OF PSYCHOTHERAPISTS

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Abstract

Psychotherapists, psychologists and counsellors play a vital role in mental health care, offering treatment to individuals grappling with psychological difficulties. Research suggests that these professionals, who engage primarily in the work of psychotherapy, share a great deal in common and have been deemed by various researchers to constitute "the fifth profession". The conscious motivations underlying choosing and sustaining a career in these professions have been widely studied. These often include a desire to help others, intellectual curiosity, or interest in psychological theories, while unconscious motivations may stem from unresolved personal conflicts or a need for validation. Understanding these factors is crucial, as they influence therapeutic relationships, the effectiveness of interventions, and therapists' own well-being. Existing questionnaires have so far been limited to other specific professions, or tend to focus on motivations driving career choice in general. A questionnaire for assessing motivations to become psychotherapists could therefore offer valuable insights into the personal, professional, and unconscious drivers influencing career choice. A previous study using the Repertory Grid Technique (RGT), which gives access to tacit knowledge and unconscious motivations, found that besides altruistic motives to pursue the profession psychotherapists may also be driven by "darker" motivators. These include a need for power, financial gain and self-affirmation. The results of this study also point to the existence of traits which could potentially interfere with the outcome of psychotherapy, such as unethical attitudes and behaviours, an inflated sense of self, and difficulties with empathy. The findings of this study were drawn on to compile a quantitative research tool in accordance with established scale development and questionnaire design techniques. In an initial phase this tool was piloted qualitatively and the results of this pilot study are presented in this paper. Future directions of this study include the administration of the scale to a representative sample of Maltese psychotherapists in order to confirm factor structure and to assess the reliability and validity of the final scale. This would constitute the second phase of the study. The results of this study have implications for the selection, training, supervision and continuing professional development of psychotherapists. The finalised instrument could be used as a screening tool when prospective psychotherapists are being selected for entry into professional programmes. It could also prove useful in informing the personal psychotherapy and supervision of existing psychotherapists. The questionnaire could also prompt reflection and self-awareness which remain fundamental as motivations evolve throughout a psychotherapist's career.

Keywords: *Questionnaire development, motivations, psychotherapists, career choice*.

1. Introduction

The current chapter is an offshoot of a previous study conducted by the authors (Darmanin Kissaun & Catania, 2024) that aimed at exploring the personality traits and motivations of Maltese clinical and counselling psychologists by means of the Repertory Grid Technique. Findings from this study suggest that besides altruistic motives to pursue the profession, psychologists are also driven by "darker" motivators and personality traits that could negatively impact the outcome of psychotherapy. Recognising unconscious motivations can help therapists navigate challenges and strengthen their practice, promoting healthier relationships with clients and colleagues. However, existing questionnaires have been limited to other specific professions, or tend to focus on motivations driving career choice in general. The current chapter describes the process followed to design and qualitatively pilot a questionnaire aimed at eliciting conscious and unconscious motivations for choosing a career in psychotherapy.

1.1. Background

Psychotherapists play a vital role in mental health care, offering support and treatment to individuals grappling with psychological difficulties. Although one of the most commonly reported conscious motivations for entering the psychotherapy profession is the drive to help others, various studies have demonstrated that multiple complex factors interact to determine the choice of career as a helping professional. Some of these unconscious factors do not emerge until later on in the psychotherapist's career (Maroda, 2005; Norcross & Farber, 2005; Sussman, 2007). Understanding these factors is critical, as they may influence therapeutic relationships, the effectiveness of interventions, and therapists' own well-being.

1.2. Conscious and unconscious motivations for practicing psychotherapy

Many therapists claim to garner a sense of purpose in alleviating human suffering and facilitating personal growth, a drive that aligns with prosocial tendencies (Farber et al., 2005). Additionally, the complexity of human behaviour, emotions, and relationships appeals to those drawn to problem-solving and abstract thinking (Norcross & Farber, 2020). Moreover, psychotherapy is perceived as a flexible and fulfilling career that allows individuals to balance personal and professional responsibilities while engaging in meaningful work, rendering the lifestyle and intrinsic satisfaction the profession provides appealing (Skovholt & Trotter-Mathison, 2014). Therapists also consciously recognise that the field provides opportunities for self-reflection, deeper interpersonal understanding, and the fulfillment of potential—a process described by Maslow's theory of self-actualisation (Maslow, 1943).

Farber et al. (2005) conducted a study on psychotherapists' motivations, finding that most reported an amalgam of altruistic and personal growth reasons for entering the field. However, Norcross and Farber (2005) and Nikcevic et al., (2007) claimed that the motivation for choosing a career in mental health may arise from a need to resolve personal psychological issues and childhood struggles. Di Caccavo (2002; 2006) also refers to parentification that arises from professionals' histories of childhood caregiving in situations where parents were emotionally unavailable. This would lead to an internalisation of a caretaking role that would allow carers to care for themselves by caring for others. Sussman (2007) identified three types of unconscious motives of psychotherapists, namely 1) those stemming from instinctual aims, i.e., psychological needs related to sexual and aggressive instincts 2) motives related to narcissism and the development of the self, i.e., the need to be affirmed by others and 3) motives involving object relations, i.e., the need to feel intimately connected to others.

Practicing psychotherapy can offer a sense of importance, authority, or mastery, which may fulfil unmet emotional needs from earlier life stages (Freud, 1912). While such motivations are often unacknowledged, they can influence therapists' interactions with clients, particularly in their need to "fix" or "rescue" others. Strong counter-transferential reactions to patients' issues or behaviours may occur, in which psychotherapists' own past experiences and concerns are roused and intense feelings are evoked. Unexamined or misunderstood transference-countertransference dynamics in the therapeutic relationship may lead therapists to unconsciously seek to replicate or repair past relationships through their work (Clarkson & Nuttall, 2000). Practicing psychotherapy may also provide a sense of control, allowing therapists to avoid their own vulnerabilities. By focusing on others' issues, therapists may unconsciously distance themselves from their own psychological struggles (Goldberg, 1990). According to Darmanin Kissaun & Catania (2024) other motives included the quest for power, prestige and financial gain which, compounded by lack of self-awareness could lead to unethical attitudes and behaviour.

Rothschild & Rand (2006) suggest that individuals who have experienced psychological distress or relational difficulties may unconsciously seek psychotherapy as a way to process or "heal" their own wounds. This phenomenon, termed the "wounded healer" archetype, can unconsciously motivate therapists to enter the field. Cruciani et al. (2024) identified the following domains of motivations within the wounded healer framework: dysfunctional caregiving; negative personal experiences in the family of origin; other early relational issues; self-oriented and altruistic motivations. These authors suggest that the wounded healer phenomenon underpins both the altruistic attitude in healing others as well as the self-oriented healing that a person may undergo in the process of becoming a therapist. Several authors have stated that it is fundamental for wounded healers to have explored their own conscious and unconscious motivations in order to gain enough self-knowledge, insight and awareness to be able to offer help to others. Clarkson and Nuttall (2000) also advise psychotherapists to be aware of the ways in which they may be identifying with the archetype of the wounded healer. They emphasise the importance of therapy and supervision and their role in helping therapists "…deflate their over-identification with this archetype" (Clarkson & Nuttall, 2000, p. 367).

Norcross and Farber (2005) also asserted that the self-oriented motive for healing the self is usually balanced by the more altruistic motives, and that unconscious motives can be curbed and could even prove helpful if psychotherapists are aware of them. Furthermore, Cruciani et al. (2024) underscored that positive relationships (e.g., with ones' teachers, mentors, and psychotherapists) established in childhood could offer

models of positive interactions based on emotional support and serve to restore epistemic trust previously disrupted by traumatic experiences. Such experiences can serve as "corrective emotional experiences", (Cruciani et al., p.4) promoting self-transformation and enabling aspiring therapists to foster the same process with others by means of their profession. These authors therefore posit that challenges and support combine and determine future therapists' professional identities.

2. Methodology

2.1. Questionnaire design

A thorough literature search, as suggested by Artino et al. (2014) and DeVellis (2012), ensured that no valid and reliable measure of the conscious and unconscious motivations of psychotherapists existed. Items were generated from three main sources. A blueprint for the item pool, based on the constructs identified in the Repertory Grid study (Darmanin Kissaun & Catania, 2024), was first constructed (Giles, 2002). The subsequent step involved the generation of an item pool containing considerably more items than would be necessary in the final version of the scale (DeVellis, 2012). Another source was the Motives, Value, Preferences Inventory (Hogan & Hogan, 2010), a validated scale which assesses what motivates a person in occupational settings. Finally, items were derived from Sussman's (2007) list of questions used by the author in his qualitative research on psychotherapists' unconscious motivations.

Care was taken to design items according to established guidelines, in order to minimise the possibility of participants misunderstanding what was being asked. Responses followed a six-point Likert type format. This format was deemed to be the right balance between the sensitivity – effectively distinguishing nuanced references (Finstad, 2010) - and accuracy of the scale. Indeed, most research indicates that five to seven points are ideal (Lietz, 2010), with seven-point scales being more reliable for participants with higher cognitive discrimination (Weijters et al., 2010). A six-point scale was chosen so as to ensure participants move off the fence by not being able to select the mid-point (Fallowfield, 1995).

2.2. Questionnaire piloting

Artino et al. (2014), DeVellis (2012) and Gehlbach and Brinkworth (2011) suggest that the subsequent step should be to have a group of persons knowledgeable in the subject matter review the items, in order to maximise the content validity of the scale. It was deemed that this step was not required since both the researchers and participants are subject matter experts.

Piloting using cognitive interviewing was carried out with a sample of six psychologists, psychotherapists and counsellors, all engaged in the practice of psychotherapy. Cognitive interviewing (Artino et al. 2014; Drennan, 2003; Nápoles-Spinger et al., 2006; Willis, 1999) involves a structured interviewing process aimed at ensuring that the participants' understanding of the questionnaire items matches that of the researchers as closely as possible. This process was carried out using a combination of the think aloud and verbal probing techniques (Artino et al. 2014; Willis, 1999). The think aloud technique involved reading out each item to individual participants, who were encouraged to rephrase the items in their own words, verbalising their thought processes while doing so (Beatty & Willis, 2007). Verbal probing was also employed at various points, with the researchers asking a series of probing questions designed to elicit more specific information (Artino et al., 2014; Drennan, 2003). Both scripted and spontaneous probes were deployed.

The procedure adhered to for each interview was the following: the think aloud technique was explained to the participant. One researcher was responsible for presenting each item to the participant one by one, adding any probes whenever needed. The other researcher took concurrent notes on a laptop about the process, noting any changes suggested by the participant and endorsed by the researchers. After each interview changes were made to the items as suggested, in preparation for the interview with the next participant. The process was repeated with different participants until no further changes were suggested by the last participant, implying that the items were as accurate as they could be.

3. Results

The above process resulted in a pool of 87 items, clustered into eight subscales. Table 1 below lists each subscale and the number of items in each scale. Examples of items are also included.

Table 1. List of subscales in the scale and number of items in each subscale following qualitative piloting, with sample items.

Subscale	Number of items	Sample items
Vocational choice	9	I always knew that I wanted to become a psychotherapist My main motivation in pursuing my career is to help others
Experience as therapist	9	I like the feeling of being looked up to by my clients I find practicing psychotherapy meaningful
Experience as patient	5	I have positive feelings towards my personal therapist As a client, I found terminating therapy difficult
Family background	17	I felt I had to look after a parent/both parents emotionally Emotions were dealt with in a positive manner in my family
Personal development	10	My early childhood memories are relevant to my eventual choice of profession Feelings of shame have played a central part in my life
Current personal life	15	I manage to achieve a healthy work life-balance I believe that self-care is essential
Ethical attitudes and behaviour	9	I make exceptions and hug clients when I think they need it I think therapist self-disclosure is helpful for the client
Power, financial gain, recognition	13	Money is important to me Understanding people's minds gives me a sense of control

4. Future directions

The final stage of this process will involve quantitative piloting. The questionnaire will be administered to a large sample drawn from the pool of local professionals. The internal reliability of each scale will be calculated using Cronbach's α, and used to reduce the number of items in the scale by deleting items with low item-total correlations (Rattray & Jones, 2007). Exploratory and Confirmatory Factor Analysis will then be employed to arrive at the final validated version of the scale (Artino et al., 2014; DeVellis, 2012; Gehlbach & Brinkworth, 2011).

5. Conclusion

The decision to practice psychotherapy is influenced by both conscious and unconscious motivations. While conscious factors such as altruism, intellectual curiosity, and personal growth fuel most therapists' choice of career, unconscious influences, including unresolved psychological conflicts and the need for validation, also play a significant role. Recognising and addressing these motivations through self-reflection, supervision, and personal therapy is essential for ethical and effective practice. Future research should focus on longitudinal studies examining how therapists' motivations evolve over time and their impact on therapeutic outcomes. The current study describes the initial stage in the development of a questionnaire for assessing motivations to become psychotherapists that could offer valuable insights into the personal, professional, and unconscious drivers influencing career choice. The finalised instrument could be used as a screening tool when prospective psychotherapists are being selected for entry into professional programmes. It could also prove useful in informing the personal psychotherapy and supervision of existing psychotherapists.

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NAVIGATING PANDEMIC DISRUPTIONS: A THEMATIC ANALYSIS OF COLLEGE STUDENTS' MENTAL HEALTH AND BEHAVIORAL CHANGES AMIDST COVID-19

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Abstract

The COVID-19 pandemic led to the closure of educational institutions worldwide in an effort to curb the spread of the virus. This unprecedented shift profoundly impacted college students, triggering various challenges. Studies reveal that college students experienced heightened levels of psychological distress, including anxiety, depression, and disruptive changes in health-related behaviors. This qualitative study examines the experiences of 159 college students (29 males and 130 females) aged between 19 and 29 during the first weeks of April 2020 in Turkey. Participants completed sociodemographic information forms and wrote about how the pandemic affected their lives and health behaviors. They were analyzed using thematic analysis, providing insight into how the pandemic influenced their well-being. The findings revealed several key themes, including notable changes in daily health behaviors. Students reported alterations in their eating habits, sleep routines, exercise, personal hygiene, and adherence to social distancing measures. These behavioral changes were closely linked to various psychological factors. A significant portion of the participants experienced emotional symptoms such as stress, anxiety, and depression. Many also reported cognitive difficulties and somatic symptoms. Participants highlighted their challenges in coping with these behavioral and psychological changes. A common theme was the lack of access to social support systems during the lockdown, which made it difficult for students to manage their distress. Feelings of isolation and disconnection from their usual support networks further exacerbated their emotional struggles. However, while these changes were more intense in the initial stages of the pandemic, many participants reported a gradual adaptation to their new circumstances as time passed. Despite the restrictions, students demonstrated resilience by maintaining a sense of normalcy. Some participants engaged in home-based activities such as cooking, establishing daily routines, using relaxation techniques, journaling, and exercising indoors. Others found ways to maintain social connections, using phone or video calls to communicate with loved ones. These adaptive strategies helped alleviate some initial distress and promoted psychological resilience over time. In conclusion, this study underscores the profound impact of the COVID-19 pandemic on college students' psychological well-being and health behaviors. The findings highlight the importance of providing mental health support to students during crises and suggest that adaptive behaviors, such as maintaining routines and social connections, play a crucial role in mitigating the negative psychological effects of pandemic-related disruptions.

Keywords: *Covid-19 pandemic, health behaviors, college students, psychological distress, coping mechanisms.*

1. Introduction

The COVID-19 pandemic has reshaped global society in ways previously unimaginable, with one of its most profound impacts felt in the education sector. Educational institutions worldwide were compelled to shut down to limit the virus's spread, leading to profound disruptions in students' academic and personal lives. College students, in particular, faced unique and compounded challenges during this period. Isolated from their usual support systems, many experienced a dramatic shift in their daily routines, leading to heightened psychological distress and behavioral changes. Emerging research highlights that students experienced increased levels of anxiety, depression, and stress, alongside significant disruptions in health-related behaviors such as eating habits, sleep patterns, exercise routines, and hygiene practices (Di Consiglio, Merola, Pascucci, Violani, & Couyoumdjian, 2021; Ferrara et al., 2022). While a number of studies have explored various aspects of students' experiences during the pandemic, these investigations have often focused on specific dimensions. For instance, existing research has examined students'

relationships with educational institutions (Vaterlaus, Shaffer, & Pulsipher, 2021), the challenges of distance learning (Tümen Akyıldız, 2020), COVID-19-related psychological distress (Farris, Kibbey, Fedorenko, & DiBello, 2021), changes in health behaviors (Zhang et al., 2022), coping strategies (Åsberg, Eldh, Löf, & Bendtsen, 2022), psychological impacts (Milia, Diliberto, Di Piazza, & Ingoglia, 2021), and broader challenges (Cengiz, Gurdap, & Işik, 2021). However, these studies primarily target specific facets of the pandemic experience rather than examining the multifaceted impact on college students comprehensively.

Although some research highlights changes in sleep, eating habits, and stress levels among general community samples (Orr et al., 2022), the nuanced experiences of college students—particularly through a qualitative lens with larger sample sizes—have been largely overlooked. This gap is especially pronounced in understanding the complex interplay of mental health and behavioral changes as articulated by the students themselves. Thus, the present study aims to bridge this gap by investigating the mental health and behavioral impacts of COVID-19 on Turkish college students, drawing insights from their narratives to provide a deeper, more holistic understanding of their experiences.

2. Methods

2.1. Participants

This study employed a qualitative design with thematic analysis to thoroughly explore the experiences of students during the COVID-19 pandemic. The sample comprised students from the Psychology Department of a private university in Istanbul, Turkey. A total of 159 psychology students (29 males, 130 females) aged between 19 and 29 participated in the research. Most participants were senior-year students residing with their families at the time of the study, in various cities across Turkey and abroad. Ethical approval for the study was obtained from the university's ethics board and the Ministry of Health. Informed consent was collected from all participants, who received academic credits for their participation. The data collection period spanned from April 1 to April 15, 2020, during Turkey's first nationwide lockdown.

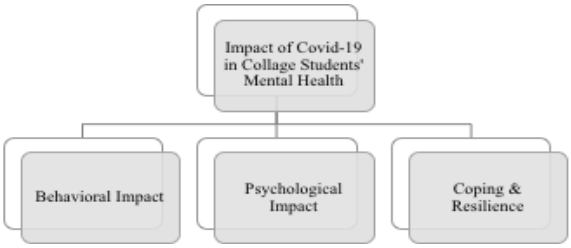
2.2. Data collection and analyses

Students were invited to document and submit their experiences during the COVID-19 pandemic through the university's online digital assignment system. The writing prompt provided was: *"Please write a paragraph about how you respond to the COVID-19 pandemic and what common changes you have observed in your behaviors during this time."* The submitted narratives were analyzed using a codebook thematic analysis framework in Excel, combining the structural rigor of coding reliability with the interpretative depth of reflexive thematic analysis (Clarke, Hayfield, & Terry, 2019). To maintain anonymity, each participant was assigned a unique identifier (e.g., P1, P2), and their responses were recorded and analyzed using these codes. The analysis adhered to Braun and Clarke's (2006) recommended steps. Initially, the researcher familiarized herself with the data by transcribing responses and engaging in repeated readings while making detailed notes. Next, preliminary coding was performed based on salient features within the dataset. These codes were then grouped under potential themes, which were reviewed and refined for clarity and coherence. In the final stage, the themes were labeled and systematically documented. Participant quotes were transferred to a spreadsheet and manually highlighted in distinct colors corresponding to thematic categories, following a shared color-key approach (Bree & Gallagher, 2016; Meyer & Avery, 2009). Items with matching colors were collated for deeper thematic analysis. Open coding and marginal notes were used to identify additional recurring themes that were not pre-defined in the codebook. Throughout the process, analytical memos were employed to ensure the accurate development and refinement of emergent codes and themes.

3. Results

The participants' narratives highlighted the multifaceted impact of COVID-19 on college students' mental health, which emerged through three main themes: behavioral impact, psychological impact, and coping & resilience, as illustrated in Figure 1. Each of these overarching themes encompasses several sub-themes and specific codes, which are detailed in the following sections.

Figure 1. Main Themes Emerged from Participants' Narratives.



3.1. Behavioral impact

Participants reported significant behavioral changes during the early weeks of the pandemic, particularly in sleep, eating, exercise, hygiene, and social distancing. Some also noted changes in smoking, screen time, repetitive behaviors, procrastination, and sexual activity.

Sleep problems emerged as the most frequently mentioned issue, with all participants describing disruptions in their sleep patterns. Examples included irregular sleep schedules, staying up late, waking up late, prolonged periods spent in bed, and a lack of restful sleep. Some participants also recounted experiencing nightmares or dreams related to the virus, including fears of themselves or loved ones becoming infected. Despite efforts to practice good sleep hygiene, many found these measures ineffective. The resulting sleep deprivation led to feelings of daytime fatigue, which were further linked to emotional distress and cognitive challenges. Participants frequently highlighted changes in eating habits. Many reported increased consumptions of sweets, snacks, and junk food as a coping mechanism for stress, with behaviors like binge eating, night eating, and fridge snacking due to boredom or sleep problems. Cravings for chocolate and sweets were common, often paired with higher caffeine intake to aid focus. Some participants skipped meals, particularly breakfast, due to waking up late, while others noted increased appetite, often linked to weight gain, dieting, and body dissatisfaction. Conversely, a minority reported improved dietary habits, such as consuming more fruits, vegetables, protein, and supplements to boost immunity. A small group mentioned having breakfast more frequently with family, fostering a sense of social support.

Physical exercise emerged as another sub-theme of behavioral changes. Many participants reported reduced physical activity due to lockdowns, leading to complaints of inactivity, weight gain, sleep problems, and body dissatisfaction. Conversely, some engaged in moderate exercise, such as Pilates or home walking, as a coping strategy, to lose weight, or to strengthen their immune system. An increase in personal hygiene, self-care, and cleaning behaviors was widely reported. Participants commonly mentioned wearing masks and gloves, using hand sanitizers or cologne, sanitizing items brought from outside, and frequently cleaning their homes. Handwashing significantly increased, with some experiencing obsessive-compulsive patterns leading to dermatological issues. Washing grocery packages with bleach was also noted. While many emphasized heightened self-care, some reported lapses, such as skipping makeup or staying in pajamas all day during the initial lockdown, though these behaviors often changed over time.

Social and physical distancing emerged as another sub-theme, encompassing staying at home, self-quarantine, avoiding public places and transportation, and limiting physical contact. Many participants found not being able to hug or touch loved ones due to fear of transmission to be the most challenging aspect. Staying at home was also linked to increased screen time, with participants using screens for various purposes, including watching videos, social media, online education, and staying connected via video calls. While some noted social media as a source of anxiety and opted for detoxes to reduce stress, others found it helpful for coping and maintaining social connections. Changes in smoking behavior were observed, with most participants reporting a sudden decrease, recognizing it as a risk factor for COVID-19. However, three participants noted an increase in smoking and heightened cravings, citing stress management as a primary reason. Regarding sexual behavior, two participants reported a loss of sexual desire and a decrease in activity or arousal, while three indicated no significant changes. OCD-like repetitive behaviors extended beyond cleaning, with participants frequently checking the news for updates and closely monitoring their bodies for symptoms, particularly fever. One participant reported undergoing repeated COVID-19 tests due to doubts about negative results. Crying and psychomotor retardation were also common, reflecting a loss of motivation linked to heightened depressive symptoms. Procrastination was widely reported, with students struggling to start assignments, adopt healthy habits, or engage in productive activities. This, in turn, led to feelings of unproductivity and frustration over wasted time.

3.2. Psychological impact

Sudden behavioral changes were accompanied by various psychological responses. Participants' narratives revealed the emotional, cognitive, social, and somatic impacts of COVID-19. Emotional swings were common, with all participants reporting heightened stress levels. Anxiety, panic, fear, and worry were frequently experienced, especially at night, and were associated with fears of death, losing loved ones, academic challenges, financial instability, and future employment. Anxiety extended to concerns about transmitting the virus to loved ones, often leading to guilt. Feelings of guilt also arose from perceived unproductivity, adding pressure on participants. Depressive emotions such as sadness, hopelessness, and disappointment were widely reported, often tied to missing loved ones and a sense of lost freedom. Many described feeling restricted at home, with some experiencing burnout or a sensation of *"drowning (P81)"* particularly when wearing masks. Anger and irritability were also common, sometimes escalating into anger management issues. Body dissatisfaction was prevalent, with participants expressing concerns about weight gain and self-image. Overall, participants noted decreased emotional tolerance, increased irritability, and difficulty stabilizing their emotions. One participant poignantly described the experience as *"hanging in emptiness with nothing to do (P62)".*

Participants highlighted significant changes in cognitive abilities and negative thought patterns. Common cognitive challenges included confusion, difficulty with attention and focus, decision-making problems, absentmindedness, daydreaming, memory issues, excessive thinking, and intrusive thoughts. These symptoms were often linked to procrastination and emotional shifts. Negative cognitions stemming from sudden life changes included uncertainty, catastrophizing (e.g., fears of loved ones becoming infected or dying), and feelings of losing control, freedom, or reality. Participants described experiences such as *"it's like being in a science-fiction movie" (P60)* and expressed intrusive thoughts like *"nothing's going to be normal again" (P33*), *"I'm not safe" (P32), "I'm fragile" (P51),* and "*life is meaningless" (P24)*. Anxious thoughts were pervasive, with participants voicing concerns such as, *"What if I got infected?" (P7), "What if I fail my exams?" (P72), "What if I can't graduate?" (P58), "What if I can't find a job?" (P112),* and *"What if I can't get into grad school?" (P2).* A few participants reported cognitive impacts linked to re-experiencing past traumas, such as war or personal loss. Conversely, some focused-on strategies to stay healthy.

Participants' narratives highlighted significant social changes in their lives. Many reported a lack of social support or access to support systems due to lockdowns, which over time led to social isolation and inhibition. For students living with their families, this dynamic was mixed—while some found comfort in family presence, others faced challenges such as frequent arguments over hygiene rules or the stress of prolonged close contact in confined spaces. Some participants described becoming angry, hypersensitive, or resentful, leading to overreactions, impulsivity, and impatience in their interactions. Nearly all participants reported somatic and psychosomatic responses. Common complaints included tension and pain (e.g., headaches, back pain, abdominal pain), insomnia, and weight changes. Other symptoms such as trembling, numbness, dizziness, fatigue, and weakness were also noted, often linked to anxiety and stress. Some participants described difficulty breathing, sweating, trembling, sore throat, coughing, rapid heart rate, nausea, panic attacks, and gastrointestinal issues after venturing outside, driven by fear of infection. A tendency toward worsening chronic health conditions (e.g., urticaria, psoriasis) was also reported. Additionally, three participants highlighted a deterioration of pre-existing mental health conditions, such as depression, anxiety disorders, and eating disorders. As one participant shared, *"I was treated for anorexia nervosa. The thought of being alone caused me severe anxiety. I'm losing weight; I feel stuck here" (P106).*

3.3. Resilience & coping

The final theme centered on resilience and coping methods described in the participants' narratives. Sub-themes included seeking and giving social support, relaxation techniques, optimism, religion, home activities, and exercise. Students maintained resilience by seeking and offering social support, such as connecting with loved ones via phone or video calls, helping siblings with homework, and providing financial assistance. Some found comfort in online classes and interactions with professors, while others drew encouragement from positive news. Relaxation techniques like deep breathing, mindfulness, and meditation were common coping strategies. Optimism emerged as a key theme, with participants using positive thinking, cognitive reframing, acceptance, and focusing on opportunities to manage stress. Self-care routines, such as dressing up, avoiding social media, and limiting exposure to anxiety-provoking news, were also reported as effective strategies. Some participants relied on prayer and religion for strength, while many engaged in home-based activities to cope, including cooking, journaling, establishing routines, exploring new hobbies (e.g., art, knitting, playing musical instruments), and playing games or solving puzzles. Others turned to movies, books, and documentaries for relaxation. Exercise was another significant coping mechanism, with students practicing Pilates, weight training, walking, or running in indoor or outdoor spaces to reduce stress, boost immunity, and manage weight. These adaptive strategies helped participants prioritize tasks, regain a sense of normalcy, and foster psychological resilience over time.

4. Discussion

This qualitative study explores the lived experiences of 159 college students in Turkey during the early months of the COVID-19 pandemic, focusing on mental health, behavioral changes, and coping mechanisms. Using thematic analysis, it provides insights into how these disruptions impacted students' well-being and adaptation to a rapidly changing world. The results revealed significant negative changes in sleep, eating, exercise, and cleaning behaviors, alongside heightened emotional, cognitive, social, and physical distress, consistent with previous research (Ferrara et al., 2022; Orr et al., 2022; Vaterlaus et al., 2021; Zhang et al., 2022). These changes also exacerbated pre-existing mental health issues, aligning with findings from Farris et al. (2021). Narratives highlighted coping strategies such as seeking and providing social support, engaging in home-based activities, exercise, and relaxation techniques, supporting prior studies (Åsberg et al., 2022). These findings suggest potential directions for future research on preventing mental health issues and improving stress management. However, the study has limitations. The sample included only psychology students, mostly seniors, from a private university, limiting generalizability. This population may have greater awareness of mental and behavioral factors. Additionally, the exclusive reliance on narratives and the cross-sectional design restricts the ability to capture changes over time. Incorporating mixed methods and longitudinal approaches could offer a more comprehensive understanding. In conclusion, this study contributes to the literature on pandemic-related mental health and highlights the coping strategies students used to navigate the crisis. These insights are crucial for designing targeted mental health support and resilience-building interventions for students during periods of crisis.

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DIFFERENCES IN EARLY-ADULTHOOD ATYPICAL DEPRESSION, BIOLOGICAL CHARACTERISTICS AND ANXIETY BY ADOLESCENT DEPRESSION TRAJECTORIES

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Abstract

Atypical depression (AD) has historically been characterized by early-onset, distinct biological characteristics, and higher comorbidity with anxiety. However, its developmental course remains understudied in a truly developmental design. The current study used data from the Avon Longitudinal Study of Children and Parents (ALSPAC, n = 4433) to identify depression trajectories (12–18 years) via latent class growth analysis (LCGA). Three classes emerged: early-onset, late-onset, and low-risk. Using the Bolck–Croon–Hagenaars (BCH) method, the relationship between the trajectories and AD, metabolic syndrome, CRP, BMI (age 24), and generalized anxiety (age 21) outcomes were analyzed. The early-onset class showed significantly higher AD than the other classes. While early-onset sample also had higher anxiety, metabolic syndrome, and BMI, these differences were not statistically significant despite small to medium effect sizes, possibly due to the small sample size of this trajectory (n = 140). Interestingly, AD was correlated with anxiety across all classes. These findings underscore the long-term impact of early-onset depression and the need for further research to clarify AD's etiology and correlates.

Keywords: *Atypical depression, developmental depression trajectories, biological characteristics, anxiety, comorbidity.*

1. Introduction

Depression, a heterogeneous disorder, has historically been divided into typical (melancholic) and atypical subtypes (West & Dally, 1959). The DSM-5 defines atypical depression (AD) by mood reactivity, increased appetite or weight gain, hypersomnia, leaden paralysis (often studied as fatigue), and rejection sensitivity (American Psychiatric Association, 2013). However, not all criteria are equally effective in identifying AD (Parker et al., 2002). Compared to typical depression (TD), AD shows higher comorbidity with physical conditions (e.g., obesity, cardiovascular disease; Lamers et al., 2013) and Axis-I disorders, especially anxiety (Zisook et al., 2004), and responds better to MAOIs (Moraczewski & Aedma, 2022). Identifying AD correctly can clarify depression's etiology, improve prognosis prediction, treatment, and resource allocation (Brailean et al., 2020).

Research increasingly suggests that AD and TD differ due to biological factors (Thase, 2009). AD is linked to high BMI, increased inflammation (Lamers et al., 2010), leaden paralysis (Posternak & Zimmerman, 2002), and metabolic syndrome (e.g., high blood pressure, triglycerides; Lamers et al., 2013). However, findings are inconsistent. Some studies report lower inflammation in AD than healthy controls (Dunjic-Kostic et al., 2013), higher inflammation in TD, or no difference between AD and TD (Karlovic et al., 2012). Thus, a bio-psycho-social approach is needed for clarity. In addition, both clinical and epidemiological studies characterize AD with early onset and chronicity (Stewart, McGrath, Quitkin, & Klein, 2009). Some even suggest its biological profile is most pronounced in, or even limited to, early-onset cases (Stewart, Quitkin, McGrath, & Klein, 2005). Finally, anxiety frequently co-occurs with AD, with some proposing AD is primarily an anxiety disorder where anxiety precedes depression (Sargant & Slater, 1972). Empirical studies support this, showing MAOIs are most effective when chronic early-onset anxiety precedes depression (Davidson et al., 1980), and some link MAOI's success in AD treatment to its effectiveness in treating comorbid anxiety (Joyce & Paykel, 1989). More recent studies also confirm that AD is associated with higher levels of anxiety symptoms than TD (Brailean et al., 2020).

Despite this clear relationship between AD and anxiety, the DSM does not include this phenomenon (Thase, 2009).

Thus, clarifying AD's biological characteristics is a crucial step for clarifying AD, and in turn the etiology of depression in general. While AD's unique biological profile is widely recognized, further empirical refinement is needed given inconsistencies between empirical results. AD's relationship with anxiety also remains underexplored, particularly developmentally. No prior study has simultaneously examined depression onset, biological characteristics of AD, and anxiety developmentally, which this study aims to address.

2. Method

2.1. Participants

A subsample from the Avon Longitudinal Study of Children and Parents (ALSPAC; Boyd et al., 2013; Fraser et al., 2013) was used. Participants with data from at least two of six depression assessments were included (Rice et al., 2019). Those without valid data on both key outcomes (i.e., AD at 24 years, generalized anxiety at 21 years) were excluded in Step-1 (n = 4,433), and an additional 51 with extreme CRP values (>10 mg/L) were excluded in Step-2 (n = 4,382).

2.2. Measures

Depression symptoms used as trajectory indicators were assessed with the Short Mood and Feelings Questionnaire (SMFQ; Angold et al., 1995) at ages 11 years 8 months, 12.5, 13.5, 16.5, 17.5, and 18.5. The SMFQ has shown high validity in the ALSPAC sample (Turner et al., 2014). Scores were summed and dichotomized at each time point, with scores above 11 indicating clinically significant symptoms (Rice et al., 2019).

AD symptoms as a distal outcome were measured at age 24 using DSM-5 AD specifier items from the Computerised Interview Schedule–Revised (CIS-R; Patton et al., 1999), a highly valid tool (Lewis, 1994). These four items were dichotomized and used in a confirmatory factor analysis (CFA) to estimate individual factor scores. Factor scores were also estimated via CFA for generalized anxiety at 21, measured via the highly valid and reliable GAD-7 (Spitzer et al., 2006). Metabolic syndrome, measured at 24, was defined by ATP-III criteria (Lamers et al., 2010). The five criteria were dichotomized to represent values above vs. below the sex-specific cut-off points, used as indicators for the CFA to estimate the factor scores. All CFA models showed satisfactory fit. CRP (mg/L) was derived from fasting blood samples, and the BMI was calculated as [weight (kg)] / [height $(m)^2$], both collected at 24 years. Sex, maternal education, and maternal social class were included as covariates.

3. Statistical analysis

In Step-1, depression trajectories were estimated via LCGA using the modified Bolck–Croon–Hagenaars (BCH) method (Bakk, Tekle, & Vermunt, 2013), which was manually applied in Mplus 8.7 (Muthén & Muthén, 2017) and the BCH weights for each individual were saved. The modified BCH method is the most robust and least biased for estimating relationships between class membership and continuous distal outcomes. It preserves the latent class solution, handles non-normality and unequal variances, estimates robust standard errors, and allows covariate inclusion (Bakk & Vermunt, 2016). A 3-class solution, as supported by Rice et al. (2019), was tested using a stepwise model comparison approach based on multiple fit criteria. In Step-2, class membership effects on distal outcomes were examined while controlling for covariates. The Wald Chi-square test (Wald, 1943) was used to compare class-specific means while incorporating individual BCH weights estimated in Step-1 (Asparouhov & Muthén, 2021). FIML (Enders & Bandalos, 2001) was applied to handle missing data in distal outcome variables and covariates.

4. Results and discussion

Three depression trajectories were identified using an approach from Rice et al. (2019): Low-risk (76.6%), late-onset (18.6%), and early-onset (4.8%). The early-onset class exhibited clinically significant depression beginning at age 12.5, with an increase by age 13.5. The late-onset class showed depression onset at age 16.5, rising by age 17.5. Both early-onset (74.6%) and late-onset (74.4%) groups had a high proportion of females than the low-risk class (58%). Maternal education and social class did not differ notably between groups, except that the low-risk class had more participants from a professional social class than the late-onset group. These trajectory classes closely mirrored those identified by Rice and colleagues (2019), and were also consistent with other previous studies (e.g., Mezulis, Salk, Hyde,

Priess-Groben, & Simonson, 2014; Musliner, Munk-Olsen, Eaton, & Zandi, 2016) and epidemiological data showing that depression peaks between 15 and 18 years (late-onset) and is rarer before 13 years (early-onset; Hankin et al., 1998).

The early-onset class had the highest AD score, followed by the late-onset class and the low-risk class, with significant differences between all three. Thus, the results empirically show for the first time that chronic early-onset depression throughout adolescence is associated with AD and that these are considerably long-term effects (i.e., elevated depression from 12 to 18 years is associated with higher AD at 24 years). For anxiety, both the early-onset and late-onset classes had a significantly higher score than the low-risk class. However, the difference between the early-onset and late-onset classes was not significant, even though the early-onset class had a higher score and the difference had a medium effect size (d = 0.4). Early-onset class (4.8%, n = 210) also had the highest metabolic syndrome and BMI scores, however, the differences were not significant, possibly due to the small sample size, which hinders statistical power needed to detect differences between factor scores (Angst, Aeschlimann, & Stucki, 2001) and might have masked some effects. For example, metabolic syndrome scores showed no significant difference between the early-onset class (M = 0.369) and the low-risk class (M = 0.279, d = 0.2), while the difference between late-onset class (M = 0.364) and low-risk class was significant despite having a smaller effect size (d = 0.19). Given the limited research on statistical power in latent class modeling, particularly for distal outcomes using the BCH method (Gudicha, Tekle, & Vermunt, 2016), the required sample size per trajectory class to achieve enough statistical power cannot be directly calculated. However, the results provide strong evidence that future studies with larger early-onset samples are needed to clarify potential relationships between early- and late-onset depression and AD-related variables. Similarly, regarding BMI, both the early-onset and late-onset classes had a significantly higher score than the low-risk class (respectively, d = 0.52 and d = 0.18). No significant difference was found between the early-onset and late-onset classes despite the early-onset class having a higher score with a medium effect size (d = 0.34). On the other hand, results regarding CRP were completely contrary to expectations. Not only there were no significant differences in CRP scores between classes, the early-onset class had the lowest CRP score. This contradicts prior findings linking higher CRP to AD (e.g., Lamers et al., 2013). Still other studies that found no difference in CRP between AD and TD also exist (Karlovic et al., 2012; Osimo et al., 2020), suggesting CRP may not be a reliable marker. Alternatively, only a recent increase in CRP may be associated with depression (Osimo et al., 2019), which would not be detected in this study. Finally, the CRP score of the early-onset class had a very large standard error, again possibly due to the small sample size, which indicates the early-onset class CRP score may not represent its "true" value. This further emphasizes the need for future studies with a larger early-onset sample.

Additionally, AD was significantly correlated with anxiety in all classes, suggesting this association exists regardless of the age of depression onset and even in individuals with chronically low levels of depressive symptoms (i.e., subthreshold symptoms) throughout adolescence. Similarly, BMI was significantly correlated with both metabolic syndrome and CRP in all trajectory classes. Metabolic syndrome and CRP were significantly correlated in the early-onset and low-risk classes, but not in the late-onset class.

Despite limitations, the current study is the first to comprehensively examine the link between developmental depression trajectories, AD, its biological characteristics, and anxiety. Overall, the study has two main clinical implications: It provides the first empirical evidence that chronic early-onset depression throughout adolescence is associated with higher AD in early adulthood and that a consistent correlation between AD and anxiety is observed across all classes, suggesting this association exists even in those with chronically low (i.e., subthreshold) depressive symptoms. Additionally, given there is strong evidence that insufficient statistical power may have obscured potential relationships, ongoing monitoring of the physical health of individuals with early-onset depression, especially concerning BMI and metabolic syndrome, is essential.

Table 1. Descriptive statistics for study variables.

	Early-onset class					Late-onset class					Low-risk class				
	AD	**GAD**	**MS**	**BMI**	**CRP**	**AD**	**GAD**	**MS**	**BMI**	**CRP**	**AD**	**GAD**	**MS**	**BMI**	**CRP**
AD	1					1					1				
GAD	0.186*	1				0.214*	1				0.313*	1			
MS	0.029	0.007	1			0.027	0.010	1			0.028	0.014	1		
BMI	0.015	-0.011	0.620*	1		0.015	-0.014	0.651*	1		0.015	-0.020	0.684*	1	
CRP	-0.027	0.013	0.161*	0.240*	1	-0.013	0.090	0.091	0.132*	1	-0.015	0.014	0.102*	0.154*	1
M	0.043ab	0.459b	0.369	29.889b	0.379	0.021ac	0.265c	0.364c	28.311	0.511	-0.023bc	-0.270bc	0.279c	27.468b	0.496
SD	0.055	0.865	0.462	5.001	0.822	0.063	0.680	0.445	4.945	1.509	0.063	0.484	0.440	4.746	1.354

*Abbreviations: AD, atypical depression; GAD, generalized anxiety disorder; MS, metabolic syndrome; BMI, body mass index; CRP, c-reactive protein; M, mean score; SD, standard deviation. * Correlation coefficient is significant at p < 0.05 level. a Mean score difference is significant between the early-onset and late-onset classes. b Mean score difference is significant between the early-onset and low-risk classes. c Mean score difference is significant between the late-onset and low-risk classes.*

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THE WOUNDED HEALER PARADOX: PERCEIVED TRIGGERS OF DRUG RELAPSE AND RECOVERY AMONG PEER SUPPORTERS

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Abstract

The purpose of the present study was to examine the triggers for relapses among peer supporters, referred to as wounded healers, in the field of recovery from drug addiction. Despite extensive research on relapses, little attention has been given to individuals in recovery who support others while facing their setbacks. Participants were individuals with a history of drug addiction and criminality who experienced relapses and successfully returned to the recovery path. Using qualitative research design, semi-structured in-depth interviews were conducted to gain a deeper understanding of the participants' subjective experiences of their recovery journeys, including withdrawal and re-recovery. Key findings reveal that disconnection from NA's 12-step program and recovering peers often triggered relapses, along with early romantic relationships and insufficient commitment to recovery. Furthermore, while empowered by their role as peer supporters, it also exposed unresolved personal issues, leading to what was described as the "savior-rescuer" paradox of the wounded healer. Nevertheless, lessons learned from past relapses enhanced their resilience and deepened recovery commitment. Rooted in the convict therapy perspective and related approaches, such as positive criminology and crime desistance, the study highlights the importance of social and recovery capital in peer support practices, it also offers valuable insights into strategies for relapse prevention.

Keywords: *Wounded healer, drug addiction, recovery, convict therapy, 12-step program.*

1. Introduction

Despite extensive research on relapses, little attention has been given to individuals who support others while navigating their recovery challenges (Elisha, 2022; White & Kurtz, 2006). This study addresses this gap by examining the experiences of relapses among peer supporters, often referred to as wounded healers, in recovery from drug addiction.

Relapses are a common phenomenon among individuals recovering from drug addiction (Guenzel & McChargue, 2020). The National Institute on Drug Abuse (NIDA, 2023) estimates that relapse rates range from 40% to 60% within the first year of treatment. However, rather than viewing relapses as a singular event, it is increasingly understood as a process that unfolds over time (DiClemente & Crisafulli, 2022), varying from brief lapses to a full return to previous patterns of substance use.

The concept of "wounded healers" is rooted in the Convict Therapy perspective, wherein individuals with lived experiences of addiction and incarceration support others in their rehabilitation efforts (Elisha, 2023). This notion is particularly evident in self-help groups such as Narcotics Anonymous (NA), where individuals in recovery guide newcomers while simultaneously reinforcing their recovery (LeBel et al., 2015; Perrin & Blagde, 2016; Ronel, 1998).

Within NA groups, the "helper therapy" principle introduced by Reissman (1965) suggests that individuals derive psychological and emotional benefits from assisting others. Members transition from "help-seekers" to "helpers," fostering reciprocal relationships that promote personal growth. These relationships increase their recovery capital, a crucial resource for sustaining long-term recovery and reintegration (Best & Laudet, 2010; Ronel, 1998).

However, while peer support offers numerous benefits, such as enhancing strengths and fostering a sense of competence among peer supporters (Buck, 2018; Elisha & Shchaf-Friedman, 2023), it also poses risks, including vulnerability to relapse (Elisha, 2022; Perrin, 2022).

1.1. Objective

Grounded in the theoretical frameworks of positive criminology (Ronel & Elisha, 2011), desistance theory (Maruna, 2002; Laub & Sampson, 2001), and Convict Therapy (Elisha, 2023), the primary objective of the study was to examine the perceived triggers associated with relapses among wounded healers who previously served in peer support roles. Additionally, it explores how they navigate their return to recovery. The findings aim to inform relapse prevention strategies and enhance recovery efforts for individuals with addiction issues.

2. Method

This research employs a qualitative phenomenological approach to capture the subjective experiences of wounded healers who have relapsed while serving in peer-support roles (Patton, 2002).

2.1. Participants

Due to the sensitive nature of the study, which focuses on individuals with histories of drug addiction who recovered and later relapsed while formally employed in peer-support roles, recruitment posed challenges. Researchers utilized referrals from participants in previous studies (Elisha & Shachaf-Friedman, 2023, 2024) to recruit appropriate candidates.

The sample consisted of 13 participants from Israel (10 men, 3 women), all with backgrounds of drug addiction and criminal records including arrests and prison terms. Participants ranged in age from 40 to 70 years (average: 53). They reported experiencing relapse after maintaining recovery for one to 14 years while employed in peer-support roles, with subsequent recovery periods ranging from several months to 32 years.

2.2. Tool

A semi-structured interview guide with open-ended, broad questions was developed to facilitate in-depth interviews. Sample questions included: 1. Describe your recovery attempts over the years, including your most recent relapse. 2. What factors led to your relapse while working as a peer supporter? 3. What happened afterward, and what led you back to recovery? 4. What lessons have you learned about relapses and maintaining recovery?

2.3. Procedure & ethical considerations

Strict ethical guidelines were followed to ensure confidentiality and voluntary participation, with Institutional Review Board (IRB) approval obtained. Participants provided informed consent and authorized the recording of sessions. Interviews began with background questions, followed by open-ended discussions on addiction, peer support work, relapse experiences, and the recovery process. Each session lasted approximately one hour and was transcribed by an external service.

2.4. Data analysis

Thematic content analysis was conducted to identify key themes emerging from participants' narratives (Nowell et al., 2017).

3. Discussion & conclusions

The study revealed two primary themes: relapse triggers and the cumulative value of recovery. The main relapse triggers included disconnection from NA's 12-step program and recovering peers (Kelly & Yeterian, 2011), role confusion stemming from a "savior-rescuer" mindset (White & Evans, 2013), premature romantic relationships (Permut et al., 2018), and the persistent allure of a criminal lifestyle (Maruna, 2002). Relapses were often preceded by a gradual disengagement from recovery practices (Guenzel & McChargue, 2020).

Despite these challenges, participants viewed their relapses as learning experiences, reinforcing the importance of recovery maintenance (DiClemente & Crisafulli, 2022). Recognizing warning signs, re-engaging with NA's core principles, and building social and recovery capital were key strategies in sustaining long-term recovery (Best et al., 2011; Granfield & Cloud, 2001; Laudet & White, 2008). Participants also viewed recovery as a continuous process with some cumulative value, adhering to NA's "just for today" philosophy (Alcoholics Anonymous, 2001). This mindset encourages individuals to remain alert to potential triggers while cultivating gratitude and avoiding complacency (White & Kurtz, 2006).

Nevertheless, while empowered by their role as peer supporters, participants also acknowledged the vulnerabilities inherent in this role, which exposed them to unresolved personal issues, leading to what was described as the "savior-rescuer" paradox of the wounded healer, expressed through the development of a false sense of omnipotence. The findings underscore the need for structured support for peer supporters, including training in self-care, emotional resilience, and boundary management (Beales & Wilson, 2015).

3.1. Practical implications

The research contributes significantly to understanding triggers and pathways leading to relapses and re-recovery among peer supporters. The findings emphasize the vital role of internal motivation, social connections, and resilience in navigating recovery complexities, consistent with Prochaska and DiClemente's (1983) stages of change model.

The study highlights the need for structured interventions tailored to peer supporters managing the complexities of the wounded healer role. Peer supporters should receive continuous training focusing on self-care, boundary-setting, recognizing personal triggers, and developing emotional skills to process past failures (Beales & Wilson, 2015). By reframing relapse as an opportunity for growth, recovery programs can foster factors that sustain long-term recovery.

Integrating insights from convict therapy (Elisha, 2023) into peer support can deepen the understanding of the emotional and psychological aspects of relapse. Recovery programs should include therapeutic interventions addressing unresolved issues related to individuals' criminal pasts, as these conflicts significantly impact recovery outcomes.

3.2. Limitations and future research

The study's limitations include potential bias from relying on NA members, which could limit perspectives from individuals outside this specific recovery framework. Additionally, reliance on self-reported data introduces risks of recall bias and social desirability bias.

Future research should consider longitudinal designs to capture the evolving nature of recovery and relapse over time. It should also expand samples to include diverse cultural and socioeconomic backgrounds and conduct comparative studies between peer supporters and non-peer supporters better to understand the unique challenges of the wounded healer role.

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THE IMPACT OF EARLY INSTITUTIONALIZATION AND NEGLECT ON EMOTION REGULATION IN MOTHERHOOD: EXAMINING LONG-TERM EFFECTS ON WOMEN'S MATERNAL ROLES

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Abstract

Childhood neglect and institutionalization are known to adversely affect emotional, cognitive, and social development. This study examines whether these early experiences influence emotion regulation and facial expression recognition in women transitioning to motherhood, both critical aspects of parenting. The sample included 44 women, 14 institutionalized mothers with young children, and 30 non-institutionalized participants. Participants completed an emotion regulation task using Ekman's facial expression photographs, a working memory distraction task, and the Emotion Regulation Questionnaire (ERQ). Data collection was conducted online due to COVID-19, with analysis via one-way ANOVA showing no significant differences between the groups in emotion regulation or facial expression recognition. These findings suggest that early institutionalization and neglect may not directly impair emotion regulation relevant to motherhood. However, the study's small sample size, reliance on self-report measures, and limited ecological validity of tools likely constrained the results. Future research should address these limitations by using larger, diverse samples and exploring additional factors like attachment styles and parenting practices. While findings were inconclusive, the study underscores the importance of early interventions targeting emotion regulation and resilience in individuals exposed to neglect. Clinical and systemic efforts can mitigate the long-term effects of early adversity, supporting healthier outcomes for affected individuals and their children.

Keywords: *Childhood neglect, institutionalization, emotion regulation, motherhood*.

1. Introduction

Child neglect poses a significant impact on children's development and future, and it is related to a number of adverse physical and mental health effects that impact the individual over the lifespan and place a major burden on both victims and the community as a whole (Leeb et al., 2011). The early years of a child's life are essential for their physical and mental development. As outlined in the United Nations Convention on the Rights of the Child, every child is entitled to the rights to life, survival, and development, as well as protection from all forms of physical and psychological violence. Despite this, millions of children worldwide experience or witness physical, sexual, and emotional violence daily, often suffering abuse during their formative years and beyond. This mistreatment can occur within their families, immediate surroundings, or at the hands of caregivers in childcare institutions. Research has consistently shown that any form of child abuse is linked to long-term physical, psychological, and emotional challenges. Moreover, the effects of such maltreatment have been associated with lifelong consequences (Damaskopoulou et al., 2022).

Child neglect, defined as failing to meet a child's basic needs like food, shelter, or medical care, significantly affects development and well-being (Fanetti et al., 2014). Gaudin (1993) categorized neglect into physical, medical, emotional, and educational. Physical neglect leads to health and cognitive issues, while medical neglect, though distinct from poverty-related inaccessibility, causes lifelong medical problems. Educational neglect disrupts emotional and social development, and emotional neglect, often hidden, impairs emotional growth through rejection or isolation (Fanetti et al., 2014). The consequences of neglect extend beyond childhood. Maternal neglect in early years triggers epigenetic changes affecting stress regulation, with long-term mental and physical health effects (Naumova et al., 2019). Globally, 16% of children report neglect, often linked with aggression, poor educational outcomes, and mental health issues in later life (WHO, 2022; Felitti et al., 2019).

Building on these challenges, institutional care exacerbates developmental issues. Children in institutional settings face "structural neglect," including inadequate resources and limited emotional interactions (van IJzendoorn et al., 2011). This environment delays physical growth, lowers IQ (average of 84), and impairs emotional development (van IJzendoorn & Bakermans-Kranenburg, 2017). Prolonged stays worsen attachment issues and behavioral problems, with heightened risks of criminality and mental health challenges (Côté et al., 2018). Studies on Romanian institutions also revealed significant brain development delays (Beckett et al., 2010).

Emotion regulation, a critical skill developed in early years, is deeply impacted by neglect and institutionalization. Neglected children lack parental guidance for managing emotions, leading to difficulties in recognizing emotional cues and developing healthy relationships (Young & Widom, 2014). Parental stress and mental health issues further heighten these risks, impairing caregiving capacity and emotional development (Turner & Rogers, 2012). Working memory, essential for managing information, plays a key role in emotion regulation. Higher working memory capacity enhances emotional control and reduces negative emotional responses (Schmeichel & Demaree, 2010). Training working memory improves regulation skills, suggesting its potential for aiding neglected children in overcoming emotional challenges (Xiu et al., 2016).

Child neglect and institutional care have profound, long-lasting effects on physical, cognitive, and emotional development. By addressing institutional shortcomings, supporting caregivers, and utilizing interventions like working memory training, we can mitigate the devastating impacts of neglect and foster better outcomes for affected children. The aim of this study is to access whether being institutionalized and neglected in childhood affects emotion regulation strategies when comes to their children in adulthood. The first hypothesis of the study is that being institutionalized and neglected in early age affects women's emotion regulation of her role as a mother. The second hypothesis is that these women will have difficulties in identifying and interpreting facial expressions.

2. Method

2.1. Participants

Participants were recruited from two private institutions who were 14 mothers with small children till 3 years old. Moreover, we found 30 more participants for the neglect questionnaire from outside the specific institutions. All participants received a small gift in return for participation in the study. The procedure was approved by the ethical committee of Ankara Yildirim Beyazit University.

2.2. Material

The data will be collected online due to COVID-19 situation and through the help of social workers working in the institution.

2.3. Measures

Emotional regulation task

The emotion regulation task will include attention deployment with cognitive reappraisal, where it will be shown positive/negative photographs, and the participants will be asked to identify the facial expressions. For the emotion regulation task, the photographs from Paul Ekman's book "unmasking the face" is presented in Power Point Presentation with an interval of 5-7 seconds. In between the emotional regulation task and questionnaires there will be a small working memory task for distraction consisting of items that have to be remembered and afterwards recalled. The duration of the study is between 3 to 5 minutes. The scores were calculated by using SPPS (Statistical Package for the Social Sciences). Higher scores refer to the ability of identifying the facial expressions, and on the contrary lower scores stands for the inability to recognize the expressions in the expected way.

2.4. Questionnaires

After completing the emotion regulation task, the participants will be asked to fill out a questionnaire.

2.4.1. Emotion Regulation Questionnaire (ERQ). The Emotion Regulation Questionnaire (ERQ), developed by Gross and John (2003), assesses emotion regulation strategies through **Cognitive Reappraisal** and **Expressive Suppression**, using 10 items rated on a 7-point scale (1 = strongly disagree to 7 = strongly agree). The Bulgarian adaptation by Yavor Vasilev (2017) demonstrated satisfactory psychometric properties, with an overall internal consistency of $\alpha = 0.72$ and subscale reliabilities of 0.73. Test-retest reliability after three months was 0.69. Gender differences were observed: men scored higher

on Suppression (3.64 vs. 3.14 for women), while no significant gender differences were found for Reappraisal (4.60 for men, 4.61 for women). The scoring comprises **Cognitive Reappraisal Items** (1, 3, 5, 7, 8, 10) and **Expressive Suppression Items** (2, 4, 6, 9), with no reverse-scored items. Maintaining item order is essential to preserve scale integrity. This Bulgarian ERQ is a reliable tool for studying emotion regulation strategies in Bulgarian-speaking populations, supporting research on emotional processes and mental health.

2.5. Procedure

At the beginning of the experiment, the participant will be provided with an informed consent and information sheet in their native language (i.e., Bulgarian). Before signing the informed consent sheet, the experimenter will briefly explain the aim of the study and their rights as a participant. After participants provided consent, the experimenter starts the experiment. After, an emotion regulation task was given, which included attention deployment with cognitive reappraisal, where we will show positive and negative photographs in a Power Point Presentation with an interval of 5-7 seconds. The participants were asked to identify the required facial expressions and the related emotions. Between the emotion regulation task and the ERQ there was a working memory task for distracting consisting of items that have to be remembered and afterwards recalled. The distraction task results were not calculated because it was provided only for break between the task and the questionnaire. Finally, the ERQ will be given to the participants. After finishing the experiment, the participants will be informed that they can contact the researcher in case of further questions.

3. Results

A one-way ANOVA was conducted to examine the effect of early institutionalization and neglect on women's emotion regulation in their maternal roles. Separate analyses were performed for different groups. The results of the statistical analysis did not support the hypothesis that early neglect, whether institutional or non-institutional, significantly affects women’s emotion regulation in their maternal roles as measured by the facial expression task.

First, for participants who experienced neglect within institutions, the analysis revealed no significant differences in emotion regulation, $F(4, 2) = 3.443$, MSE = 4.304, $p = .238$, partial $\eta^2 = 0.873$, and power = 0.202. Second, for participants who experienced neglect outside institutions, divided into low and high neglect frequency groups, the results were also not significant, $F(4, 6) = 3.449$, MSE = 8.048, $p = .122$. Lastly, a comparison between institutional and non-institutional neglect groups showed no significant differences, $F(5, 8) = 2.057$, MSE = 0.386, $p = .174$, partial $\eta^2 = 0.562$, and power = 0.404. In summary, no significant findings emerged from the analyses, and the low statistical power across tests suggests that the sample size may have been insufficient to detect meaningful effects.

4. Discussion

This study aimed to explore whether early experiences of neglect, both institutional and non-institutional, influence women’s emotion regulation in maternal roles and their ability to interpret facial expressions. Previous literature consistently highlights the long-term negative effects of neglect on emotional, cognitive, and social development (Naumova et al., 2019; Young & Widom, 2014). However, the findings did not support the hypotheses, as no significant differences were observed between the groups studied. This invites consideration of potential explanations and implications, suggesting that the effects of early neglect may be more complex or mediated by other factors.

One possible explanation is the moderating role of working memory, a critical component of emotion regulation (Schmeichel & Demaree, 2010; Xiu et al., 2016). Working memory might influence how individuals process and manage emotional experiences, which could mitigate the long-term impacts of neglect. Future research should examine the interplay between early adversity, cognitive mechanisms like working memory, and emotional outcomes. The results also raise questions about the role of resilience, social support, and access to therapeutic interventions in shaping developmental outcomes. It is possible that these protective factors enabled participants to overcome or compensate for early emotional deficits, particularly in their maternal roles. Research has demonstrated that neglect, especially in institutional settings, disrupts caregiver-child interactions critical for the development of emotion regulation strategies (IOM & NRC, 2014). Despite this, some individuals demonstrate remarkable resilience, which may explain the lack of significant findings in this study. Positive experiences following neglect, including access to supportive relationships and therapy, may reduce its long-term consequences (Masten, 2018; Dozier et al., 2006). Furthermore, the complexity of emotion regulation as a construct might have influenced the results.

The use of a facial expression task, which provides a narrow view of emotion regulation, may not fully capture its multifaceted nature. Broader assessments incorporating physiological measures or observational analyses could offer deeper insights into how early neglect impacts emotional functioning in adulthood.

The study's methodological limitations further warrant consideration. A relatively small sample size, particularly in the institutional neglect subgroup, reduced the statistical power to detect significant differences and limited the generalizability of the findings. Future studies should aim to include larger and more diverse samples to uncover meaningful differences. Additionally, the study employed a one-way ANOVA design, which restricted the ability to explore complex interactions between variables such as the type and duration of neglect, institutional care experiences, and socio-economic factors. Advanced statistical methods like structural equation modeling could provide a more nuanced understanding of these relationships. Another limitation was the reliance on Ekman's photographs for the emotion recognition task, which depict universal emotions but may lack the subtleties or culturally specific expressions relevant to maternal interactions. Incorporating culturally sensitive stimuli could improve the ecological validity of future studies. Furthermore, the diversity within the non-institutionalized group in terms of socio-demographic characteristics may have complicated comparisons. Future research should aim for greater homogeneity within groups or apply stratification measures to address these differences. Retrospective self-reports were another limitation, as they are prone to biases such as social desirability and memory distortion. Employing multi-method approaches, including observational assessments or third-party reports, could enhance the reliability of data on childhood neglect and current emotion regulation strategies. These methodological improvements are essential for future research to provide clearer insights into the long-term effects of neglect.

Despite the lack of significant findings, this study has several important clinical implications. Early intervention remains critical in mitigating the adverse effects of neglect on emotional development. Evidence-based approaches, such as attachment-focused therapies and trauma-informed cognitive-behavioral interventions, can support children exposed to neglect or institutional care. These programs can help build emotional resilience and reduce the psychological burden of early adverse experiences. Cognitive training programs targeting working memory could also indirectly improve emotion regulation capabilities, equipping individuals to better manage stress and navigate emotional challenges. For women with histories of neglect or institutionalization, therapeutic approaches that address both past trauma and current parenting challenges are essential. Psychoeducation on the effects of early neglect and strategies for enhancing emotion regulation can empower these women to foster healthy relationships with their children. Parenting programs tailored to their unique needs could focus on building maternal self-efficacy and emotional understanding, promoting positive outcomes for both mothers and their children. Finally, systemic reforms in institutional care settings are necessary to address structural neglect. Policymakers and stakeholders should prioritize creating nurturing environments that provide emotional and cognitive support for children in care. Ensuring adequate resources and consistent caregiving within these settings can reduce the long-term effects of neglect and improve developmental trajectories.

In conclusion, this study explored the complex relationships between early neglect, institutionalization, and emotion regulation. While the findings were not statistically significant, they highlight the intricate interplay of factors influencing emotional outcomes and the need for nuanced, comprehensive research. Addressing limitations such as small sample sizes, cultural considerations in assessment tools, and the reliance on narrow emotion recognition measures will strengthen future studies. Clinically, the findings underscore the importance of early intervention, resilience-building programs, and systemic changes in care settings to mitigate the effects of early adversity. By addressing these challenges through research, clinical practice, and policy, we can better support individuals affected by neglect and promote healthier developmental outcomes across the lifespan.

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IT IS NOT JUST ABOUT FLEXIBILITY: EXAMINING THE ASSOCIATIONS BETWEEN PSYCHOLOGICAL FLEXIBILITY, BODY NEUTRALITY AND DISORDERED EATING BEHAVIOURS

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Abstract

Background: Disordered eating behaviours (DEB) refers to a spectrum and consisting of irregular eating habits, and distorted attitudes around food, weight, shape, and appearance and are one of the primary risk factors for an eating disorder (Pereira & Alvarenga, 2007). Understanding what tools could best intervene and alleviate DEB can help individuals *before* they develop more serious behaviours associated with eating disorders. Psychological flexibility encourages people to be consciously present in the moment and to engage in behaviours that align with personal values (Harris, 2006) and has been linked to fewer DEBs (Givehki et al., 2018). Body neutrality is a newer concept focusing on functional appreciation, body image flexibility, and compassion around appearance (Pellizzer & Wade, 2023). Although body neutrality shares commonalities with psychology flexibility, it has not been empirically evaluated. Thus, the purpose of the present study was to examine how the elements of body neutrality and psychological flexibility affected DEB in young adults. *Method:* In total, 418 participants completed an online questionnaire package that included the Eating Disorder Examination Questionnaire (Fairburn & Beglin, 1994), the Functional Appreciation Scale (Alleva et al., 2017), the Body Image Flexibility and Inflexibility Scale (Brichacek et al., 2023), the Body Compassion Questionnaire (Beadle et al., 2021) and the Comprehensive Assessment of Acceptance and Commitment Therapy Processes (Francis et al., 2016). *Results:* Twenty-nine percent (29%) of participants met the clinical severity cut-off for an eating disorder based on EDE-Q scores (Velkoff et al., 2023). Pearson's correlations revealed a strong, moderate positive correlation between EDE-Q scores and body image inflexibility as well as moderate, negative correlations with body compassion and functional appreciation. A hierarchical linear regression indicated that all aspects of psychological flexibility and body kindness were associated with lower disordered eating. *Conclusion:* Aspects of psychological flexibility and body compassion predicted DEB and could be used in clinical interventions. Furthermore, it is evident that body image inflexibility may play a key role in the maintenance of DEB.

Keywords: *Disordered eating behaviours, psychological flexibility, body neutrality, body image inflexibility.*

1. Introduction

Eating disorders (ED) have increased in prevalence since the onset of the COVID-19 pandemic; in Ontario, Canada, for instance, there was a 121% increase in emergency department visits and a 54% in hospitalizations for EDs in adolescents (Qian et al., 2021). This poses a problem for overburdened healthcare systems, especially in rural areas, which typically lack the proper knowledge or resources to aid people who exhibit severe levels of disordered eating. Disordered eating behaviours (DEB) are a spectrum of behaviours and attitudes including irregular eating habits, and distorted attitudes around food, weight, shape, and appearance. DEBs are a necessary precursor and a primary risk factor for the development of an ED (Pereira & Alvarenga, 2007). Much of the research on EDs has focused on individuals who have a clinical diagnosis, with fewer studies examining etiology of DEB prior to the point of clinical severity. Thus, one purpose of this research was to examine how psychosocial factors can affect DEB in a non-clinical sample of young adults.

Acceptance and Commitment Therapy (ACT) is a third-wave cognitive behavioural therapy that focuses on increasing psychological flexibility by promoting understanding and evaluation of one's current state, accepting both positive and negative emotions without judgement, and choosing to act in line with personal values (Harris, 2006). ACT is amenable to change and has been associated with increased life satisfaction, weight acceptance (Sairanen et al., 2017), and lowered DE symptoms (Givehki et al., 2018).

Recently, the concept of body neutrality has emerged among dietitians, therapists, and ED recovery groups as a possible tool to help alleviate symptoms of ED.

Body neutrality is a relatively new concept that has been gaining popularity across social media platforms (Seekis & Lawrence, 2023). This concept differs from related ones such as body dissatisfaction, body positivity, or body appreciation (Mulgrew & Tiggeman, 2018; Pellizzer & Wade, 2023). Pellizzer and Wade (2023) identified three elements of body neutrality: 1) Attitudes towards the body that are flexible, mindful, and realistic but not value laden; 2) Respecting the functionality of one's body and trying to care for it; 3) Understanding that one is more than their appearance. These factors are similar to ACT principles that are focused on body concerns instead of a general approach focused on a broader assessment of current circumstances. Given the commonalities between body neutrality and psychological flexibility, specifically being non-judgmental about one's body, understanding that an individual is more than their circumstances, and being goal-oriented, it is important to assess specific relationships between the two concepts.

1.1. Purpose of the current study

Given that Pellizzer and Wade's (2023) definition of body neutrality was recently proposed, we examined how body neutrality and psychological flexibility affect behaviours typically associated with disordered eating. We examined the following research questions: 1) How are aspects of body neutrality, specifically body compassion, functional appreciation, and body image flexibility and inflexibility correlated with ED symptoms? and 2) What is the relationship between psychological flexibility and body compassion, functional appreciation, and body image flexibility and inflexibility?

2. Method

2.1. Participants

In total, 418 people were recruited (312 females, 98 males, 8 identified as another identity). The average age of participants was 21.11 years (sd = 5.40), with no differences according to gender. Overall, 29% of participants met the clinical cutoff for an eating disorder (2.8; Velkoff et al., 2023), and 5.2% reported a previous diagnosis for an eating disorder.

2.2. Measures

The **Eating Disorder Examination Questionnaire** (EDE-Q; Fairburn & Beglin, 1994) is a 28-item self-report questionnaire based on a pre-existing set of interview questions. It assesses DEB and attitudes using a 7-point Likert scale from 0 (*no days*) to 6 (*every day*). A score greater than 2.8 suggests the presence of a clinically significant condition (Velkoff et al., 2023) and has high internal consistency ($\alpha = .95$).

The **Comprehensive Assessment of Acceptance and Commitment Therapy Processes** (CompACT; Francis et al., 2016) is a 23-item measure used to assess psychological flexibility across three ACT processes: Openness to Experience, Behavioural Awareness, and Valued Action. Items are scored using a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*), with higher scores indicating greater psychological flexibility. The CompACT scale has demonstrated strong internal consistency ($\alpha = .91$).

The **Functional Appreciation Scale** (FAS; Alleva et al., 2017), is a 7-item measure that assesses appreciation for what the body is capable of doing. Participants use a 5-point Likert scale with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Higher scores indicate greater appreciation. The FAS has good internal consistency ($\alpha = .89$).

The **Body Compassion Questionnaire** (BCQ; Beadle et al., 2021) examines the compassion taken towards one's appearance. Across 29 items, participants indicate how often they have agreed with each statement from 1 (*almost never*) to 5 (*almost always*). The BCQ has demonstrated good internal consistency ($\alpha = .86$).

The **Body Image Flexibility and Inflexibility Scale** (BIFIS; Brichacek et al., 2023) assays participants' ability to adapt to their self-image through 36 items. The scale consists of two subscales body image flexibility (ability to adapt body image) and body image inflexibility (inability to alter body image when changes arise). This scale has demonstrated good internal consistency overall ($\alpha = .82$) and across its subscales: Body Image Inflexibility ($\alpha = .90$) and Body Image Flexibility ($\alpha = .89$).

2.3. Procedure

The current research project was reviewed by the Research Ethics Board at the University of New Brunswick, Canada. Prior to completing the online questionnaire package, all participants provided informed consent. The demographics questionnaire was always completed first, followed by the questionnaires, which were presented in randomized order. After completing the package, participants were presented with debriefing information that explained the full purpose of the study.

3. Results

To address Research Question 1, we examined differences in elements of body neutrality as a function of the EDE-Q 2.80 clinical cut-off score (see Table 1**).** T-tests were used to determine if aspects of body neutrality and psychological flexibility differed as a function of clinical cutoff. Results indicated statistically significant differences between the groups on all factors except BCQ: Common Humanity. These analyses indicated large effect sizes for differences between the groups on BCQ: Body Kindness, BCQ: Total, and BIFIS: Inflexibility.

Table 1. Means and Standard Deviations for Body Neutrality and Psychological Flexibility Scores Based on the EDE-Q Cut-off.

	EDE-Q Clinical Cutoff					
	Below (*n*=276)		Above (*n*=121)		*t*	*Cohen's d*
	Mean	*SD*	*Mean*	*SD*		
BCQ: Common Humanity	4.15	.72	4.05	.67	1.36	.148
BCQ: Body Kindness	3.48	.59	2.81	.68	10.049***	1.096
BCQ: Motivated Action	3.97	.77	3.52	.80	5.26***	.574
BCQ: Total Score	3.87	.49	3.46	.55	7.39***	.805
Functional Appreciation	4.38	.66	3.85	.75	7.11***	.776
BIFIS: Inflexibility	2.64	.81	3.74	.65	12.73***	1.39
BIFIS: Flexibility	4.12	.86	3.70	.75	5.39***	.531
CompACT: Openness to Experience	3.97	.91	3.47	.74	5.38***	.587
CompACT: Behavioural Awareness	4.12	1.23	3.44	1.03	5.26***	.574
CompACT: Valued Action	5.34	.96	5.02	.79	7.11***	.352
CompACT: Total	4.38	.66	3.85	.75	6.74***	.738

*Note. ***p<.001*

One-tailed correlational analyses, tested at $p<.01$, revealed a positive correlation between EDE-Q: Total and BIFIS: Inflexibility, $r = .69$, and a moderate, negative correlation with the BCQ, $r = -.42$, BIFIS: Flexibility, $r = -.24$, and FAS, $r = -.38$. CompACT: Total had medium correlations with the EDE-Q: Total, $r = -.42$; CompACT: Behavioural Awareness, $r = .15$, and CompACT: Valued Action, $r = -.24$, were significantly correlated with EDE-Q: Total. CompACT: Total was correlated with the BCQ, $r = .35$, FAS, $r = .32$, BIFIS: Flexibility, $r = .34$, and BIFIS: Inflexibility, $r = -.19$.

A hierarchical linear regression was conducted to address Research Question 2. Block 1 control variables included age, gender, and previous history of a psychological disorder. CompACT subscale scores were entered in Block 2 and body neutrality scores were entered in Block 3. Overall, the model was statistically significant, $F(11, 379) = 25.44$, $p \leq .001$, and accounted for 42.5% of the variability (see Table 2). Block 1 was statistically significant, with gender (being female) contributing significantly to the model. Block 2 accounted for an additional 14.9% of the variance in EDE-Q: Total, with variability accounted for by CompACT: Openness to Experience, CompACT: Behavioural Awareness, and CompACT: Valued Action. In Block 3, 23% of the variability was accounted for, with BCQ: Body kindness contributing unique variance to the overall model. Thus, higher EDE-Q: Total was predicted by being female, and lower levels of the three pillars of PF and body kindness.

Table 2. Multiple Hierarchical Regression Model Predicting EDE-Q Total Score.

Variable	*r*	ß	*p*	*Adj.* R^2	ΔR^2
Block 1				.03	.03
Gender	**.12**	**.107**	**.033**		
Age	-.06	-.082	.106		
History of Psychological Disorder	.14	.137	.007		
Block 2				.17	.14
CompACT: Openness to Experience	**-.36**	**-.224**	**<.001**		
CompACT: Behavioural Awareness	**-.31**	**-.143**	**.010**		
CompACT: Valued Action	**-.24**	**-.187**	**<.001**		
Block 3:				.41	.23
BIFIS: Flexibility	-.24	-.004	.925		
FAS	-.37	-.061	.239		
BCQ: Body Kindness	**-.60**	**-.531**	**<.001**		
BCQ: Common Humanity	-.06	.023	.535		
BCQ: Motivated Action	-.26	.023	.654		

Note. *Statistically significant predicted are **bolded**

4. Discussion

Body neutrality is a new concept in the eating disorder literature that has limited empirical research. The current research evaluated elements of Pellizzer and Wade's (2023) definition to determine its relationship to DEB and psychological flexibility. Results revealed significant differences between individuals who exhibited clinically severe DEB and those who exhibited less severe DEB. Those with lower DEB were kinder to their body, had more appreciation for its functionality, were more psychologically flexible, and more likely to change how they think, and act to achieve their goals. Those above the DEB clinical severity cutoff exhibited greater inflexibility around their appearance. These results suggest that those with higher DEB engage in rumination on their thoughts, behaviours associated with their appearance. People with eating disorders typically experience cognitive rigidity (Gottesman & Gould, 2003), which is exemplified in the inability to adapt their image of their body when changes arise. These findings suggest that body image inflexibility may play a role in the maintenance of DEB, particularly DEB relating to weight/shape. Cognitive inflexibility may be an important underlying variable in explaining behavioural awareness through rumination, as well as inflexibility around appearance.

The regression revealed that all aspects of psychological flexibility and body kindness, a component of body neutrality added significantly to the model predicting EDE-Q total scores. This is interesting as previous research has documented a relationship between psychological flexibility and DEB (Sairanen et al., 2017). The conceptual similarity between psychological flexibility and body neutrality may mean that, based on these results, body neutrality may be a specific aspect of psychological flexibility. Pellizzer and Wade's (2023) definition involves thinking about one's body in a flexible way and body acceptance, as well as understanding one's own values all of which are encompassed in some form by psychological flexibility. For DEB specifically, it is possible that psychological flexibility is simply part of the process to achieving body neutrality.

What is most interesting in the current results was that body kindness was the only element from Pellizzer and Wade's (2023) definition of body neutrality that predicted EDE-Q scores. Body kindness refers to acceptance, lack of judgement and criticism and kindness (Beadle et al., 2021). This is the core idea behind body neutrality; however, it also underlines the key point of Pellizzer and Wade (2023) which was acceptance. Based on the results of this study, we would suggest that future researchers examine different aspects of disordered eating behaviours in relation to the components of body neutrality. Given the lack of empirical research focused on body neutrality, the definition underlying body acceptance needs to be better understood. Amidst the discussions of body neutrality versus body positivity, there are lessons to be learned for ways to circumvent attitudes surrounding appearance. Understandably, it is near impossible to avoid forming an opinion on some aspect of one's appearance, although acceptance and kindness seem to be promising aspects by which to help mitigate the criticisms people may form.

5. Conclusion

This study provided valuable insight into the relationship between DEB and aspects of body neutrality and psychological flexibility. It is possible that psychological flexibility is an underlying component of body neutrality. Like psychological flexibility perhaps the aspects of body neutrality proposed by Pellizzer and Wade's (2023) can best be applied as a series of skills to work towards

acceptance. This study suggests that body kindness and acceptance as well as body image inflexibility (through cognitive rigidity) may be two of the most prominent mechanisms by which DEB is influenced. More research on the elements of body neutrality and their relationship to DEB is necessary to determine the limitations of their connection. Future research should examine different DEB in relation to body neutrality and psychological flexibility. Researchers should also consider investigating how to appropriately define and measure acceptance and what that would mean for DEB.

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COGNITIVE FACTORS OF SOCIAL PHOBIA AMONG CHILDREN AND ADOLESCENTS

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Abstract

Social anxiety disorder (SAD) is a common mental disorder in childhood and adolescence that is chronic and persists into adulthood. The present study aimed to develop a therapeutic tool through virtual reality exposure, designed for use in treating social anxiety among children and adolescents. The virtual reality exposure tool is intended to assist in overcoming emotional and behavioral challenges while facilitating the development of social skills Furthermore, the study explored the cognitive model of social anxiety in children and adolescents using virtual reality. The experiment included 200 participants aged 8 to 16 years. In addition to completing self-report questionnaires, participants engaged in virtual self-presentation (during the initial exposure) and an unpredictable arithmetic task (during the subsequent exposure). Pulse measurements were taken at the study's outset, during each exposure session, and at the study's conclusion. Among children and adolescents with social anxiety, heightened levels of self-attention, rumination, and negative content in repetitive thoughts following social events were observed compared to their peers without social anxiety. Across the entire sample, subjective anxiety level and pulse rate were highest during the self-presentation task. The study found that there was an association between the experimental group membership and the negative interpretation of environmental stimuli.

Keywords: *Social anxiety, virtual reality exposure, self-attention, rumination.*

1. Theoretical framework

Social anxiety disorder is a prevalent mental health issue among children and adolescents, with its onset typically occurring between the ages of 8 and 15 (Rasouli, 2022). The essential characteristic of social anxiety is the fear of being evaluated, which the individual anticipates from their environment. Due to increased self-awareness, abstract thinking, and peer influence, adolescents become more vulnerable to social anxiety. However, this does not mean that social anxiety does not manifest during childhood. In children, social anxiety primarily manifests as behavioral and emotional difficulties, which in educational settings are often explained by the child's shyness. Social anxiety manifests in childhood through a fear of unfamiliar people, as at this age, the ability to perceive others' perspectives is not yet developed. In social anxiety, the individual avoids situations where social interaction is required or will occur, and there is an expectation that the person will be the focus of others' attention.

According to Clark and Wells' (1995) cognitive model, the central maintaining factor of social phobia is self-attention. Self-attention hinders the individual from adequately processing external information. The authors describe this feature as the process of transforming oneself into a social object, during which the individual relies on somatic sensations, thoughts, and emotions (Spurr, 2002). Avoidance of the anxiety-provoking situation does not alleviate negative self-related thoughts, and the individual interprets the interaction as a failure (Clark & Wells, 1995). Social failure is explained by attributing it to oneself, which is a function of self-attention (Woody, 1996).

2. Research objectives and questions

The central questions of the current study are:

- Is Clark and Wells' cognitive model of social anxiety valid for children and adolescents?
- Is the method of virtual reality exposure valid for studying social anxiety in children and adolescents?

Based on these questions, the following research hypotheses were developed:
H1: Children and adolescents with social anxiety will focus their attention on more irritants (social stimuli and high self-focus) compared to the control group.
H2: Children and adolescents with social anxiety will have a higher level of rumination compared to the control group.
H3: The thoughts of children and adolescents with social anxiety will be more negative in comparison to the control group.
H4: Children and adolescents with social anxiety will experience higher levels of subjective anxiety during virtual reality exposure compared to the control group.

3. Research method

The study involved 200 students aged 8 to 16 (M = 11.7, SD = 2.5). In the first phase, participants had their pulse measured and filled out self-report questionnaires: Liebowitz Social Anxiety Scale for Children (LSAS-CA; Masia-Warner et al., 2003) and Social Anxiety Scale for Children e Revised (SASC-R). Based on the results of the fear/anxiety subscale of the Liebowitz Social Anxiety Scale for Children (LSAS-CA; Masia-Warner et al., 2003), the participants were categorized into a control group and a risk group (cut-off score 29.5). Therefore, the grouping of participants was unknown in advance. The second phase represented the virtual reality exposure phase, which consisted of two stages: self-presentation and performing an unpredictable task in front of an audience, as well as measuring the pulse. After the exposure, participants filled out questionnaires assessing self-focus and rumination (The Focus of Attention Questionnaire (FAQ) 1984, Chambless and Glass; Thoughts Questionnaire for Children (TQ-C, 2003, Edwards). Additionally, the respondent indicated the level of subjective anxiety using the anxiety thermometer in all four phases of the study, and the pulse was measured again.

4. Data analysis and results

In the social anxiety risk group, 49 participants were assigned, while 151 participants were in the control group. To examine between-group and within-group differences, an independent-sample t-test and repeated measures analysis of variance (ANOVA) were used. The internal consistency of the instruments was found to be high and above average.

In the social anxiety risk group, participants focused their attention on more irritants ($t(198) = -4.643$, $p < .001$). They also exhibited a higher tendency for rumination ($t(198) = -5.992$, $p < .001$), more negative thought content ($t(198) = -7.512$, $p < .001$), and higher self-focus ($t(198) = -4.644$, $p < .001$) compared to the control group. Additionally, their subjective level of anxiety was higher during self-presentation ($t(198) = -5.45$, $p < .001$) and when performing the unpredictable task ($t(198) = -4.78$, $p < .001$) compared to the control group ($p < 0.01$). The average pulse rate was highest during self-presentation (M = 107) and when performing the unpredictable task (M = 100). The average pulse rate during self-presentation differed statistically significantly from all other conditions ($p < .001$).

The data analysis confirmed all four hypotheses.

Table 1. Differences between control and experimental groups based on independent samples (t)Test.

		N	Mean	SD	T	df	Sig 2 tailed/2
Social stimuli	control group	151	19.6	9.0	-4.64	198	.000
	Risk-group	49	26.3	8.1			
Rumination	control group	151	27.9	15.1	-5.99	198	.000
	Risk-group	49	42.1	12.3			
Intensity of negative thoughts	control	151	12.4	10.1	-7.51	198	.000
	Risk-group	49	24.6	8.9			
Self-focused attention	control	151	13.2	7.1	-4.64	198	.000
	Risk-group	49	18.5	6.5			
Level of anxiety during self presentation	control	151	4.9	2.9	-5.45	198	.000
	Risk-group	49	7.4	2.6			
Level of anxiety during arithmetic task	Control group	151	4.3	3.1	-4.78	198	.000
	Risk group	49	6.7	3.0			

5. Discussion

The results showed that individuals in the social anxiety risk group exhibited higher levels of attention to stimuli (social stimuli and overall self-focused attention) compared to the control group. Self-focused attention is considered a primary central and maintaining cognitive factor in social anxiety, as individuals expect judgment from others and are highly focused on their performance. As a result, they rely on their feelings, thoughts, and somatic sensations (which are inherently unpleasant), drawing conclusions based on these, thereby creating a vicious cycle that reinforces negative experiences in social situations. Not only self-focus but also the overall level of attention to stimuli was higher among children and adolescents with social anxiety compared to their peers without social anxiety. On the one hand, the increased self-focus, and on the other hand, the social cues that the participants encountered in the exposure situation were somewhat ambiguous. Ambiguous stimuli are negatively interpreted in the case of social anxiety, and attention and memory are selectively biased toward negative stimuli. Therefore, ambiguous but negatively interpreted stimuli may attract attention and increase the perceived level of arousal. Furthermore, sensitivity is one of the traits of temperament (Rymanowicz, 2017). A low threshold of sensitivity is linked to social anxiety, and thus, individuals with social anxiety tend to notice more stimuli than their socially non-anxious peers. According to Arno et al. (2005), sensitivity also constitutes a vulnerability factor about shyness in adulthood (Hofmann, 2007).

Moreover, it was expected that the tendency for rumination would be higher among anxious individuals compared to non-anxious peers. Rumination is used as an emotional regulation strategy and a means of coping with stressful environments (Tamres et al., 2002). The primary function of emotional regulation is, of course, to process cognitive ideas; however, when attention is focused on unpleasant information, the process differs (Alici, 2023), leading to repetitive thinking. Gender differences in rumination were also expected, as research shows that rumination is more common in women (Tamres, 2002). Given the selective nature of attention and perception, it may also explain why the content of repetitive thoughts is more negative in socially anxious individuals.

Additionally, the subjective experience of anxiety was found to be higher among social anxiety participants in a virtual social environment. It is highly likely that self-focused attention constitutes the main cognitive component of subjectively perceived anxiety. It is also interesting to note that no significant difference was found between the control and risk groups in terms of pulse rate, suggesting that, within the scope of this study, pulse rate was not an objective measure of the intensity of social anxiety. However, this may be explained by the fact that subjective anxiety and heart rate do not always correlate, which again emphasizes the significant role of cognitive factors in maintaining social anxiety. This is also supported by the research of Mauss and Robinson (2009), which indicates that physiological measures do not represent the gold standard in the study of emotions.

6. Limitations of the study and future perspectives

In the study, individuals with a diagnosis of social anxiety were intentionally excluded, as there is no unified, standardized system for clinical diagnosis in Georgia. As a result, participants in the control and risk groups were unevenly distributed. However, the distribution of social anxiety in our accessible sample (N=200, 24.5%) does not differ significantly from the percentage rates observed in studies conducted in other countries with adolescents, as confirmed by the research findings of Alves (2022), Ernst (2022), and Salari (2024).

Future research will focus on the relationships between safety-promoting behaviors and the cognitive factors that maintain social anxiety in childhood and adolescence.

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CORRELATIONAL STUDY OF SUBSTANCE USE DISORDERS AND UNDIAGNOSED NEURODEVELOPMENTAL DISORDERS IN YOUNG ADULT COLLEGE STUDENTS

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Abstract

In the last 2 years, in the United States, there has been a significant increase in substance abuse for young adults. Individuals with neurodevelopmental disorders (i.e., Attention Deficit/Hyperactive Disorder [ADHD], Autism Spectrum Disorder [ASD]) are often diagnosed with co-occurring substance use disorders. This study is focused on screening 200 young adults (ages 18 to 25) who are college students in the USA for substance use disorders [SUD] and for ADHD and ASD (the measures will be presented in the native language of the participants-English with an option for Spanish). The hypothesis is that scores on the *TAPs Tool 1 & 2*, which measure symptoms of SUDs, will be positively correlated to screening measures for ADHD and ASD (*ASRS-vI.I and AQ-10 short*). There is a strong positive correlation between substance use and neurodevelopmental disorder symptoms.

Keywords: *Substance abuse, neurodevelopmental disorders, ADHD, ASD, young adult.*

1. Introduction

Substance abuse is a pressing issue in the United States. With high rates of substance use, binge drinking, opiate use, and hallucinogen use, this issue only continues to get worse. The highest population of those who use are those in college age (early to mid-20s). Alongside these issues, there has been a surge in the diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) and Autism Spectrum Disorder (ASD).

2. Hypotheses

There will be a positive correlation between ADHD symptoms with substance abuse symptoms.
There will be a positive correlation between ASD symptoms and substance abuse symptoms.

3. Literature review

According to the American Psychological Association, roughly 10% of Americans suffer from attention deficit hyperactivity disorder with 2.5% being adults (Simon et al., 2009) and 1 in 36 children have been identified with autism spectrum disorder (Maenner et al., 2023). Substance use disorders (SUDs) are increasingly prevalent in the United States with 18–25-year-olds being the age group that is most likely to initiate in substance use and, subsequently, experience SUDs (Lu et al., 2023). These populations are very susceptible to substance use disorders (Ressel et al., 2020; Srichawla et al., 2022).

Attention deficit hyperactivity disorder (ADHD) is characterized by its debilitating nature as it impacts aspects of daily life including interpersonal relationships, academic and professional achievements, and daily living skills (Harpin, 2005).

Autism spectrum disorder (ASD) is characterized by its deficits in social communication and the presence of restricted interests and repetitive behaviors (Hodges et al., 2020). Something that makes ASD special is the range with which the symptoms can vary (thus being a “spectrum”).

Substance abuse, as defined by the DSM-5, is a series of disorders of varying severity with the main characteristic being taking a substance (alcohol, cannabis, caffeine, hallucinogens, inhalants, opioids, sedatives, hypnotics, or anxiolytics, tobacco, or other/unknown substances) in excess (American Psychology Association, 2022).

ADHD and Autism are severely underdiagnosed in both children and adults and there is very limited research on the subject of these neurodevelopmental disorders. According to a study addressing the demographic differences with and without ASD, approximately 25% of the 4,498 children (1,135) had ASD indicators without an ASD diagnosis (Wiggins et al., 2019). These values are taken from diagnosed individuals under the age of 18. An estimated 4.4% of people ages 18 to 44 have ADHD but have not been diagnosed (Barterian, 2024) and autism spectrum disorder is severely under-diagnosed in both children and adults.

In 2022, there was an 8% increase in the prevalence of alcohol use in college students between the ages of 18-22 (80.5 % vs 72.7 %) in the United States (Pasman et al., 2024). With substances being a common way of engaging socially in college, the use of substances is incredibly high (Welsh et al., 2019). Substance use disorders have been found to be extremely common in those with ADHD with Nicotine dependence being substantially more common in adults with ADHD (40%) compared to the general population (26%) (Sullivan & Rudnik-Levin, 2001). The risk of substance related problems in patients with ASD is almost twofold compared to non-ASD populations with ADHD only worsening the risks (Walhout et al., 2022).

4. Objectives

The objective of this study is to identify a possible correlation between substance abuse symptoms and disorders and undiagnosed neurodevelopmental disorders (ADHD and ASD). The purpose being to identify whether a correlation exists and possible intervention and prevention methods. With the high rates of undiagnosed neurodevelopmental disorders and substance abuse disorders, the findings of this study represent an unprecedented necessity to reassess and evaluate neurodevelopmental disorders as they pertain to substance abuse disorders.

5. Methods

This correlational study consists of a survey that seeks to identify possible substance abuse issues coupled with undiagnosed neurodevelopmental disorders, namely, autism spectrum disorder (ASD) and Attention Deficit Hyperactivity Disorder (ADHD). The target population is 200 young adults within the ages of 18-25 from the United States. Participants were recruited using CloudResearch. Those who were recruited via CloudResearch and received $1.33 cents to complete the survey. The survey was completed entirely online, presented all at once, and completely anonymous. The participants were asked to complete several validated measures as detailed below.

The ***Tobacco, Alcohol, Prescription medications, and other Substance (TAPS) Tool (Part 1)*****:** The measure consists of a 4-item screening for tobacco use, alcohol use, prescription medication misuse, and illicit substance use in the past year. The responses range from “Daily to Almost Daily” to “Never”. Question 2 is only answered by males and Question 3 was only answered by females. The TAPS-1 tool is a screener adapted from the National Institute on Drug Use (NIDA). It is a quick screen with items assessing the frequency with which one partakes in tobacco, alcohol (4+ or 5+ drinks for females and males, respectively), prescription medication, and illicit substances (e.g., marijuana, cocaine, methamphetamine, hallucinations) (Carter et al., 2021). Any responses besides “never” on the TAPS-1 will indicate a positive screen usually requires the TAPS-2 but for the sake of data collection, both were utilized in tandem (McNeely et al., 2016). The TAPS-1 tool is highly accurate in identifying unhealthy substance use habits with high reliability and validity. The frequency-of-use cut-points on the TAPS-1 tool for identifying Substance Use Disorders were greater than or equal to monthly use for tobacco and alcohol (sensitivity = 0.92 and 0.71, specificity = 0.80 and 0.85, AUC = 0.86 and 0.78, respectively) and any reported use for illicit drugs and prescription medication misuse (*sensitivity* = 0.93 and 0.89, *specificity* = 0.85 and 0.91, *AUC* = 0.89 and 0.90, respectively) (Gryczynski et al., 2017). The reliability was reported as sensitivity and was showed after the first and second administration of the measure for tobacco (0.93/0.81 vs. 0.90/0.79) alcohol (0.73/0.83 vs. 0.69/0.87), illicit drugs (0.91/0.84 vs. 0.95/ 0.87), and prescription medication misuse (0.86/0.87 vs. 0.93/0.94). The predictive validity of the self-administered TAP for alcohol was 0.47/0.97, tobacco was 0.70/0.99, 0.32/0.99, illicit drugs was 0.63/0.98.

The ***Tobacco, Alcohol, Prescription medications, and other Substance (TAPS) Tool (Part 2)*****:** The measure consists of a 9-item “Yes” or “No” questionnaire for tobacco, alcohol, and illicit substance use and prescription medication misuse in the past 3 months only. The TAPS-2 tool is a continuation of the TAPS-1 that is administered after any response besides “never” is chosen in the TAPS-1. The TAPS-2 is adapted from the Alcohol, Smoking, and Substance Involvement Screening Tool (ASSIST)-Lite including 3-4 yes/no questions for each class of substances assessing level of use, dependence, and concern from

others (McNeely et al., 2016). The reliability was reported as sensitivity and showed administration for tobacco (0.93/0.81 vs. 0.90/0.79) alcohol (0.73/0.83 vs. 0.69/0.87), illicit drugs (0.91/0.84 vs. 0.95/ 0.87), and prescription medication misuse (0.86/0.87 vs. 0.93/0.94). The predictive validity of the self-administered TAP for alcohol was 0.47/0.97, tobacco was 0.70/0.99, 0.32/0.99, illicit drugs was 0.63/0.98 (Gryczynski et al., 2017).

***Adult ADHD Self-Report Scale (ASRS-v1.1)*:** The measure consists of 18-items split into two parts (A and B). Parts A and B consist of multiple-choice questions asking how the participant has felt with responses ranging from "never" to "very often" in the past 6 months. The ASRS-v1.1 is an instrument consisting of the 18 DSM-IV-TR criteria with 6 of the 18 questions being found to be the most predictive of symptoms consistent with ADHD (van de Glind et al., 2013). The reliability was reported as having Cronbach's α for the factor-based scales in the range 0.63–0.72 (Kessler et al., 2007).

***Adult Autism Spectrum Quotient (AQ-SHORT) – Self-administered*:** The measure consists of a 28-item survey that utilizes a 4-degree Likert Scale (Definitely Agree, Slightly Agree, Slightly Disagree, Definitely Disagree) with only 1 point being scored for each question (Kent et al., 2018). Reliability was reported as Cronbach's α being between .77 and .86 the broad Social behavior factor (α between .79 and .86) and the Numbers/patterns factor (α between .67 and .73) (Hoekstra et al., 2011).

Participants were recruited using CloudResearch. The participants were directed to SurveyMonkey to issue their consent to be in the study as well as be presented with an exclusionary question to be redirected outside the survey. The question prevents anyone outside the ages of 18 and 25 from participating. Demographic questions regarding age, education level, employment status, ethnic background. Two questions regarding an existing history with neurodevelopmental disorders are issued. The participants were then provided with 3 separate pages of multiple choice and yes/no items for a total of no more than 40 questions from the TAPS-1, TAPS-2, ASRS v1.1, and the AQ-10. The entire survey took 5-10 minutes to complete.

6. Results

193 participants were surveyed (*n*=79 (female), *n*=70 (male), *n*=6 (non-binary), *n*=3 (trans male), *n*=1 (trans female)). The participants ranged in age from 18 to 25 (most participants reported being between the 24 years of age). The particpants reported having experience in college (*n*=165, *n*=90 (current student), *n*=5 (not current/never attended), *n*=11 (some experience), *n*=58 (have completed/have some college experience), *n*=1 (no answer)).

Using Pearson Correlation, there was a significant positive correlation between the TAPS Tool 1 and ASRS, $r(193)= .36$, $p < .001$. There was a significant positive correlation between the TAPS Tool 1 and AQ-10, $r(193)= .355$, $p < .001$. There was a significant positive correlation between the TAPS Tool 2 and ASRS, $r(193)= .437$, $p < .001$. There was a significant positive correlation between the TAPS Tool 2 and AQ-10, $r(193)= .371$, $p < .001$. Table 1 shows these results.

Table 1. Correlations.

		TAPS1TOTAL	TAPS2TOTAL	ASRSTOTAL	AQTOTAL
TAPS1TOTAL	Pearson Correlation	1	.761**	.361**	.355**
	Sig. (1-tailed)		<.001	<.001	<.001
	N	193	193	193	193
TAPS2TOTAL	Pearson Correlation	.761**	1	.437**	.371**
	Sig. (1-tailed)	<.001		<.001	<.001
	N	193	193	193	193
ASRSTOTAL	Pearson Correlation	.361**	.437**	1	.561**
	Sig. (1-tailed)	<.001	<.001		<.001
	N	193	193	193	193
AQTOTAL	Pearson Correlation	.355**	.371**	.561**	1
	Sig. (1-tailed)	<.001	<.001	<.001	
	N	193	193	193	193

**. Correlation is significant at the 0.01 level (1-tailed).

7. Discussion

This study found that there is a strong, positive correlation between substance use and neurodevelopmental disorders in the young adult, college student population, making young adult college students an at-risk population. Those who show signs of neurodevelopmental disorders have a higher likelihood of exhibiting signs of substance use problems. Implementation of screenings, prevention, and

intervention programs is necessary for halting this issue and sets the groundwork for future studies in substance abuse and neurodevelopmental disorders.

The *National Institute on Drug Abuse* (NIDA) has multiple prevention programs for different age levels. A promising intervention form is "***Classroom-Centered Intervention***" which focuses on the behavioral needs of students to assist in their scholarly achievements (Storr et al., 2002; Furr-Holden et al., 2004). Although it is mainly used in first-grader populations, it is possible to adapt this intervention strategy for use in college while also providing resources for those who show symptoms of neurodevelopmental disorders (Meinzer et al., 2020; Chandrasekhar, 2019).

8. Conclusions

Young adult college students are an at-risk population in need of specific resources in the United States to ensure their safety and success. The high likelihood of developing substance use problems when presenting symptoms of neurodevelopmental disorders is dangerous considering the growing number of undiagnosed and diagnosed neurodevelopmental disorders in the U.S. Prevention, screening, and interventions require more research to help protect the at-risk populations of college students.

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EXPLAINING THE RELATIONSHIP BETWEEN SENSORY PROCESSING SENSITIVITY AND ALEXITHYMIA THROUGH ATTACHMENT STYLES

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Abstract

High Sensory Processing Sensitivity (HSPS) affects around 30% of people (Lionetti et al., 2018). It involves an increased reactivity to environmental stimuli. HSPS increases alexithymia (Bordarie et al., 2024) which corresponds to difficulties in identifying and describing emotions (Sifneos, 1995). Both contribute to an increase in psychopathological symptoms such as stress, anxiety and depressive symptoms (e.g., (Radetzki et al., 2021). This is particularly true during adolescence, a transformative period that makes individuals more vulnerable to mental health problems (Essau & De La Torre-Luque, 2019) and during which the social environment has a significant impact (Bathelt et al., 2021). For example, attachment styles - secure, preoccupied, dismissive or fearful - influence the ability to interpret and respond to emotional and social cues throughout life (Wilkinson & Walford, 2001). We tested two hypotheses: (1) HSPS will negatively influence both alexithymia and attachment styles; and (2) secure and fearful attachment styles will mediate the relationship between HSPS and alexithymia. The sample (n=148) consisted of 75.68% females (n=112) and 24.32% males (n=36) aged between 15 and 25 years. The mean age was 18.42 years old (SD=3.01). Regarding their status, 60.14% (n=89) were in high school, 29.05% (n=43) were in university and 10.81% (n=16) had a job. They anonymously completed an online questionnaire assessing high sensory processing sensitivity (HSPS-FR), alexithymia (TAS-20) and attachment styles (RSQ). Statistical analyses including correlations, linear regressions, and mediation models were performed with JASP (version 0.19.3) and Jamovi (version 2.6.17.0). Results showed that HSPS influenced fearful attachment style (β=.3400; p<.001) and secure attachment style (β=-.2396; p=.003) but not alexithymia which was influenced by fearful (β=.2891; p<.001) and secure (β=-.2812; p<.001) attachment styles. Both mediate the relationship between HSPS and alexithymia. This study is not in line with the literature that reports the influence of HSPS on alexithymia (Jerome & Liss, 2005). However, we confirmed the vulnerabilising effect of HSPS on alexithymia through the negative impact of fearful attachment style and the protective effect of secure, which mitigates the negative impact of HSPS. The discussion will underscore the importance of fostering secure attachment and emotional regulation strategies during adolescence. Limitations will be mentioned, such as the cross-sectional design, which precludes causal inferences, and potential biases in alexithymia prevalence. Future research should examine longitudinal effects and the role of psychological resources and coping mechanisms.

***Keywords*:** *Sensory processing sensitivity, alexithymia, attachment styles, internalized disorders, adolescents.*

1. Introduction

Adolescence is a critical period of growth, characterised by significant physical, neurological, and psychological changes. It is not simply a transition from childhood to adulthood but a time of considerable individual variation, particularly in personality development and the emergence of inter-individual differences (Branje et al., 2007). Mental health challenges often emerge during this period, with half of all mental disorders appearing before the age of 14 (Patton et al., 2016). The social environment plays a key role in shaping adolescent development (Bathelt et al., 2021). Negative parental behaviours increase the risk of anxiety and depression (Houzel, 2003), whereas positive parenting and social support promote well-being. A supportive family environment acts as a buffer against mental health problems, and helps adolescents develop resilience, autonomy, and positive psychological development, which act as protective factors and promote coping strategies and a positive self-image (Masten & Palmer, 2019).

Adolescence can be particularly challenging for individuals with high sensory processing sensitivity (HSPS), which is associated with increased sensitivity in the processing of social, and emotional stimuli (Aron et al., 2012). Approximately 30% of individuals report HSPS (Lionetti et al., 2018), and these individuals tend to respond more intensely to stimuli, both positive and negative (Boterberg & Warreyn, 2016). Although not a disorder, HSPS makes emotional regulation more difficult and increases internalised problems such as depression and anxiety in adolescents (Gearhart, 2014).

Emotional regulation, the ability to manage emotional responses, is particularly challenging for people with HSPS and is often associated with alexithymia, the difficulty in identifying and describing emotions (Preece et al., 2023). Alexithymia may be a stable personality trait or a response to stress that serves as a temporary coping mechanism (Conrad et al., 2009). The association between HSPS and alexithymia increases the risk of behavioural problems such as substance abuse, depression and anxiety (Radetzki et al., 2021). Attachment theory suggests that early relationships with caregivers influence emotional regulation and stress management (Bowlby, 1969). Adolescents with secure attachment styles may be better equipped to cope with HSPS and alexithymia, potentially buffering against socio-emotional difficulties (Wilkinson & Walford, 2001). Four attachment styles can be identified: secure, preoccupied, dismissive, and fearful. They are shaped by two basic cognitive frameworks: the model of self, which reflects an individual's sense of worthiness in relationships, and the model of others, which represents their expectations of the availability and responsiveness of others. Secure attachment arises from a positive view of both self and others, and fosters trust and emotional closeness. Preoccupied attachment is characterised by a negative self-perception but a positive view of others, leading to dependency and fear of abandonment. Dismissive attachment involves a positive self-view but a negative view of others, leading to emotional detachment and self-sufficiency. Fearful attachment results from negative views of both self and others, leading to ambivalence and difficulty forming stable relationships (Wearden et al., 2005).

2. Objectives and hypotheses

Highly sensitive adolescents with secure attachments may benefit from their caregivers' responsiveness, which facilitates emotional regulation in the face of stressors. In contrast, those with dismissive or fearful attachment styles may lack such protective factors, increasing their vulnerability to alexithymia. Insecure attachment, which often results from inconsistent or traumatic caregiving, may exacerbate the negative relationship between HSPS and alexithymia, potentially leading to more severe disorders. This study examines the impact of sensory processing sensitivity on alexithymia and attachment styles, focusing on the mediating role of attachment styles in the relationship between SPS and alexithymia. Two hypotheses were pursued:

- H1: HSPS will negatively influence both alexithymia and attachment styles.
- H2: Secure and fearful attachment styles will mediate the relationship between HSPS and alexithymia.

3. Method

3.1. Participants

The sample consisted of 148 adolescents and young adults. We used a convenience sample with 74.66% females (n=112) and 24% males (n=36). The mean age was 18.31 years, ranging from 15 to 25 years, with 52.03% (n=77) in the 15-17 age group and 47.97% (n=71) in the 18-25 age group. Regarding their status, 60.14% (n=89) were in high school, 29.05% (n=43) were in university and 10.81% (n=16) had a job.

3.2. Procedure and recruitment

The study protocol was approved by the Ethics Committee for Research Involving the Human Person of the Universities of Tours and Poitiers (CER-TP) (approval number 2023-12-05). Participants were invited to complete an anonymous and confidential online questionnaire via the Sphinx platform. They were first informed of the aims of the study and gave their explicit consent. The estimated time to complete the questionnaire was 20 minutes. The questionnaire was open from 5 February to 31 March 2024, and the link was shared through social media discussion groups, secondary schools with administrative consent, and word of mouth.

3.3. Measures

The questionnaire consisted of three questions related to socio-demographic characteristics were asked (gender, age, educational level) and three key variables: high sensory processing sensitivity,

alexithymia, and attachment style. Sensory processing sensitivity is assessed using the French version of the Highly Sensitive Person Scale (HSPS-FR) (Bordarie et al., 2022), a 27-item questionnaire that assesses cognitive and emotional responses to stimuli, with responses rated on a 7-point Likert scale. Alexithymia is measured by the 20-item Toronto Alexithymia Scale (TAS-20) (Bagby et al., 1994), where participants rate items on a 5-point Likert scale, and a score of 56 or higher indicates alexithymia (Loas et al., 1996). Attachment style is assessed using the French version of the Relationship Scales Questionnaire (RSQ) (Guédeney et al., 2010), which categorizes attachment into four styles – secure, preoccupied, dismissive, and fearful – based on a 5-point Likert scale. Attachment styles are also analysed according to the dual model: model of self and model of others.

3.4. Statistical analyses

The data were analysed using JASP (version 0.18.3). The internal reliability of the scales was measured using Cronbach's alpha; values are given for each scale [HSPS-FR: α=.90; TAS-20: α=.80; RSQ-secure: α=.41; RSQ-preoccupied: α=.22; RSQ-dismissive: α=.64; and RSQ-fearful: α=.54]. As not all variables follow a normal distribution, we generally used non-parametric tests. Descriptive analyses, Chi2 tests, Spearman's correlations, T-tests. Linear regressions and a mediation analysis were also performed with Jamovi (version 2.6.17.0).

4. Results

4.1. Descriptive results

According to the classification of Lionetti et al. (2018), 28.38% of participants (n=42) had low sensory processing sensitivity (SPS) scores (below 113), 35.13% (n=52) had moderate SPS scores (between 113 and 137), and 36.49% (n=54) had high SPS scores (above 137). Regarding alexithymia, 40.54% (n=60) scored below 56, while 59.46% (n=88) scored 56 or higher, indicating potential alexithymia. A Chi2 test revealed an overrepresentation of highly sensitive individuals within the alexithymia group (X2(2)=11.120; *p*=.004).

4.2. Influence of sociodemographic characteristics

The Chi2 test showed a significant difference between men and women (X2(2)=16.682; *p*<.001), with hyposensitive individuals overrepresented among men and highly sensitive individuals overrepresented among women. A significant gender difference was also found for alexithymia (X2(1)=8.351; *p*=.004), with alexithymia being more common among women. A significant difference was found according to status (high school, university or work) (X2(2)=6.567; *p*=.037), with alexithymia being more common among high school students and less common among university students. Age had no effect on alexithymia or HSPS scores.

4.3. Correlations, regressions and mediation

The results of the correlation analysis are shown in Table 1. Results of the multiple regression analysis indicated that HSPS did not significantly influence alexithymia (t=1.43, *p*=.156). However, HSPS positively influenced fearful (t=4.39; *p*<.001) and preoccupied attachment styles (t=5.18; *p*<.001) and negatively influenced secure attachment style (t=-3.02; *p*<.003). More generally, HSPS influenced the model of self (t=-5.69; *p*<.001) but not the model of others. The results of the mediation analysis (Figure 1) indicated a significant indirect effect (z=2.579, *p*=.01) between HSPS and alexithymia with the model of self as a mediator. Fearful (z=2.75; *p*=.006) and secure attachment styles (z=2.28; =.02) also showed a significant indirect effect.

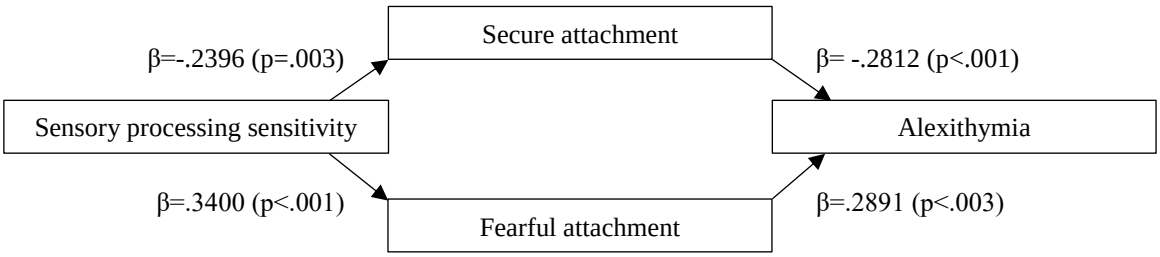
Table 1. Spearman's correlation matrix.

Variables	1		2		3		4		5		6		7
1. TAS20	—												
2. HSPS-FR	.158		—										
3. RSQ-Fearful	.307	***	.392	***	—								
4. RSQ-Preoccupied	.198	*	.395	***	.138		—						
5. RSQ-Dismissive	.195	*	.033		.365	***	-.251	**	—				
6. RSQ-Secure	-.291	***	-.287	***	-.333	***	-.406	***	-.037		—		
7. RSQ-Model of self	-.279	***	-.445	***	-.474	***	-.768	***	.353	***	.690	***	—
8. RSQ-Model of others	-.249	**	-.123		-.708	***	.344	***	-.750	***	.359	***	-.020

5. Discussion, limitations and perspectives

First and foremost, sensory processing sensitivity and alexithymia are influenced by gender, with women generally showing higher levels of both traits, which is consistent with the existing literature (Trå et al., 20-23). Age did not have a significant effect in this study, probably due to the narrow age range (15-25 years). However, the literature suggests that sensitivity may decrease with age (Ueno et al., 2019), possibly due to the development of better coping strategies. In addition, alexithymia varied according to participants' status (school, university or work), possibly reflecting life changes associated with the transition to adulthood, such as gaining independence and developing emotion regulation strategies. Although HSPS did not directly influence alexithymia in this sample, a correlation expected based on published research (Jakobson & Rigby, 2021; McQuarrie et al., 2023), mediation analysis revealed that attachment styles played a significant role in this relationship. Specifically, the model of the self significantly mediated the relationship between SPS and alexithymia, supporting the idea that how individuals perceive themselves in relationships may be a crucial factor in emotional regulation. Individuals with higher SPS were more likely to have anxious and preoccupied attachment styles, which in turn were associated with higher levels of alexithymia. These findings are consistent with previous research suggesting that insecure attachment styles contribute to emotional dysregulation and difficulties in understanding emotions (Bowlby, 1969). In addition, a significant mediation effect was found for secure attachment, suggesting that individuals with high SPS who develop a secure attachment style may experience lower levels of alexithymia, potentially benefiting from the responsiveness and emotional support of their caregivers.

Figure 1. Mediation of the relationship between SPS and alexithymia through secure and fearful attachment styles.



This study does not distinguish between primary (trait) and secondary (state) alexithymia, which limits the interpretation of how alexithymia relates to sensory processing sensitivity and socio-emotional outcomes. Without this distinction, it is unclear whether alexithymia is a pre-existing trait in individuals with HSPS or a response to negative experiences. Furthermore, the prevalence of alexithymia in this sample (59.46 %) differs from the literature, raising concerns about sample representativeness and potential bias. While alexithymia is generally found in 10-13% of the population (Salminen et al., 1999), rates can vary depending on factors such as mental health, age and cultural context. Despite an acknowledged increase in alexithymia prevalence during adolescence (Joukamaa et al., 2007), and considering that our sample primarily consists of high school students, we are unable to account for such a significant elevation in our sample. This discrepancy raises concerns about potential biases and limitations in our study, and may impact the observed relationship between alexithymia and HSPS. Moreover, the study also overlooks other potential confounding variables, such as parenting style and individual differences in resilience and coping mechanisms, which may influence SPS, alexithymia and socio-emotional outcomes.

In conclusion, although HSPS alone does not directly influence alexithymia, its effect on individual emotionality appears to be mediated by attachment style. Highly sensitive individuals with insecure attachment styles may be more vulnerable to alexithymia, whereas those with secure attachments may experience protective effects. These findings highlight the importance of considering attachment dynamics when addressing emotional difficulties and exploring interventions to promote secure attachment patterns in individuals with HSPS.

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HELP-SEEKING EXPERIENCE, STIGMA AND MENTAL HEALTH LITERACY AMONG SLOVAK UNIVERSITY STUDENTS

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Abstract

Background: University years can be stressful, making students vulnerable and reluctant to seek mental health support. *Aim:* This study aims to examine the associations between gender, self-stigma, social stigma, help-seeking experiences, and mental health literacy among Slovak university students. From October 2024 to January 2025, 321 students (M age = 22.18, SD = 2.34; 63.9% women) participated via online (32.7%) and paper-based (67.3%) surveys. Measures included The General Help-Seeking Questionnaire, The Self-Stigma of Seeking Help Scale, The Perceptions of Stigmatization by Others for Seeking Help Scale, and The Mental Health Literacy Scale. Data analysis utilized descriptive statistics, correlation analysis, and multiple linear regression. *Results:* Most university students (68.8%) had not sought help from mental health professionals. Among the 31.2% who had, their visits (M = 12.11, SD = 20.4) were generally perceived as helpful (M = 3.72, SD = 1.28). Students exhibited high self-stigma and mental health literacy, but low social stigma. Correlation analysis showed significant associations between gender, self-stigma, social stigma, and mental health literacy, as well as between self- and social stigma, and self-stigma and past help-seeking experience. Multiple regression analysis indicated that self-, social stigma and gender were negatively associated with mental health literacy, suggesting lower self- and social stigma correlated with higher mental health literacy. Female students exhibited higher mental health literacy than male students. *Conclusion:* This study highlights the need for education and awareness campaigns to reduce stigma and improve mental health literacy, ultimately encouraging help-seeking behaviors among students. Future research is needed to better understand the relationship between help-seeking experiences and mental health literacy.

Keywords: *Help-seeking experience, mental health literacy, self-stigma, social stigma, university students.*

1. Introduction

University life presents both excitement and challenges, with students facing increased stress, new experiences, and major transitions, including academic pressures and personal independence (Baik, Naylor, & Arkoudis, 2015; McKay, O'Bryan, & Kahu, 2021). Research indicates rising anxiety, depression, and suicidal ideation among students (Barrable, Papadatou-Pastou, & Tzotzoli, 2018; Beks, Cairns, Smygwaty, Miranda Osorio, & Hill, 2018), along with academic struggles and career uncertainties (Krumrei, Newton, & Kim, 2010; Çebi & Demir, 2020). Studies suggest university students face higher mental health risks than the general population (Blanco et al., 2008; Beks et al., 2018) yet are often reluctant to seek professional help (Rickwood, Deane, & Wilson, 2007).

A major barrier to mental health treatment among university students is inadequate mental health literacy (MHL), or difficulty recognizing symptoms of mental illness (Kountra, Pantelaiou, & Mavroeides, 2024). MHL, introduced by Jorm et al. (1997), encompasses knowledge and beliefs that aid in recognizing, managing, and preventing mental disorders (Zehra, Pharma, Pant, & Chatterjee, 2022). It includes understanding mental health conditions, risk factors, and help-seeking behaviors (Jorm, 2000). Higher MHL facilitates early detection, increases help-seeking, and fosters empathy, while poor MHL discourages students from seeking support (Gulliver, Griffiths, & Christensen, 2010; Wright, Jorm, Harris, & McGorry, 2007). Research shows males tend to have lower MHL than females, facing additional barriers to accessing mental health services (Beks et al., 2018; Theurel & Witt, 2022).

Research on help-seeking behavior highlights stigma as a major barrier to accessing mental health services across different societies, cultures, and academic backgrounds (Liu, Wong, Mitts, Li, & Cheng, 2020; Li, Denson, & Dorstyn, 2018). Vogel, Wade, and Haake (2006) define stigma as the perception of being flawed due to a personal or physical characteristic deemed socially unacceptable. According them stigma fosters negative stereotypes and prejudice—such as viewing individuals with mental illness as weak, dangerous, or incompetent—leading to discrimination in workplaces, schools, healthcare, and social settings. Stigma is categorized into self-stigma and social stigma (Kim, 2021). Self-stigma occurs when individuals internalize negative beliefs, reducing their self-esteem and self-worth (Vogel et al., 2006; Kim, 2021). Social or public stigma arises from society's negative perceptions, labeling certain behaviors as inappropriate or deviant (Vogel et al., 2006; Kim, 2021). Fear of stigma is a major reason why many university students avoid seeking help, emphasizing the need for interventions that reduce stigma and encourage help-seeking behavior (Barrable et al., 2018).

Gender and prior past help-seeking experiences are strong predictors of university students' help-seeking behavior. Research indicates that female students are significantly more likely than males to seek professional mental health support (Eisenberg, Golberstein, & Gollust, 2007; Sagar-Ouriaghli, Godfrey, Graham, & Brown, 2020). Traditional masculinity norms contribute to men's reluctance to seek help (Kantar & Yalçın, 2023). Çebi and Demir (2020) found that females had more positive attitudes toward help-seeking, and prior experiences strongly predicted future willingness to seek support. Similarly, Pham et al. (2020) reported that students with past mental health service use were more likely to seek help during psychological distress.

Research has explored the relationships between gender, self-stigma, social stigma, and MHL among university students (Gibbons, Thorsteinsson, & Loi, 2015; Reavley, McCann, & Jorm, 2012; Smith & Shochet, 2011). Studies indicate that lower stigma is linked to higher MHL (Morgan, Ross, & Reavley, 2018; Schomerus et al., 2019) and increased help-seeking intentions (Kim, Yu, & Kim, 2020; Kim, 2021). Kountra et al. (2024) found that students with higher MHL held less stigmatizing attitudes and exhibited lower self-stigma when seeking professional help. Gorczynski, Sims-Schouten, and Wilson (2020) discovered, that no significant correlations were found between prior past help seeking experiences and MHL.

2. Design

This study employed a cross-sectional design and collected quantitative data from multiple universities across Slovakia.

3. Objective

This study aims to examine the relationships between gender, help-seeking experiences, self-stigma, social stigma, and MHL among Slovak university students, as well as the levels of these variables. To our knowledge, limited research has explored this topic within the Slovak university student population, especially the associations between prior past help-seeking experiences and MHL. We hypothesize that most participants will not seek help from mental health professionals and that women will be more likely than men to seek psychological support. Additionally, we expect lower self- and social stigma toward seeking professional help to be associated with higher MHL levels.

4. Methods

4.1. Sample and procedure

This study included 321 university students, comprising 205 women (63.9%) and 116 men (36.1%), with a mean age of 22.18 years (SD = 2.34, range 17.17–34.25). Participants were recruited from various Slovak universities and completed either an online survey (n = 105; 32.7%) or a paper-based survey (n = 216; 67.3%). The online survey, created using Google Forms, was distributed via Facebook university campus groups in Slovakia. The paper-based survey was administered in person at university campuses and Christian university pastoral centers. Regarding academic level, 62.3% (n = 200) were undergraduate (BA) students, 34.9% (n = 112) were in postgraduate studies (MA/P.E/Dr./other), and 2.5% (n = 8) were PhD students. One student (0.3%) did not specify their academic level. Data collection took place between October 2024 and January 2025. Participation was voluntary and anonymous, and informed consent was obtained from all participants.

4.2. Measures

Sociodemographic data collected included gender, age, academic level, region of origin, and university affiliation. To assess prior past help-seeking experiences, we used supplementary questions from *The General Help-Seeking Questionnaire* (GHSQ; Rickwood, Deane, Wilson, & Ciarrochi, 2005). Participants reported whether they had previously sought professional help for a specific problem, the number of visits, the sources of help, and the perceived effectiveness of the support received. Helpfulness was rated on a 5-point scale, ranging from 1 (extremely unhelpful) to 5 (extremely helpful).

Self-stigma for seeking treatment was assessed using *The Self-Stigma of Seeking Help Scale* (SSSHS; Vogel et al., 2006), a unidimensional 10-item scale. Responses were measured on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), yielding a total score between 10 and 50. To reduce response bias, items 2., 4., 5., 7. and 9. were reverse-scored. Higher scores indicate greater self-stigma toward seeking help. The final self-stigma level was determined by summing all item scores. The scale demonstrates good internal consistency (Cα = 0.86–0.90).

Social (public) stigma for seeking help was assessed using *The Perceptions of Stigmatization by Others for Seeking Help Scale* (PSOSHS; Vogel, Wade, & Ascheman, 2009), a unidimensional 5-item scale. Responses were measured on a 5-point Likert scale (1 = Not at all to 5 = A great deal), yielding a total score between 5 and 25. Higher scores indicate greater perceived social stigma and stronger perceptions of stigma from others regarding psychological help-seeking. The final stigma level was determined by summing all item scores. The scale demonstrates good internal consistency (Cα = 0.84–0.85).

MHL was assessed using *The Mental Health Literacy Scale* (MHLS; Lee, Hwang, Ball, Lee, & Albright, 2019), a 13-item scale measuring knowledge of various mental health aspects, including help-seeking, awareness of mental health resources and services, and willingness to seek support. Each item was rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). To reduce response bias, items 5 to 13 were reverse-scored. The total score ranged from 13 to 65, with higher scores indicating greater MHL. The final MHL level was determined by summing all item scores. The MHLS demonstrates good internal consistency (Cα = 0.87).

4.3. Statistical analyses

Data were analyzed using descriptive statistics, correlation analysis, and multiple linear regression in SPSS Statistics Version 26.

5. Results

5.1. Prior past help-seeking experiences

Our findings revealed that the majority of university students (n = 221; 68.8%) had no experience seeking help from mental health professionals (e.g., school counselors, psychologists, psychiatrists). Among the 31.2% (n = 100) who had sought professional help, the number of visits varied widely (M = 12.11, SD = 20.4, range = 0–140) and was generally perceived as helpful (M = 3.72, SD = 1.28). More female students (n = 67; 32.7%) had sought professional help compared to male students (n = 33; 28.4%). Female students (M = 14.13, SD = 24.25, range = 0–140) also reported more frequent visits than their male counterparts (M = 8.19, SD = 8.25, range = 0–30).

5.2. The associations between gender, self-stigma, social stigma, prior past help-seeking experience and MHL

Our findings indicate that university students exhibited higher levels of self-stigma (M = 23.73, SD = 7.2) and mental health literacy (MHL; M = 53.58, SD = 8.24), but lower levels of social stigma (M = 9.03, SD = 4.47). Men reported higher self-stigma levels (M = 24.35, SD = 7.42) than women (M = 23.38, SD = 7.07). Likewise, men reported higher social stigma (M = 9.92, SD = 4.65) than women (M = 8.53, SD = 4.29). Correlation analysis revealed statistically significant associations between gender and social stigma ($r = .150$, $p < .01$), gender and MHL ($r = -.344$, $p < .05$), self-stigma and social stigma ($r = .375$, $p < .001$), self-stigma and MHL ($r = -.564$, $p < .001$), and finally between self-stigma and prior past help-seeking experience ($r = .167$, $p < .01$). Multiple linear regression analysis ($R^2 = .489$, Adjusted $R^2 = .435$; $F = 9.083$, $p < .001$) showed that self-stigma ($\beta = -0.422$, $p < .01$), social stigma ($\beta = -0.27$, $p < .05$) and gender ($\beta = -0.27$, $p < .05$) were negatively associated with MHL, suggesting that lower self- and social stigma corresponded with higher MHL. Female students (M = 55.96, SD = 6.11) exhibited higher MHL level than males (M = 50.28, SD = 9.75).

6. Discussion and conclusions

Our findings support previous research indicating that university students are often reluctant to seek help from mental health professionals (Rickwood et al., 2007). Consistent with prior studies, our results confirmed that female students exhibited more favorable help-seeking attitudes than males and that both prior help-seeking experience and gender significantly predicted positive attitudes toward seeking psychological help (Çebi & Demir, 2020). As hypothesized, participants with lower levels of self- and social stigma related to seeking help from mental health professionals reported higher levels of MHL. These findings agree with earlier findings suggesting that higher levels of MHL contribute to reducing stigma for seeking help from professionals of mental health services (Morgan, Ross, & Reavley, 2018; Schomerus et al., 2019). Consistent with prior studies, we did not find the associations between prior past help-seeking experiences and MHL (Gorczynski et al., 2020).

The most significant limitation of this study was the incomplete responses to the MHL questionnaire, as more than half of the participants did not fully complete it. Despite this limitation, we proceeded with the analysis using the available completed data for the MHL variable. The findings of this study contribute to the critical investigation of help-seeking intentions and behaviors among university students (Rickwood et al., 2005; Çebi & Demir, 2020). The results could inform the implementation of targeted strategies within mental health services, counseling programs, and university counseling centers. This study underscores the importance of education and awareness campaigns designed to enhance MHL and combat stigma among university students. Ultimately, this study may contribute to better mental health treatment and support for university students.

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WHAT'S LOVE GOT TO DO WITH IT? DEFINING THE SOCIAL CONSTRUCT OF LOVE

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Abstract

The construct of love has been assessed through various self-report questionnaires, yet there is no clear evidence that these measures evaluate the same underlying concept. This study aims to develop a culturally sensitive definition of love through a two-part investigation. The first study examined the validity of eight widely used self-report measures related to love. A total of 565 adults completed the love measures, demographic questions, a 0–100 rating of love, and an open-ended question defining love. Factor analysis revealed inconsistencies, including more factors than originally reported, high collinearity among items, and some items failing to meet inclusion criteria (i.e., loading weight). The second study explored societal attitudes toward love in Western cultures using an Implicit Association Test (IAT). We hypothesized that cognitive load, measured by response latency, would vary based on the categorization of love-related words. A sample of 1,102 individuals from the United States and Europe evaluated 158 words as related to love or not. Results showed that participants identified love-related words more quickly than non-love words. These findings align with Prospect Theory and the Theory of Constructed Emotions, suggesting that love is a cognitively salient and culturally shaped construct. A definition of the socio-linguistic construct of love is offered founded on the statistical findings of these studies.

Keywords: *Love, prospect theory, theory of constructed emotions, socio-linguistic affective model of love.*

1. What's love got to do with it? Defining the social construct of love

"Love is a many-splendored thing" is a song that speaks of love as something that gives life meaning, a reason to sing, and even something that makes men feel like royalty (Fain & Webster, 1955). The attempt to define love as an integral human emotion has taken many forms. In an attempt to measure this construct, scholars have grappled with the enigmatic concept of love, as evidenced by numerous studies and theoretical models (Hatfield et al., 2011; Graham & Christianson, 2009). Noteworthy among early efforts is Zick Rubin's 1970 study, which differentiated between liking and loving, and further distinguished between compassionate and erotic love. While subsequent research validated these measures (Sternberg, 1997; Sprecher & Regan, 1998; Hendrick & Hendrick, 1989; Rubin, 1970; Sprecher & Metts, 1989), they often presumed their own validity without critically examining if they truly encapsulated love. Moreover, these theories frequently categorized love into various types, such as passionate love versus parental love. Recent research shows that most of these measures have severe statistical flaws (i.e., high collinearity, extra factors, poor construct development) (Reyes-Fournier et al., 2024). This article will present the new findings on love and offer a construct definition founded in statistical findings, neuropsychology, and decision making theory.

2. Introduction

Psychologists regard love as a quintessential emotion, viewed by many as the most typical form of emotional expression (Fehr & Russell, 1984). This idea aligns with the prototypical theory of emotion, which integrates well into evidence-based fields such as cognitive psychology (Clore & Ortony, 1991)—suggesting that our emotions exist because we perceive them to. Conversely, Plutchik's Psychoevolutionary Theory of Emotions (1980) argues that emotions underpin not only behaviors but also shape personality traits and influence pathological processes in both humans and animals. His framework identifies eight fundamental emotions, with love emerging from combinations of joy and trust. Differing from this, Ekman

(1992) identifies only six universal emotions, excluding love, describing emotions as appraisal mechanisms influenced by evolutionary and individual factors, involving both psychological and physiological elements. This ongoing debate raises questions about the nature of emotions: Are they inherent, or merely elements within our broader human experience (Mason & Capitanio, 2012)?

Despite the public reputation that love has, there is little evidence that it is a distinct emotion. Unlike fear, which is innate, immediate, and linked to specific regions like the amygdala and limbic system in the brain (Silva et al., 2016), there is no definitive neural "love spot". Research suggests that neurotransmitters play a role in generating a "cocktail" of chemicals, such as arginine vasopressin, dopamine, and oxytocin, that contribute to the pleasurable or rewarding feelings associated with human connections (Seshadri, 2016). Emotionally, this can be understood within a two-dimensional framework involving core affect (valenced states) and activation (arousal) (Russell & Barrett, 1999). Instead, the evidence supports a model of the brain as predictive, not just reactive, performing allostasis—anticipating needs and initiating processes to meet them. According to Feldman (2017), using Bayesian logic, the brain constructs emotional simulations that society has deemed successful or acceptable, positioning love as an allostatic response that fulfills individual needs. This models fits with Prospect Theory that posits that people make decisions based on the potential value of losses and gains rather than the final outcome, and that people evaluate these losses and gains using certain heuristics (Kahneman & Tversky, 1979). Moreover, the most influential aspects of Prospect Theory is the concept of loss aversion, which suggests that losses are perceived as more significant than equivalent gains. These theories offer a different viewpoint on what love is as a social construct with both positive and negative valenced perspectives.

3. Design

Participants A total of 1,101 adults were recruited through Amazon Mechanical Turk (MTurk) using CloudResearch for this study conducted in January 2024. Participants received $0.20 for completing the survey, which was administered via the Qualtrics platform. Of these participants, 892 completed latency testing for the words and 231 completed all blocks of the IAT.

3.1. Instruments

Love Lexicon Development: Building data from the Reyes-Fournier et al. (2024), which included participant-provided definitions and language from nine measures, we synthesized a lexicon of 157 words. This lexicon was refined through analyses of word frequency, linguistic similarity cosines, and the removal of non-essential words and articles.

Implicit Association Test (IAT): The IAT was utilized to assess participants' attitudes towards "love words." Following Greenwald et al. (1998), the IAT measures differential associations between two target concepts. In this context, participants were presented with words and asked to categorize them as either "love word" or "not love word" and as "positive love word" or "negative love word." This test captures both the participant's attitudinal bias towards the word and the latency of their response. Words were presented without prior valancing.

3.2. Procedure

Utilizing the 157-word lexicon, words were randomly assigned to categories: "Love Words" or "Not Love Words" for the fourth block of the test, and "Positive Love Words" or "Negative Love Words" for the seventh block. The words were randomly distributed across a seven-block IAT.

The IAT comprised three practice blocks (Blocks 1, 2, and 5) where words were randomly presented on either side of the screen. These blocks aimed to familiarize participants with categorizing target stimuli (Block 1 and 5) and attribute stimuli (Block 2). Blocks 3 and 6 served as practice for the associative tests, with Block 3 associating "Love Words" (left-side response) with "Not Love Words" (right-side response) and Block 6 reversing this for "Negative Love Words" (left) and "Positive Love Words" (right). Each practice block contained twenty trials, while the associative test blocks contained forty trials each. Participants progressed through different sets, with subsequent sets varying the placement of responses (e.g., Set 2 reversed the positions from Set 1, and so on). This design not only tested the association of words with "love" or its valence but also measured the speed of response, indicating implicit attitudes. Per guidelines by Greenwald et al (2003), latencies under 300ms and over 3000ms were ignored.

3.3. Data collection

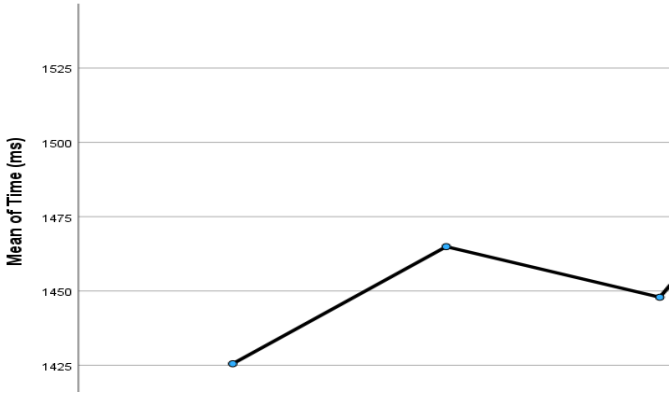
The test measured both the choice of categorization and the latency of response to each stimulus. Additional details on the IAT setup are available in the appendix, which includes a sample IAT presentation screenshot.

4. Results

This study had an international sample consisting of 1102 participants from North American and the European Union. The participants ranged in age from 18-65+ (18-24, *n* = 55; 25-34, *n* = 201;35-44, *n* = 213; 45-54, *n* = 248; 55-64, *n* = 175, 65+, *n* = 127; over 18 (those who declined to state their age range but affirmed they were over 18), *n* = 3). Primarily, the language the participants spoke was English (*n* = 976) and Caucasian (*n* = 761). The participants reported 19 different birth languages. Most of the participants identified as male (*n* = 684), heterosexual (*n* = 825), and currently separated (*n* = 451).

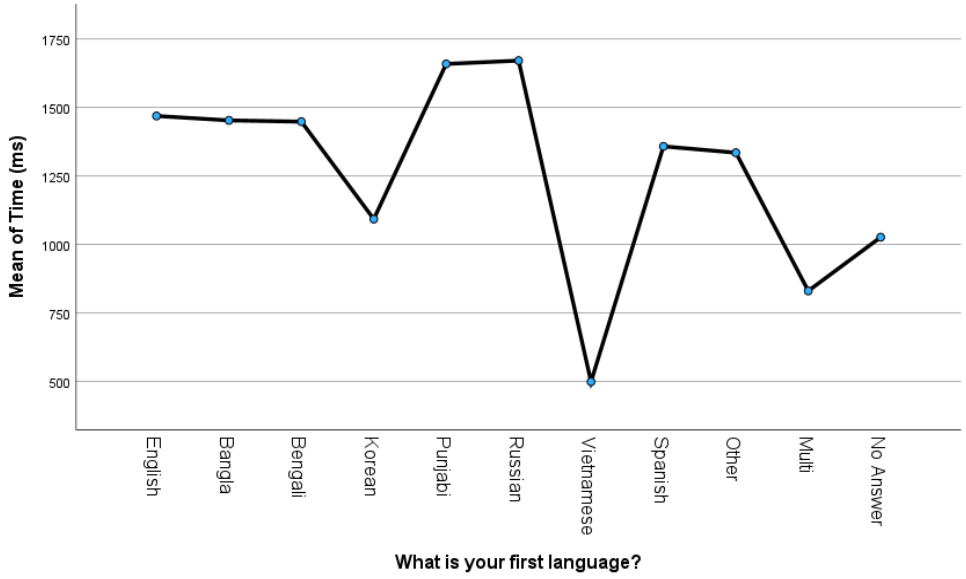
An independent sample T-test showed a very small effect size in latency between positively valenced words and negatively valenced words (*d* = .023, 95% *CI* [.013, .033]). The latency between words identified as love compared to not love showed a very small negative effect size (*d* = -.028, 95% *CI* [-.036, -.020]). The latency and the sentiment showed a small negative correlation (*r*(373078)=-.011, *p*<.001). The word Heart was the word most frequently identified as a positive (89%) and it was identified as a love word 88% of the time. Adore, Lovingness, Romance, and Sweet had the same top frequencies (89%) for words identified as love words. These finding are shown in Figure 1.

Figure 1. Between Group Latency.



Using the sample in which the participants completed all 7 blocks of the IAT, a one-way ANOVA showed a significant effect between groups for words identified as positive, negative, love, and not love (*F*(3, 5163) = 5.02, *p* = .002). Post hoc tests using Tukey's HSD indicated that words identified as positive (*M* = 1425.51, *SD* = 650.53) resulted in significantly lower latency than non-love words (*M* = 1531.98, *SD* = 624.81, *p* < .001). A one-way ANOVA also showed a significant effect between groups for the various native languages of the participants (*F*(10, 5156) = 6.95, *p* < .001). As seen in Figure 2, participants with Vietnamese as their first language had the lowest mean latency (*M* = 498.57, *SD* = 90.40) and Russian had the highest latencies (*M* = 1670.74, *SD* = 579.52). As a reference, English showed *M* = 1468.60, *SD* = 630.47.

Figure 2. Latency vs First Language.



Using the Greenwald et al (2003) recommendations for scoring and interpreting the IAT results, a single sample *T*-Test was performed which indicated that there is a medium to large implicit bias effect favoring positive love words over negative non-love words ($t(231) = 9.8682$, $p < .001$, $M = .50$, $SD = .78$, $d = .65$).

4. Discussion and conclusion

The results of this study advance the research towards a social linguistic affective model and away from the classic models of evolutionary psychology as it relates to the construct of love. If evolutionary models were to apply to the construct of love, one would expect to see a cognitive latency favoring love, which give an evolutionary advantage. When placed under cognitive load, there was no direct linear difference between the latency to identify positive versus negative love words nor to differentiate between love words.

These findings align more closely with contemporary sociolinguistic models that emphasize the role of language, culture, and social interaction in shaping emotional constructs such as love. The relatively small effect sizes in latency suggest that associations with love-related language are not universally automatic but are likely influenced by individual differences, contextual factors, and linguistic background. This is further evidenced by the implicit bias towards positive love. The moderate implicit bias effect found suggests that, while participants generally favored positive love-related words, this preference is not absolute. The variability in responses—both across language groups and across individual words—highlights the complexity and fluidity of the love construct. This may point toward a more dynamic and culturally embedded understanding of love, as opposed to a fixed, evolutionarily conserved cognitive schema.

The significant differences in response latency by birth language support the notion that implicit affective associations are not fixed but are modulated by cultural and linguistic exposure. For example, the notably faster response times for Vietnamese speakers and slower times for Russian speakers may reflect differences in how love-related concepts are linguistically and culturally framed. A notable result was that the word Heart was associated positively with love more than any other words on this list. This word is purely contextual, with no actionable or behavioral characteristics. Instead, this word is a tokenized representation of love and the association is defined by the cultural norms. Future research could further explore how variables such as relationship history, cultural norms, and even current mood states interact with language to shape affective word processing and implicit associations with love.

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PSYCHOLOGICAL AND SOCIAL IMPACT OF COVID-19 ON THE ELDERLY IN LATVIA: CHANGES IN COMMUNICATION PATTERNS

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Abstract

The COVID-19 pandemic has profoundly impacted older adults, a group particularly vulnerable to both the virus and the social isolation measures implemented to contain its spread. This study explores the effects of the pandemic on the communication patterns and psychological well-being of elderly Latvians, utilizing data from the Survey of Health, Ageing, and Retirement in Europe (SHARE). We focused on changes in social and digital interactions and their psychological ramifications across this demographic. *Methods:* To investigate these impacts, we analysed data from 744 respondents aged 50 years and older, drawn from the national component of the SHARE Wave 8, including COVID 1 Survey. The questionnaire included validated scales to assess changes in communication patterns, levels of social isolation, and psychological well-being, including scales for anxiety and loneliness. Descriptive statistics provided a broad overview of demographic characteristics and baseline communication habits, while chi-square tests were applied to examine the association between categorical variables such as age groups, digital communication adoption, and reported psychological distress. These methods offered insights into the direct correlation between increased digital communication in response to decreased face-to-face interactions and heightened levels of psychological distress among the elderly. *Results:* Results indicate a significant reduction in face-to-face social interactions with family, friends, and neighbours, particularly during the early stages of the pandemic. Concurrently, the use of digital communication increased as a substitute, though this adaptation was unevenly distributed. Individuals aged 50–59 were more likely to engage in digital interactions, while those aged 80 and above showed limited adoption due to technological barriers such as lack of access, digital literacy, and physical challenges like impaired vision or dexterity. Psychologically, the enforced isolation and communication changes had a profound effect. Many elderly individuals reported increased anxiety, sadness, loneliness, and even cognitive strain, exacerbated by the loss of regular face-to-face contact and the difficulties in adapting to new forms of digital communication. For some, digital interactions provided a crucial lifeline, maintaining connections with family and friends. However, for others, these interactions highlighted their limitations, deepening feelings of inadequacy and frustration. *Conclusions***:** The study highlights the dual role of digital communication during the pandemic—acting as a buffer against isolation for those who could use it effectively, while underscoring the risks of exclusion for those who could not. These findings emphasize the need for proactive policies to address both the social and psychological vulnerabilities of older adults in times of crisis. Recommendations include increasing access to user-friendly technology, providing digital literacy training, and ensuring accessible mental health support to mitigate the risks of isolation and its psychological effects.

Keywords: *Elderly, psychological impact, social isolation, digital communication, Latvia.*

1. Introduction

The COVID-19 pandemic has swept across the globe, leaving no population untouched, but it has particularly affected vulnerable groups, among which the elderly stand out. In Latvia, as in many other countries, older adults have faced not only the direct threat of the virus but also the indirect consequences of social isolation measures aimed at containing its spread. These measures, while necessary, have often resulted in significant disruptions to daily life and communication habits (Reine et al., 2021a).

This study focuses on the psychological and social impacts of these disruptions among elderly Latvians. Given their vulnerability to both the disease and its broader societal impacts, understanding how their communication patterns have shifted is crucial. Prior research indicates that such disruptions can lead

to increased feelings of loneliness, anxiety, and other psychological distresses, which in turn can exacerbate pre-existing health conditions (Koroļeva et al., 2021).

By utilizing data from the Survey of Health, Ageing, and Retirement in Europe (SHARE) (Börsch-Supan, et al., 2013), this research aims to shed light on the changes in social and digital interactions among the elderly in Latvia during the pandemic. It examines how these changes correlate with psychological well-being, providing insights that could inform both current and future strategies to support this demographic through ongoing and future public health crises. This exploration is not only relevant for public health officials and policymakers but also for the network of caregivers and family members who support the aging population.

The findings of this study are anticipated to contribute to the growing body of knowledge on the resilience and vulnerabilities of the elderly in times of crisis, underlining the importance of targeted interventions to maintain their well-being during unprecedented times.

2. Literature review

The onset of the COVID-19 pandemic has underscored the acute vulnerability of the elderly population to both the virus and the consequent social isolation due to public health measures. This literature review examines prior research on the impact of pandemics on elderly communication patterns and psychological well-being, with a focus on the shifts toward digital communication and the psychological ramifications of these changes.

- **Impact of Social Isolation on Elderly Psychological Health**

Research has consistently highlighted the psychological impacts of social isolation on the elderly. Studies like those by Cacioppo and Cacioppo (2014; 2018) have detailed how social isolation can lead to a range of adverse health outcomes, including high blood pressure, heart disease, and increased mortality, alongside mental health issues such as depression, anxiety, and cognitive decline. The relevance of these findings has been magnified during the COVID-19 pandemic, where enforced isolation has become more prevalent, especially among the older adults who may already be at risk of loneliness due to existing social network dynamics (Hao et al., 2024).

- **Changes in Communication Patterns**

The pandemic has significantly altered communication patterns, particularly through a reduction in face-to-face interactions and an increase in digital engagements. Studies conducted in the Baltic states during the pandemic reveal a sharp decline in in-person contacts among the older adults, with many shifting towards digital platforms for communication with family and friends as a coping mechanism (Pasupathy et al., 2023) . However, the transition has not been seamless. According to our earlier findings (Reine et al., 2021b), the effectiveness of digital communication is heavily influenced by factors such as digital literacy, access to technology, and the physical capability to use these technologies.

- **Digital Literacy and Technological Barriers**

The role of digital literacy in mitigating the effects of social isolation has been an important area of investigation. Our earlier study (Reine et al., 2021b) we highlighted that while higher educational levels are strongly associated with the use of digital technology, significant barriers still exist for the oldest segments of the population, who often lack the necessary skills or resources to effectively engage with these tools. This disparity suggests a critical gap in support and education that needs addressing to prevent exacerbating social inequalities.

- **Psychological Effects of Communication Shifts**

The literature also indicates that shifts in communication patterns have nuanced psychological effects on the older persons. For instance, while digital communication can serve as a crucial lifeline, it is not a complete substitute for physical interaction. The lack of personal contact has been shown to exacerbate feelings of loneliness and isolation, which can lead to more severe psychological issues over time (Harvard Medical School, 2024). It proves the complex interplay between social behaviours, technology use, and psychological health in the elderly during crises like the COVID-19 pandemic. It highlights the need for comprehensive strategies that address both technological accessibility and the broader social needs of this vulnerable population (Vives-Rodriguezet al., 2024).

3. Methods

3.1. Data source

The primary data source for this study is Wave 8 and COVID 1 Survey of Health, Ageing, and Retirement in Europe (SHARE, 2024a; 2024b), an extensive and multidisciplinary database collecting information about health, socio-economic status, and social and family networks of individuals aged 50 and above. For the purposes of this study, the dataset specifically includes 744 respondents aged 50 years and older, residents from Latvia, capturing a wide demographic scope that includes various socio-economic backgrounds, differing levels of education, and a balanced gender distribution. This dataset not only

facilitates a comprehensive analysis of the elderly population in Latvia but also allows for comparative insights with older adults across Europe.

3.2. Analytical approach

In this study, the analysis of the SHARE data was approached through descriptive statistics and chi-square tests, which collectively provided a robust examination of the impacts of COVID-19 on the older adults in Latvia. Descriptive statistics were employed to delineate the demographic characteristics of the study population and to summarize key variables such as the types and frequencies of communication alongside reported psychological impacts. This initial analysis was crucial for establishing a clear understanding of the basic trends within the data.

Further, chi-square tests were utilized to explore the associations between categorical variables. This method proved essential in identifying significant differences in the use of digital communication tools among different age groups and between genders. By highlighting these differences, the chi-square tests helped to reveal the extent of digital divide and its implications on the psychological well-being of the elderly. These statistical methods provided a comprehensive view of how shifts in communication methods during the pandemic have influenced the well-being of elderly individuals in Latvia. The findings from this analytical approach offer insights that could potentially be applied to similar demographic groups in other geographic settings, thereby contributing to the broader understanding of the pandemic's impact on older populations. This approach ensures that the conclusions drawn are well-supported by empirical evidence, reflecting the real-world scenarios faced by the elderly during the COVID-19 crisis.

4. Results

The analysis of the SHARE dataset provides an in-depth view of the shifts in communication patterns among the elderly in Latvia during the COVID-19 pandemic, as well as the subsequent psychological impacts. A notable finding is the significant reduction in face-to-face interactions, which decreased by approximately 60% during the initial months following the outbreak. Concurrently, there was a marked increase in the adoption of digital communication technologies, with about a 45% increase reported among the same demographic group. This shift illustrates a crucial adaptation to the social distancing measures and restrictions on physical gatherings imposed during the pandemic. Table 1 below details the changes in communication modes before and during the COVID-19 pandemic.

Table 1. Changes in Communication Modes Pre and During COVID-19 Pandemic.

Communication Mode	Pre-Pandemic (%)	During Pandemic (%)	Change (%)
Face-to-Face	78	18	-60
Digital	30	75	+45
Telephone	52	65	+13

The adaptation to digital communication, however, varied significantly across different age groups. Younger seniors, particularly those between the ages of 50-59, showed the highest levels of digital engagement, likely due to better prior exposure to technology and relatively fewer physical limitations. On the other hand, those aged 80 and above exhibited the least engagement, constrained by barriers such as lower digital literacy, and physical challenges like impaired vision or dexterity.

The psychological impact of these changes was profound, with reports of anxiety, sadness, and loneliness increasing by 40% from pre-pandemic levels across all age groups. Women and individuals living alone reported disproportionately higher levels of psychological distress, likely exacerbated by the reduced physical interaction and the challenges associated with mastering new digital communication tools. Table 2 integrates the prevalence of psychological distress with the adoption of digital communication across different age groups, providing a comprehensive view of how these factors interrelate during the pandemic.

This indicates the critical need for interventions that address both technological accessibility and mental health support. The findings emphasize the importance of policies that promote digital inclusion and provide psychological support tailored to the diverse needs of the older population, particularly considering the uneven distribution of digital literacy and physical capability among the different age groups.

Table 2. Prevalence of Psychological Distress and Digital Communication Adoption by Age Group.

Age Group	Psychological Distress Pre-Pandemic (%)	Psychological Distress During Pandemic (%)	Change in Distress (%)	Digital Communication Adoption (%)	Factors Impacting Adoption
50-59	20	60	+40	75	High digital literacy; better access to technology
60-69	25	65	+40	65	Moderate digital literacy; some access issues
70-79	30	70	+40	40	Lower digital literacy; more significant access issues
80+	35	75	+40	20	Very low digital literacy; significant physical and access challenges

5. Discussion

The findings from this study highlight significant changes in communication patterns among the older adults in Latvia during the COVID-19 pandemic, coupled with notable increases in psychological distress. The increased reliance on digital communication as a substitute for face-to-face interactions reflects a critical adaptive response to the enforced social distancing measures. However, this shift has not been uniformly beneficial across all segments of the older population, revealing underlying disparities that warrant careful consideration in public health responses and policy formulations (Reine et al., 2021a).

Digital Divide and Its Implications. The data illustrates a clear digital divide, with younger seniors (ages 50-59) adapting more readily to digital platforms compared to those over 80, who faced considerable challenges. These older seniors are hindered by lower digital literacy, lack of access to necessary technology, and physical limitations such as impaired vision or dexterity. This divide not only impacts their ability to maintain social contacts but also their access to essential services and information that have increasingly moved online during the pandemic (Reine et al., 2021b). The resultant isolation for those unable to engage digitally is a significant concern, as it is closely linked with increased reports of anxiety, loneliness, and sadness (Koroļeva, et al., 2021).

Psychological Impact of Isolation. The increase in psychological distress across all age groups—particularly among women and those living alone—underscores the profound mental health implications of social isolation. While digital communication can serve as a lifeline, it is not a complete substitute for the benefits derived from in-person interactions. The tactile and emotional elements of face-to-face contact play a crucial role in mental well-being, which digital interactions often fail to replicate (Vives-Rodriguezet al., 2024). This distinction may partly explain why, despite high levels of digital engagement, there remains a significant increase in psychological distress among the older adults (Harvard Medical School, 2024).

Policy Implications. The findings from this study suggest several policy implications. First, there is a need for targeted interventions to improve digital literacy among the elderly. Such programs should not only focus on basic skills training but also on providing accessible and user-friendly technology designed to meet the specific needs of older adults. Moreover, policy efforts must consider the physical and cognitive limitations that can hinder the effective use of digital technologies in this age group. Second, the persistent psychological distress noted despite increased digital communication suggests that mental health services need to be more robust and accessible. Community-based programs that offer both digital and safe in-person interactions could help mitigate some of the psychological impacts of social isolation. Additionally, mental health support tailored specifically for the elderly should be integrated into regular health care services to ensure that these needs are systematically addressed.

Future Research. Further research is needed to explore the long-term effects of these communication shifts and their impact on the well-being of the elderly. Longitudinal studies could provide deeper insights into how prolonged reliance on digital communication affects mental health and social connections. Furthermore, comparative studies across different cultures and health care systems could highlight best practices and innovative approaches to supporting the elderly during similar crises.

6. Conclusion

In conclusion, while digital communication technologies have provided necessary alternatives for maintaining social connections during the COVID-19 pandemic, they also highlight significant challenges and disparities. Addressing these issues requires a holistic approach that combines advancements in

technology with enhanced support for mental health, ensuring that all elderly individuals can navigate these challenging times with dignity and support

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ALCOHOL USE BEHAVIOURS AND LIFE SATISFACTION: THE ROLE OF PSYCHOLOGICAL FLEXIBILITY

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Abstract

In Canada and the United States, there is currently an alcohol use disorder (AUD) crisis (Lodge et al., 2022), which necessitates the development of interventions focused on addressing the high prevalence of alcohol use. Psychological flexibility (PF) involves being consciously present in the moment and engaging in behaviours that align with personal values. Increased PF is associated with higher psychological well-being (Francis et al., 2016) and more positive addiction-related outcomes, including higher treatment adherence and fewer avoidance behaviours and cravings (Lee et al., 2015). The primary objective of this research was to examine the mediating role of PF in the relationship between daily use/alcohol use disorder symptoms and satisfaction with life (SWL). In total, we recruited 525 participants (M_{age} = 29.95 years, *SD* = 16.81 years) from undergraduate psychology classes in Canada, the general population via social media, and Prolific, a crowdsourcing tool. Participants completed an online questionnaire package that included the Comprehensive Inventory of Acceptance and Commitment Therapy (CompACT; Francis et al., 2016) to assess overall PF and subscales to measure behavioural awareness (BA), openness to experience (OE), and valued action (VA), daily/almost daily alcohol use (ASI; McLellan et al., 1992), DSM-5 criteria to assess AUD symptoms, and SWL scale (Diener et al., 1985). Overall, 89 participants reported never consuming alcohol, 31 reported consuming alcohol less than once a year, 70 reported consuming alcohol in the past year, 249 reported consuming alcohol in the past 30 days, and 72 reported consuming alcohol daily/almost daily. There were statistically significant zero-order correlations between SWLS and all aspects of PF, as well as inverse correlations between AUD and two PF subtypes, BA and OE. Two mediation analyses were conducted to examine if PF mediated the relationship between alcohol use and SWL. In the first model, the CompACT subscales did not mediate the relationship between daily alcohol use and SWL. In the second model, two dimensions of PF, VA (B = -0.0298, 95% CI -0.0555 to -0.0041) and OE (B = -0.0370, 95% CI: -0.0626 to -0.0115) partially mediated the relationship between self-reported AUD symptoms and SWL. These results highlight the mediating role of aspects of PF, specifically VA and OE, in the relationship between AUD and SWL. Interventions that focus on enhancing openness to both positive and negative experiences and focusing on personal values could help individuals with AUD maintain higher life satisfaction.

Keywords: *Alcohol use disorder, psychological flexibility, satisfaction with life.*

1. Introduction

In Canada and the United States, there is currently an alcohol use disorder (AUD) crisis (Lodge et al., 2022); In 2017, approximately 140.6 million Americans aged 12 and older were current alcohol users with 66.6 million considered as binge drinkers and 14.5 million meeting the criteria for an AUD (Substance Abuse and Mental Health Services Administration., 2018), with one third of Americans expected to meet the criteria for AUD at one point in their life (Ignaszewski, 2021). Likewise, during COVID-19, approximately 25% of Canadians self-reported increased alcohol consumption due to boredom, schedule changes, and stress, while 12% reported excessive alcohol consumption when drinking (Canadian Centre on Substance Use and Addiction, 2021). Psychosocial factors have been shown to be the core of AUD treatments, such that self-efficacy and goal alignment are said to be key components for predicting AUD treatment and recovery (Paquette et al., 2022).

Life satisfaction is an individual assessment of one's life and focuses on the subjective comparison between current circumstances and the standard which one considers is ideal for themselves (Diener et al., 1985). Many factors that affect life satisfaction include psychological features, gender, age, lifestyle, and leisure satisfaction (Proctor et al., 2017). Furthermore, life satisfaction is a key indicator for mental health

and is positively connected to positive personal, psychological, behavioral, interpersonal, intrapersonal, and social outcomes, as well as positive physical health outcomes, including fewer chronic health conditions, and less physical functioning limitations (Proctor et al., 2017).

AUD brings about a variety of problems including loss of social or familial relationships, run-ins with the law, and health related problems (Ignaszewski, 2021). Therefore, it's not surprising that studies have shown the negative impacts that AUD has on one's satisfaction with their life. Research suggests that patients with a current AUD report a lower overall health related quality of life and satisfaction with life (Proctor et al., 2017). Given the effects of AUD on different life domains, the assessment of life satisfaction in individuals with AUD is important because it allows for an understanding of how excessive/problematic alcohol use impacts one's evaluation of their life in multiple domains.

Psychological Flexibility. The CompACT scale was developed to assess psychological flexibility in terms of three dyadic processes defined as: (1) "Openness from experience and detachment from literality" (defusion; acceptance); (2) "perspective taking and self-awareness" (self as context; present moment awareness); (3) "motivation and activation" (committed action; values) (Francis et al., 2016). Therefore, the three factors of the CompACT (i.e., behavioural awareness (BA), openness to experience (OE), and valued action (VA)) correspond to these processes (Francis et al., 2016). BA can be defined as the ability to focus one's attention intentionally, paying attention to the present moment, and shifting attention when required. To do this effectively, one must be aware of their behaviours and the effects (McCracken, 2024). OE can be defined as the ability to accept different outcomes or feelings, both positive and negative. This could be the willingness to accept pain, fear, anxiety, sadness, or negative life events that are out of our control. To do this, one must refrain from avoidance behaviours and embrace the idea that all experiences foster growth and maturity (McCracken, 2024). VA can be defined as the ability to clarify one's goals and values and act in accordance with them by engaging in behaviours that support and promote them. This involves initiating actions that align with one's goals and values (McCracken, 2024).

Psychological Flexibility and Alcohol Use Behaviours. Psychological flexibility (PF) is the capacity to persist or change one's behaviour to be open and accepting of personal thoughts and feelings, to appreciate and adapt to different situations, and respond to situations that facilitate one's personal values and goals (McCracken & Morley, 2014). PF has been shown to mediate important therapeutic outcomes, such that higher PF is associated with lower psychological distress and higher life satisfaction (Francis et al., 2016). In individuals with AUD, PF provides alternatives to maladaptive coping strategies, as well as decreasing attempts to control or avoid distressing internal experiences, such as cravings (Lee et al., 2015). Interventions targeting PF have demonstrated significant improvements regarding AUD-related outcomes, such as higher adherence to treatment, fewer avoidance behaviours, and less cravings (Lee et al., 2015).

The Current Study. Although there have been various studies investigating the role of PF in psychological disorders, few studies look at psychological flexibility on disordered alcohol use and life satisfaction (Masuda & Tully, 2012), therefore, it is important to explore this gap in the literature. Thus, the purpose of the current study is to examine the role of the pillars of PF, specifically OE, BA, and VA, in disordered alcohol use behaviours and life satisfaction. It is hypothesized that individuals who score higher in PF will score higher on life satisfaction and will be less likely to engage in disordered alcohol use behaviours.

2. Method

2.1. Participants

A total of 525 participants were recruited; 271 undergraduate students were recruited through SONA; an online research recruitment portal, 111 community participants were recruited via social media postings, and 143 participants were recruited through Prolific-an online recruitment service. In total, there were 331 women (M_{age}=27.86, SD=13.96), 173 men (M_{age}=32.62, SD=14.51), 9 non-binary, 8 trans, 1 two-spirited, 2 identified as another gender not listed, and 1 participant preferred not to answer.

2.2. Materials

The Addiction Severity Index (ASI; McLellan et al., 1992) was administered to assess the frequency of alcohol use. Participants used a 5-point scale, ranging from never to daily/almost daily, to rate their substance use. This scale demonstrates a strong test-retest reliability and high internal consistency (α = .84). *The DSM-5 Substance Use Criteria* (American Psychiatric Association, 2013) assessed problematic past year alcohol use. The scale uses a checklist (yes/no) to allow participants to indicate if they experience symptoms associated with substance misuse (i.e., craving, tolerance, withdrawal, etc.). The scale includes 12 items associated with problematic alcohol use (e.g., "do you experience mental and/or physical discomfort when sober?"), with higher scores indicating greater alcohol use severity. *The*

Satisfaction with Life Scale (SWLS; Diener et al., 1985) is a five-item measure on a seven-point Likert scale from strongly disagree to strongly agree (e.g., "I am satisfied with my life"). This scale has been shown to have good internal consistency and reliability (α = .90) (Diener et al., 1985). *The Comprehensive Inventory of Acceptance and Commitment Therapy* (Francis et al., 2016) is a 23-item measure with three subscales: (1) Openness to Experience (OE; e.g., "I work hard to keep out upsetting feelings"), (2) Behavioural Awareness (BA; e.g., "I find it difficult to stay focused on what's happening in the present"), and (3) Valued Action (VA; e.g., "I behave in line with my personal values"). The scale has excellent internal consistency for the total (α = .91), and subscale scores (α= .84 for OE, α= .89 for BA, and α= .90 for VA; Ong et al., 2020).

2.3. Procedure

Prior to data collection, this research was reviewed by the Research Ethics Board at the University of New Brunswick (REB 2024-153). Participants accessed the online survey on Qualtrics. After providing informed consent, participants completed the questionnaire package. The demographics questionnaire was always presented first, followed by the questionnaires presented in random order. After reading a debriefing form, participants could provide their email to receive an incentive.

3. Results

Alcohol Addiction Severity Index. Overall, 89 (17.4%) participants reported never consuming alcohol, 31 (6.1%) reported consuming alcohol less than once a year, 70 (13.7%) reported consuming alcohol in the past year, 249 (48.7%) reported consuming alcohol in the past 30 days, and 72 (14.1%) reported consuming alcohol daily/almost daily. We used *t*-tests to assess the effects of daily alcohol use on psychological outcomes (see Table 1). Overall, daily alcohol users had significantly lower SWLS scores and higher DSM symptom scores. Interestingly, with the exception of CompACT: BA, there were no differences in PF for daily and non-daily alcohol users.

Table 1. Differences in the mean (standard deviation) for daily vs. non-daily alcohol users.

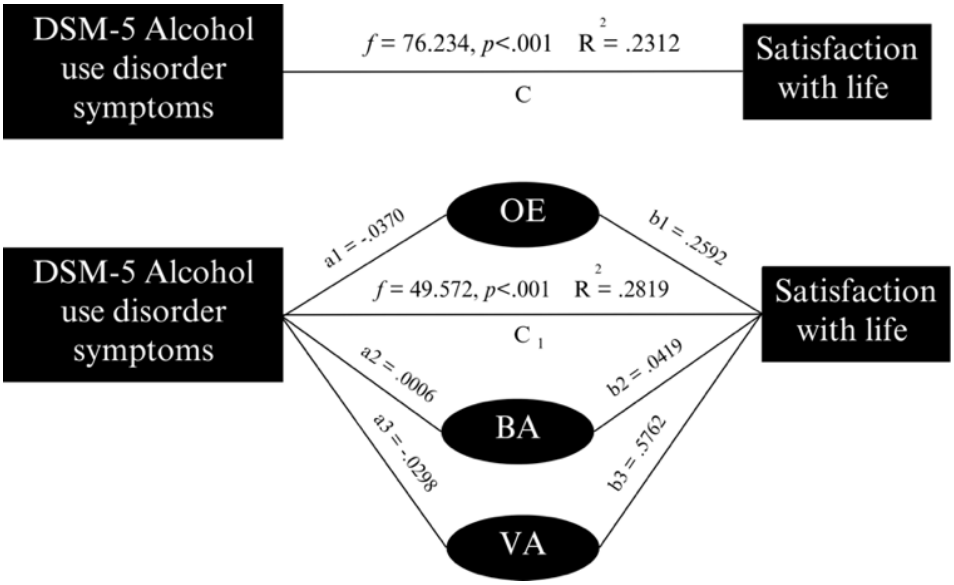
	Daily Alcohol Use		***t*(*p*)**	**Cohen's *d***
	No (*n*=439)	**Yes (*n*=72)**		
SWLS	4.44 (1.41)	4.06 (1.73)	1.74 (.043)	1.46
CompACT-Total	3.35 (0.83)	3.49 (0.89)	-1.34 (.09)	0.84
CompACT-Openness to Experience	2.82 (1.04)	2.97 (1.10)	-1.09 (.138)	1.05
CompACT-Behavioural Awaremess	2.99 (1.29)	3.35 (1.28)	-2.19 (.014)	1.29
CompACT-Valued Action	4.24 (1.06)	4.24 (0.99)	-0.016 (.493)	1.05
DSM Symptoms	1.88 (3.18)	6.11 (3.30)	-10.39 (<.001)	3.20
Age	27.05 (12.48)	43.81 (15.10)	-10.22 (<.001)	12.88

Note. *For SWLS, equal variances were not assumed.*

There were statistically significant zero-order correlations between SWL and all aspects of PF, CompACT: Total $r(503) = .469$, $p<.001$; CompACT: OE, $r(503) = .336$, $p<.001$; CompACT: BA, $r(503) = .232$, $p<.001$; and CompACT: VA, $r(503) = .482$, $p<.001$, as well as inverse correlations between AUD and CompACT: Total, $r(503) = -.117$, $p<.001$; CompACT: OE, $r(503) = -.130$, $p<.001$, and CompACT: VA, $r(503) = -.105$, $p<.001$. Although daily alcohol use was weakly associated with CompACT: BA, $r(503) = .097$, $p<.001$, daily use was not correlated with other aspects of PF. The correlation between self-reported AUD symptoms and SWLS was statistically significant, $r(503) = -.156$, $p<.001$. Likewise, the correlation between self-reported AUD symptoms and SWL, when controlling for all aspects of PF, was also shown to be statistically significant, $r(503)= -.108$, $p=.007$.

To examine if PF mediated the relationship between alcohol use and SWL, two mediation analyses were conducted using Hayes PROCESS module. The three pillars of PF, CompACT: OE; CompACT: BA; CompACT: VA, were entered as mediators in the relationship between daily alcohol use and SWL for model 1 and between self-reported AUD symptoms and SWL for model 2. For model 1, the indirect effects of CompACT subscales were not statistically significant and thus, did not mediate the relationship between daily alcohol use and SWL; In model 2, the indirect effect of CompACT: VA (B = -0.0298, 95% CI -0.0555 to -0.0041) and OE (B = -0.0370, 95% CI: -0.0626 to -0.0115) were statistically significant and therefore, partially mediated the relationship between self-reported AUD symptoms and SWL (see Figure 1).

Figure 1. Mediation analysis of psychological flexibility subtypes on DSM self-reported AUD symptoms and life satisfaction.



4. Discussion

In the current study, although there were zero-order correlations between PF and SWL, PF did not mediate the relationship between daily/almost daily alcohol use and SWL. Interestingly, two aspects of PF, VA and OE, partially mediated the relationship between self-reported AUD symptoms and SWL. These results are consistent with previous findings, such that habitual drinking does not seem to have severe detrimental effects on one's working memory, inhibitory control, and cognitive flexibility, in the absence of an AUD; however, research suggests that these cognitive processes are impaired in individuals suffering from an AUD (Bensmann et al., 2019). Therefore, higher PF, especially OE and VA, affects life satisfaction for individuals suffering from an AUD, but not for individuals who drink alcohol daily/almost daily without meeting criteria for an AUD. There were some limitations of this study that should be noted. First, the sample only consisted of individuals residing in North America, thus, reducing the generalizability of the study. Furthermore, we did not use a clinically diagnosed sample and instead, relied on self-report measures to assess AUD symptoms, therefore, we cannot directly imply that individuals who scored high on AUD symptoms have a clinically diagnosed AUD. Finally, the correlations were weak (but significant), which was likely, at least in part, due to these limitations. Therefore, future studies should address these limitations through the incorporation of a more generalizable sample and/or a clinical sample of individuals with AUD, which would likely yield a stronger relationship.

5. Conclusion

Disordered alcohol use impacts all aspects of one's life including occupational, family and interpersonal relationships, and physical health; however, despite these well-known consequences in the general population, only a small proportion of individuals who meet diagnostic criteria for AUD seek treatment (Ignaszewski, 2021). Research has shown that acceptance and commitment therapy can lead to increases in PF that can foster the reduction of alcohol use behaviours by encouraging individuals suffering from AUD to accept their inner selves and develop adaptive behaviours that align with their values, rather than resorting to avoidance behaviours (Albal & Buzlu, 2021). This study further supports the past research by highlighting the mediating role of aspects of PF, specifically VA and OE, in the relationship between AUD and SWL and provides further evidence that interventions that focus on enhancing openness to both positive and negative experiences and focusing on personal values could help individuals with AUD maintain higher life satisfaction.

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THE YOUNG SCHEMA QUESTIONNAIRE-REVISED (YSQ-R): RECENT DEVELOPMENTS IN THE ASSESSMENT OF EARLY MALADAPTIVE SCHEMAS

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Abstract

Early Maladaptive Schemas (EMS), arising from unmet childhood needs, are central to Schema Therapy. The Young Schema Questionnaire (YSQ) is the primary tool for assessing EMS, yet its psychometric properties have been subject to debate. This presentation highlights recent advancements in understanding and assessing EMS through rigorous psychometric evaluation of the YSQ and the development of the Young Schema Questionnaire-Revised (YSQ-R).

Initial factor analysis of the YSQ-Long Form (YSQ-L3) using a large sample (N=838) supported 20 rather than the originally proposed 18. This analysis found that the original Emotional Inhibition schema is better understood as two separate schemas: Emotional Constriction and Fear of Losing Control. Similarly, Punitiveness was better represented by two constructs: Punitiveness (Self) and Punitiveness (Other).

A subsequent study marked the first item-level psychometric assessment of the YSQ-L3 using Rasch analysis on a large clinical sample, providing further support for these findings. Findings revealed that 116 of 232 items showed poor fit. Removing the poorly fitting items resulted in a more psychometrically robust, revised version, the YSQ-R. This study also confirmed 20 rather than 18 EMS. This rigorous approach highlighted the need for a revised conceptualisation of specific EMS.

Finally, a study compared the predictive validity of the YSQ-L3, YSQ-Short Form (YSQ-S3), and the Rasch-derived YSQ-R in predicting psychological distress across three psychiatric groups and a non-clinical group. Test equating ensured comparability between versions. Results indicated that the YSQ-R and YSQ-L3 demonstrated similar predictive power, while the YSQ-S3 showed limitations in predicting EMS and symptom severity in PTSD and Substance Use groups.

These findings have important theoretical and practical implications. They suggest refining the conceptualisation of specific EMS and highlighting the YSQ-R as a more reliable and efficient tool for assessing schemas in both research and clinical settings. The YSQ-R offers the breadth of the long form with the brevity of the short form, making it a valuable instrument for advancing the assessment of EMS in Schema Therapy.

Keywords: *Schema Therapy, YSQ-R, Rasch analysis, assessment, Early Maladaptive Schemas.*

1. Introduction

The series of investigations presented in this paper focus on the assessment of Early Maladaptive Schemas (EMS) using the Young Schema Questionnaire-Revised (YSQ-R). The first study involves a factor analysis of the YSQ-Long Form (YSQ-L3), which supports the existence of 20 EMS rather than the originally proposed 18. The second study marks the first item-level psychometric assessment of the YSQ-L3 using Rasch analysis, resulting in a more clinically and statistically robust revised version, the YSQ-R. The final study compares the predictive validity of the YSQ-L3, YSQ-Short Form (YSQ-S3), and the YSQ-R in predicting psychological distress across different groups, highlighting the YSQ-R as a reliable and efficient tool for assessing EMS.

2. Study 1: Factor structure of the Young Schema Questionnaire (Long Form-3)

2.1. Introduction

Early Maladaptive Schemas (EMS) are transdiagnostic and have been found to underlie several chronic psychological disorders. The Young Schema Questionnaire (YSQ) is the most widely used tool to assess EMS, however findings of the primary and higher order factor structures of EMS have yielded mixed findings. The aim of this study was to assess the factor structure of the English version of the Young Schema Questionnaire Long Form-3 (YSQ-L3) using a large clinical sample and smaller non-clinical population. The items in the YSQ-L3 were evaluated as to how well they assess the underlying theoretical constructs of schema and schema domains.

2.2. Method

A primary and a higher order factor (HOF) analysis was undertaken on a large heterogeneous clinical sample (N = 574) and the total sample (*N* = 838) that included a small non-clinical population (*N* = 264).

2.3. Results

The primary factor analysis revealed 20 EMS. Of the 232 items, 182 loaded above .4 and were retained for the final analysis. The original Emotional Inhibition schema separated into Emotional Constriction and Fear of Losing Control, and Punitiveness likewise separated into Punitiveness (Self) and Punitiveness (Other). The HOF analysis indicated four domains: Emotional Dysregulation, Disconnection, Impaired Autonomy/ Underdeveloped Self, and Excessive Responsibility/Overcontrol. These overlap with the domains proposed by Young et al. (2003) but with some differences. The Emotion Dysregulation domain was unique to the current study. The mean item loading for each factor ranged from .52 to .82. The revised scale showed excellent overall internal consistency (a = .91).

2.4. Conclusions

This was the first study that investigated the psychometric properties of the English version of the YSQ-L3. The resultant domains fitted with existing literature of meaningful clinical phenomenon such as attachment and emotion dysregulation and their role in maintaining chronic psychological disorders.

3. Study 2

3.1. Introduction

Early Maladaptive Schemas (EMS) are transdiagnostic constructs that arise from unmet needs in childhood and become self-perpetuating through destructive patterns of interacting with the self, others, and the world. The Young Schema Questionnaire (YSQ) is the primary assessment tool used to assess 18 EMS, usually as part of Schema Therapy which is designed to treat complex and chronic psychological disorders. Psychometric evaluations of the YSQ have primarily focused on factor structure and assessing the higher-order schema domains and have consistently yielded mixed findings across all versions. The aim of this study was to refine the YSQ-L3 by identifying the most statistically and clinically appropriate items for each EMS using Rasch analysis.

3.2. Method

A Rasch analysis was undertaken on a large sample (N = 838) that included a heterogeneous clinical sample (N = 574) and a smaller non-clinical group (N = 264).

3.3. Results

Overall, 116 out of 232 items showed misfit across a number of statistical indicators. After the removal of these items, the fit improved for all subscales and showed good (.74) to excellent (.86) reliability with the exception of Enmeshment (.57). In line with previous research, items originally measuring Punitiveness were found to better fit two separate subscales, Punitiveness (Self) and Punitiveness (Other). Similarly, items assessing Emotional Inhibition fit better as two different constructs; Emotional Constriction, reflecting an over-control related to shame/embarrassment of showing emotions, and Fear of Losing Control, related to anxiety of the consequences if emotions are not contained.

3.4. Conclusions

This is the first study to apply a rigorous methodological process to item selection from the YSQ -L3. The findings of this study are significant given the wide use of this scale cross culturally in both clinical and research settings and offer a possible alternative to the current short form.

4. Study 3: The YSQ-R: Predictive validity and comparison to the Short and Long Form Young Schema Questionnaire

4.1. Introduction

The capacity of the Young Schema Questionnaire (YSQ) to predict psychopathology in specific clinical groups has consistently produced mixed findings. This study assessed three versions of the Young Schema Questionnaire (YSQ), including the long form (YSQ-L3), short form (YSQ-S3), and the recent Rasch-derived version, the YSQ-R, and their subscales, in predicting psychological distress in three different psychiatric groups and a non-clinical group.

4.2. Method

Test equating techniques were first applied to derive a common metric to ensure that each YSQ version was directly comparable. In the second stage, multiple regression analyses were employed to assess the predictive validity of each YSQ version and their subscales. The YSQ-R and YQ-L3 and their respective subscales were similar in their predictive power across all groups and conditions.

4.3. Results

The YSQ-R and YSQ-L3 and their respective subscales were similar in their predictive power across all groups and conditions. In contrast, the YSQ-S3 could not predict pre-treatment EMS and global symptom severity in the PTSD group, nor could it predict pre-treatment EMS and changes in global symptom severity in the Alcohol and Substance use group.

4.4. Conclusions

This was the first study to assess the predictive validity of three different versions of the YSQ. It was also the first study to apply modern test theory to the assessment of EMS and the YSQ. Our findings suggest that YSQ-R has the breadth of the YSQ-L3 and the shortness of the YSQ-S3, making it an ideal tool for assessing EMS across research and clinical settings.

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ABILITY LEVELS OF CHILDREN WITH SPECIAL NEEDS IN APPLYING SIMPLE PRINTMAKING TECHNIQUES

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Abstract

Art fields, which have been used as a treatment tool since ancient times, are still used today to support the well-being of individuals. In applications where art is used as a psychoeducational intervention method in schools, the techniques frequently preferred are pastel, watercolor, oil painting, drawing with acrylic paint, sculpture, ceramic making, and printmaking techniques. This study aimed to determine the application levels of simple printmaking techniques applied by children with special needs during art activities and to guide special education teachers and families while performing these applications with children through the results of this study. The research was conducted with 40 children aged between 4-13 who were receiving education in a special education center in Nicosia, selected by the purposeful sampling method. The research method is qualitative research and has a case study design. The data recording form developed by the researchers was used as the data collection tool in the research. The data were analyzed in 5 categories: simple printmaking techniques, techniques that children can do without needing support, techniques that they need support for, what kind of support they need, their reactions to the drawing activity, and whether the application tells its story. As a result, it was determined that children can perform techniques that they apply with direct contacts, such as hand printing and fingerprinting, without needing support, that they need support in techniques such as citrus printing, leaf printing, potato printing, and paper printing, that they need more support such as modeling and physical guidance, that they participate in activities with pleasure, and that they use mostly emotional nonverbal expressions in telling their stories due to their language developmental disabilities.

Keywords: *Art education, developmental disability, printmaking, psychoeducational intervention.*

1. Introduction

Hand prints made on cave walls by early humans thousands of years ago can be considered archetypes of printmaking art. While printmaking is used as an original art form in Japan and China, in Europe it is mostly considered as a reproduction. The art of printmaking is directly related to technique and material. Technical developments and innovations in these areas affect printmaking in terms of both aesthetic and technical success (Grabowski & Fick, 2012). Art fields have been used as a means of treatment and healing since ancient times. Art activities are also included in the curriculum in education both to support development and as a psychoeducational intervention tool. In this context, one of the important points to be considered is that the materials and tools of the technique to be applied are suitable for the development of the target audience (Yazgin, 2010). Art activities should be an integral part of absolute education as a psychoeducational intervention tool in schools (Rihter & Potočnik, 2022). The techniques frequently preferred in education are drawing with charcoal, pastel, watercolor, oil painting, acrylic painting, sculpture, marbling art, ceramic making, tile painting and printmaking techniques. Based on the knowledge that art activities in education are effective in supporting the development of the individual the main problem of this research is the application level of simple printmaking techniques applied by children with special needs who are studying in a private special education school during their art activities. This research is important in different aspects as it concerns the best interests of the child in education. Education is for everyone. It is known that art activities in both art education and general education are effective in ensuring the balanced development of people in all aspects. Art activities are a mechanism that keeps intuitions and memories in the memory. It eliminates despair by keeping beautiful and pleasing things in mind. It helps to cope with difficulties. It acts as an emotional regulator. It serves to concretize the ideas that the child cannot verbalize or define. It expands the child's vocabulary and allows him to gain

perspective (Botton & Armstrong, 2013). However, since the techniques and practices mentioned are not suitable for the development of children, there will be negative consequences such as failure, disappointment and loss of self-confidence, it is important to underline that the results of this research will provide guidance to parents and teachers.

1.1. Limitations

This study was conducted with children with special needs. During the applications conducted for the purpose of collecting data, the researcher, who was a printmaking expert, could not be directly involved in the process. Since working with people they do not know, who are a sensitive group, would have negative effects, the applications and information about the techniques were conveyed to the special education teachers by the printmaking expert. The applications were carried out by special education teachers. While this caused a limitation in one respect, the fact that they worked with their own teachers also had a positive effect. Another limitation was that during the period when the applications for the purpose of collecting data began, education was interrupted several times, albeit briefly, due to intense Covid-19 cases.

2. Materials and methods

In accordance with the ethical procedure of the research, the ethics committee (Near East University) permission was obtained first. After obtaining the ethics committee permission, the school administration and a teacher were informed about the research procedure and the families were informed and their consents were obtained through the school administration. The research method is qualitative research and has a case study design. The data recording form developed by the researchers was used as the data collection tool in the research. The data were analyzed in 5 categories: simple printmaking techniques, techniques that children can do without needing support, techniques that they need support for, what kind of support they need, their reactions to the drawing activity, and whether the application tells its story.

2.1. Participants

The research was conducted with 40 children aged between 4-13 who were receiving education in a special education center in Nicosia, selected by the purposeful sampling method. A classification of the types and levels of special needs of individuals is grouped under four main headings: neurodevelopmental disorders, neurological disorders, comorbid disorders, and speech and language disorders. There is also a category of genetics and special conditions.

2.2. Data analysis

The order of techniques in the data record list is; from those that do not require formatting template material, from those that are easy to format templates to those that are difficult to format. The order is made in the form of techniques with low to high variety of tools and equipment, while the tools used are ranked from easy to difficult in terms of use. The grouping is made from simple to complex. In the order made by taking these criteria into consideration, simple printmaking techniques are in the following order:

Prints made without material

- Hand print
- Finger print

Prints made by tools

- Steel wool print
- Sponge print
- Paper print
- Fabric printing
- Brush print (1.5/ 2 inch.)
- Brush print (15/20 no.)
- Stencil print
- Rope print

Printing with natural materials

- Citrus print
- Onion press
- Apple print
- Leaf print
- Potato print

3. Results

A classification of the types and levels of needs of the children included in the study is grouped under four main headings: neurodevelopmental disorders, neurological disorders, mixed (comorbid) disorders and language and speech disorders. There is also a genetic and special conditions category.

A total of 24 children are included in the neurodevelopmental disorders category. The most common condition in this group (n=12) is autism. Autism is followed by attention deficit and hyperactivity disorder (ADHD) with 3 children. Developmental delay, hearing impairment/disability, mental disability/disability and attachment disorder-attention deficit conditions are each present in 2 children. Learning disability was detected at a lower rate in 1 child. There are 2 children diagnosed with epilepsy in the neurological disorders category. There are 11 children in the mixed (comorbid) disorders category. The most common combination in this group is autism and ADHD (n=4). Other combinations included ADHD and epilepsy (n=1), ADHD and developmental delay (n=1 individual), epilepsy, ADHD and autism (n=1), epilepsy and developmental delay (n=1), epilepsy and Dravet syndrome (n=1), autism and attention deficit (n=1), and autism, Down syndrome and intellectual disability (n=1). There was only 1 child in the genetic and special conditions category, who was diagnosed with Down syndrome. Finally, 2 children were diagnosed with delayed speech in the speech and language disorders category.

3.1. Findings regarding prints made without tools, with tools, with natural materials

In general, children's autonomy levels and motivation levels were important determinants of success in hand and finger print art applications. The failure rate increased significantly in applications requiring support. On the other hand, the success rate was high in children who practiced with excitement or enthusiasm. This situation shows that children's emotional and physical support needs in technical applications should be evaluated correctly. Encouraging children’s autonomy and increasing their motivation in hand print technique can be considered as an effective strategy in increasing the success rate. Three of the children among the participants refused to apply these techniques.

Table 1. Results of printing without using any tools.

		Techniques applied without needing support	**Techniques applied with needing support**	**Techniques applied with excitement/eagerness**
	Application Success	**n**	**n**	**n**
Hand printing	Successful	35	14	30
	Unsuccessful	5	26	10
Finger print	Successful	34	14	28
	Unsuccessful	6	26	12

Table 2. Findings regarding the printing done by children with special needs using tools.

		Techniques applied without needing support	**Techniques applied with needing support**	**Techniques applied with excitement/eagerness**
	Application Success	**n**	**n**	**n**
Steel wool print	Successful	21	11	12
	Unsuccessful	19	29	28
Sponge print	Successful	31	11	21
	Unsuccessful	9	29	19

Paper print	Successful	24	12	13
	Unsuccessful	16	28	27
Fabric print	Successful	22	14	10
	Unsuccessful	18	26	30
Brush print (1.5/2 inch)	Successful	10	12	3
	Unsuccessful	30	28	37
Brush print (15/20 no.)	Successful	11	12	3
	Unsuccessful	29	28	37
Stencil	Successful	3	7	8
	Unsuccessful	37	33	32
Rope print	Successful	25	15	14
	Unsuccessful	15	25	26

Sponge printing, paper printing and rope printing were techniques that children practiced more successfully than other techniques, had higher levels of excitement and desire, and required less support.

Table 3. Findings regarding the printing with natural materials.

		Techniques applied without needing support	**Techniques applied with needing support**	**Techniques applied with excitement/eagerness**
	Application Success	**n**	**n**	**n**
Citrus print	Successful	11	8	5
	Unsuccessful	29	32	35
Onion print	Successful	17	11	11
	Unsuccessful	23	29	29
Apple print	Successful	17	10	11
	Unsuccessful	23	30	29
Leaf print	Successful	23	15	15
	Unsuccessful	17	25	25
Potato print	Successful	28	15	20
	Unsuccessful	12	25	20

Figure 1. Examples of children's prints.



Among the printing techniques where natural materials are used as tools, the techniques that children prefer the most and have successfully applied are leaf printing and potato printing techniques.

As a result, when the average durations of the activities on which children spend the most time among all printing techniques are examined, it is seen that the highest rates are hand, finger, potato and sponge prints, while the least time is spent on stencil, citrus and apple prints.

4. Discussion

All fields that can be applied without being a professional in art can be used as psychoeducational intervention tools in schools. In this context, one of the important points to consider is that the materials and tools of the technique to be applied are suitable for the development of the children (Yazgın, 2010). In this study, 12 different printmaking techniques in three categories were presented for the use of children with special needs. Various studies in the literature indicate that the printmaking art can be an effective tool for art therapies in terms of helping with spontaneity and expression of emotions the themes of this multi-step process align with the three Rs of recovery: remediation, restoration, and reconnection, as well as its underlying precondition of hope. (Morton, 2019; Paddock, 2020). In this study, children participated in the majority of the 12 different printmaking techniques with excitement, curiosity and desire, and expressed their pleasure and happiness by patiently painting, with gestures such as applauding. White (2002), outlined the historical, educational, and healing contexts of printmaking. As a result of this research, children's high level of participation and satisfaction in printmaking activities using both their hands and fingers and various tools and natural materials can guide teachers in making more place for printmaking art activities in the education programs of children with special needs. Since human society began, the arts have helped humans reconcile the eternal conflict between their instincts and the demands of society. Therefore, the arts are therapeutic in the broadest sense of the word. School should be a place that prioritizes the well-being of the child. Therefore, art serves as a qualified tool in education.

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BE-FRIENDLY: A DIGITAL CLASSROOM PROGRAM TO INCREASE EMPATHY AND SELF-CONTROL AND REDUCE AGGRESSION

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Abstract

Children and adolescents may be exposed to complex social situations which can lead them to avoidance, anxiety and loneliness. With the aim of preventing boycotts and shaming phenomena and to strengthen children's self-confidence and sense of self-image, we developed an innovative classroom program that incorporates a digital interface for improving social and emotional skills among children and adolescents in the era of social media. During the sessions, challenging social scenarios are presented to the participants from different points of view through a digital interface. A chatbot prompts the children with questions about each scenario, encouraging them to reflect on their feelings and thoughts**.** The scenarios presented in the interface are used as a trigger for the discussion in the group. A preliminary study was conducted to evaluate the program impact. 45 children participated in the study, most of whom were boys (71%), aged 9 to 14 years. Study results were compared to outputs from the AI analyses of participants' responses which were assessed using narrative practices. Findings indicate a significant increase in children's self-reported empathy and self-control, as well as in parents' reports of their child's empathy. Additionally, there was a significant decrease in parent's report of child aggression.

Keywords: *Empathy, self-control, aggression, AI, social skills.*

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1. Introduction

The social world of children and adolescents today is integrated and intertwined with social behavior in the virtual space, which constitutes a central axis of interaction and communication between children.

The use of social media among children and adolescents can have both positive and/or negative effects on mental well-being, and the impact of social media use depends on a variety of factors, including online content, the strengths and sensitivities of adolescents, and their life circumstances (American Psychological Association, 2023). Social media can contribute to poor mental health (e.g., fear of judgment and cyberbullying) or have positive effects on adolescents' mental well-being through support and connection (Popat & Tarrant, 2023). Although adolescents are aware of the dangers that exist online and of cyberbullying, they believe that the harm to them will not be significant. Middle-class teenagers face more risks in the virtual space compared to younger children from the working class (Livingstone & Helsper, 2010). Younger girls and boys are more vulnerable to sexual risks in the online space (Vandoninck, et al., 2013).

In a study conducted among children in grades 6-8, it was found that the variables of pro-social behavior and aggressiveness are mediating variables between empathy and acceptance by the peer group, so that children who are empathetic toward their friends will be socially accepted due to their pro-social behavior, but also due to low levels of aggression (Wang et al., 2019).

In a meta-analysis study that included 27 articles, the relationship between empathy and a bystander who protects against bullying was examined, and it was found that there is a positive relationship between the two variables. A stronger correlation was found between affective empathy and protective bystander than the correlation between cognitive empathy and protective bystander (Deng, Yang, & Wu, 2021).

There is a need to address social-emotional aspects, especially in children with learning disabilities and Attention-deficit/hyperactivity disorder. In a study that examined social information processing abilities and emotional understanding in children with and without learning disabilities, it was found that the group of children with learning disabilities coded fewer social cues, offered fewer solutions to social conflicts, expressed fewer social goals, and there was less alignment between the goals they set and the solutions compared to children without learning disabilities (Bauminger, Edelsztein & Morash, 2005). Additionally, children with learning disabilities had more difficulty identifying and understanding complex emotions (embarrassment, pride, guilt, or loneliness) compared to better abilities with simple emotions (such as happiness or sadness) (Bauminger, Edelsztein & Morash, 2005).

The E.C.C. (Emotional Cognitive Coaching) Method

In recent years, the Nitzan Association has been working to eradicate bullying and shaming phenomena online, while taking active measures aimed at reducing the number of young victims, who sometimes are unable to cope with situations such as boycotts or social alienation. In an attempt to create a better reality, Dr. Maly Danino developed the B-Friendly program based on the E.C.C (Emotional Cognitive Coaching) method for cognitive emotional coaching. The Emotional Cognitive Coaching (E.C.C.) method, originally developed for parents of children with learning disabilities and attention disorders, is a research-based method that has been proven to contribute to positive outcomes in improving coping with negative emotions towards the child, strengthening positive responses, and improving the family climate. (Al-Yagon, Lachmi & Danino, 2019; Danino & Shechtman, 2012; Shechtman, Baram, Barak, & Danino, 2019; Shechtman & Danino, 2017).

2. Intervention process

The program creates challenging social situations from the children's world and helps them experience a corrective experience of positive social connections, strengthening their sense of capability and self-image. Each group includes 12 weekly hour-long meetings, which were held at Nitzan Association branches. The program was facilitated by a senior professional from the fields of education, counseling, and therapy with rich experience in emotional therapy.

Through the group, children were exposed to a wide range of social situations from different perspectives, in which they were required to understand themselves, their feelings, their thoughts, and the connection between emotions, thoughts, and behavior. The program was operated through an accompanying digital interface, serving as a social simulator, operated via WhatsApp application.

3. Methods

An evaluation study was conducted in Israel using a pre-post intervention design. A total of 45 children participated in the study, most of whom were boys (71%), aged 9 to 14 years (mean = 11 years, SD = 1.51), From third to eighth grade. Most were students in the general education system (78%), while others were enrolled in special education. Approximately 60% of the children had a known diagnosis, including psychological, didactic, linguistic, or ADHD-related.

4. Design

The program was delivered by professionals included 12 weekly sessions. Children and one of their parents filled out research questionnaires before and after the intervention. The children's questionnaires included: The Index of Empathy for Children and Adolescents (Bryant, 1982), The Aggression Questionnaire (Buss & Perry, 1992), The Self-Control Scale (SCS; Rosenbaum, 1980), and Child Self-Efficacy. The parent's questionnaires included: The Child Behavior Checklist (CBCL; Achenbach, 2001) and the parent's perception of the child's empathy (Akselrad & Diesendruck, 2017).

5. Results

Results showed significant differences in child reports of empathy, child self-control, parent reports of child empathy, and parent reports of child aggression. Reports of empathy and self-control in showed significant increases, and parent reports of child aggression showed a significant decrease. No change was noted for the children’s reports of aggression and self-efficacy. The effects of the intervention were examined with analyses of covariance, controlling for the child’s gender and age. See Table 1 for means, standard deviations, and F-values for the study variables by time.

Change in empathy, aggression, self control, and self efficacy was defined as standardized adjusted residual gains, subtracting each pre-test score from the post-test score, and controlling for the pre-test score. Correlations between these change scores were calculated, controlling for the child's gender and age.

Results showed several significant associations. Change in perceived child self efficacy was positively associated with change in child report of empathy and change in child self control, and negatively associated with change in child report of aggression. That is, a higher increase in perceived child self efficacy was associated with a higher increase in child report of empathy, a higher increase in child report of self control, and a greater decrease in child report of aggression. It should be noted that there was almost no overall change in child self efficacy, when considering the sample mean, yet children ranged from increasing 3 point to decreasing 3 points, in a scale ranging 1-6. In addition, change in parent report of child empathy was negatively associated with change in parent report of child aggression, revealing that a higher increase in parent report of child empathy was associated with a greater decrease in parent report of child aggression. (See Table 2 for partial correlations between the change scores of the study).

Table 1. Means, standard deviations, and F values for the study variables by time (N = 45).

	Pre *M* (*SD*)	Post *M* (*SD*)	*F*(1, 42) (*p*) (η^2)
Child report of empathy	10.70 (2.29)	11.43 (2.26)	5.52 (*p* = .023) (η^2 = .111)
Child report of aggression	3.28 (1.41)	3.05 (1.35)	1.30 (*p* = .260) (η^2 = .029)
Child self control	3.53 (0.72)	3.89 (0.83)	10.71 (*p* = .002) (η^2 = .196)
Child self efficacy	4.87 (1.52)	4.89 (1.34)	0.02 (*p* = .893) (η^2 = .001)
Parent report of child empathy	31.81 (10.24)	34.35 (9.15)	7.98 (*p* = .007) (η^2 = .154)
Parent report of child aggression	10.06 (7.61)	7.13 (5.97)	16.21 (*p* < .001) (η^2 = .269)

Table 2. Partial correlations between the change scores of the study variables (N = 45).

	1.	2.	3.	4.	5.	6.
1.Child report of empathy	1					
2.Child report of aggression	-.06	1				
3.Child self Control	.22	-.08	1			
4.Child self Efficacy	.38*	-.36*	.36*	1		
5.Parent report of child empathy	-.25	.10	.02	-.21	1	
6.Parent report of child aggression	-.03	.11	-.13	.16	-.34*	1

*$p < .05$

The AI analyses of participants' responses assessed, using narrative practices, target variables (for example, empathy, aggression, and self-control). In Figure 1, we can see a scatter plot displaying the correlation between Relevance Rating (x-axis) and Empathy Rating (y-axis) for students. Each blue dot represents an individual student. There is a positive correlation between the two variables, meaning that as Relevance Rating increases, Empathy Rating also tends to increase.

Figure 1. Outputs from the AI analyses.



6. Research limitations

In the current study, we examined the effects of the program before and after the intervention, but in the future we would like to conduct an in-depth study that also includes a comparison with a control group that will include similar population characteristics, without intervention, or a group that will receive a different intervention.

7. Conclusions

The findings indicate that the program effectively increases empathy as reported by parents and their children, and increases self-control as reported by children, while reducing aggression among children as reported by the parents. Further research is needed to explore its long-term effects on classroom climate and the factors that predict the success of social-emotional group interventions.

In light of the program's positive results, we will continue to integrate the program in schools nationwide. The program, which was approved by the Ministry of Education, is requested by schools and is funded from the autonomous budget available to the schools to provide social and emotional support to students. The positive responses received from school principals, parents, and especially children are another indication of satisfaction with the program and its contribution to improving the school climate.

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THE ROLE OF EMOTIONAL INTELLIGENCE DIMENSIONS AND TRAIT MINDFULNESS IN STUDENTS' FLOURISHING

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Abstract

Flourishing encompasses the socio-psychological prosperity of individuals and reflects feeling good and functioning well. Examining conditions and individual resources contributing to students' flourishing is an important part of positive psychology research in higher education. Some studies suggest that emotional intelligence (EI) and mindfulness contribute to students' flourishing. Since both EI and mindfulness are complex constructs, it is necessary to examine them at the dimension/facet level to understand their contribution to students' flourishing better. Also, in often highly demanding academic domain specific EI dimensions such as emotional self-regulation and self-motivation may be of great importance for students' flourishing. However, there is a lack of studies exploring the role of these specific EI dimensions as well as the role of specific mindfulness facets to students' flourishing. Therefore, the purpose of this study is to examine the contribution of the specific EI dimensions i.e. regulation of emotion in the self (ROE) and use of emotion to facilitate performance (UOE) and specific facets as well as overall trait mindfulness to students' flourishing. A convenience sample of 124 university students at the Faculty of Teacher Education in Zagreb (97% female, 20 years on average) participated in a study by completing several questionnaires: the Wong and Law Emotional Intelligence Scale, the Five-Facet Mindfulness Questionnaire, and the Flourishing Scale. The correlation analysis showed that the EI dimensions i.e. ROE and UOE as well as mindfulness, both at facet and overall trait levels, were related to students' higher flourishing. Regression analyses showed that EI dimensions explained 44.8% of flourishing with ROE and UOE both being significant predictors. Also, regression analyses showed that three of five facets of mindfulness explained 40.2% of flourishing with observing, describing and acting with awareness being significant predictors. Finally, the results of hierarchical regression analysis showed that after controlling for EI dimensions, overall trait mindfulness, without observing facet, additionally explained 8% of flourishing. The final model explained 52.6% of flourishing with only the UOE and overall trait mindfulness remaining significant predictors of flourishing. This suggests that UOE and mindfulness have key roles in students' flourishing.

Keywords: *Emotional intelligence, flourishing, mindfulness, students, well-being.*

1. Introduction

University years marked by academic and developmental transition into adulthood may be a particularly sensitive period for students' psychological well-being (Rule et al., 2024). Psychological well-being is most often conceptualized as flourishing, referring to the social-psychological prosperity reflecting several aspects of daily life, including engagement, positive relationships, feelings of competence and optimism, meaningfulness and having a purpose in life (Diener et al., 2010). Some studies suggest that emotional intelligence (EI) and mindfulness contribute to students' flourishing.

EI is a subset of social intelligence that refers to positive emotional resources and adaptive emotional functioning (Schutte & Loi, 2014). EI can be conceptualized as a trait (e.g., Petride & Furnham, 2001; Wong & Law, 2002), or as an ability (Mayer et al., 2004). The core components included in the most operationalizations of EI are perceiving, understanding and regulation of emotion in self. Previous research found that emotionally intelligent individuals have greater mental health (Martins et al., 2010), better relationships with others (Lopes et al. 2004), higher subjective and psychological well-being (e.g., Schutte & Malouff, 2011). EI was found to be positively associated with flourishing in workers (Du Plessis, 2023) and students (Pradhan & Jandu, 2023; Zewude et al., 2024).

Besides EI, studies showed that mindfulness is also positively related to flourishing (e.g., Akin & Akin, 2015). Mindfulness refers to a purposefully focused attention to a present-moment experience without judgment, and it includes components of acting with awareness, the ability to observe and describe experiences while remaining non-reactive to them (Baer et al., 2006). Overall mindfulness was found to be

consistently positively related to flourishing (Akin & Akin, 2015; Arslan & Asıcı, 2021), while the results on the facet level are somewhat inconsistent. Some studies found that all facets of mindfulness were positively related to flourishing (MacDonald & Baxter, 2017), while some did not (Gajšek et al., 2023; Rahe et al., 2022). Therefore, more studies are needed to examine the relationships between facets of mindfulness and flourishing.

Besides the relationships between EI and flourishing (Du Plessis, 2023; Pradhan & Jandu, 2023; Zewude et al., 2024), and mindfulness and flourishing (Akin & Akin; 2015; Arslan & Asıcı, 2021; Gajšek et al., 2023; MacDonald & Baxter, 2017), there is also a positive relationship between EI and mindfulness (Baer et al., 2006; Bao et al., 2015; Miao et al., 2018; Pradhan & Jandu, 2023). Therefore, it would be interesting to examine the role of mindfulness besides the role of EI in flourishing. Since both EI and mindfulness are complex constructs, it is necessary to examine them at the dimension/facet level to better understand their contribution to students' flourishing. In addition, in often highly demanding academic context, specific EI dimensions such as emotional self-regulation, i.e., regulation of emotion in the self (ROE), and self-motivation, i.e, use of emotion to facilitate performance (UOE), may be of especially great importance for students' flourishing. However, there is a lack of studies examining the role of these specific EI dimensions as well as the role of specific facets of mindfulness in students' flourishing.

2. Objectives

The purpose of this study was to examine the contribution of EI dimensions regulation of emotion and self-motivation, and the contribution of five mindfulness facets as well as overall mindfulness to students' flourishing. The following hypotheses and research question were posed:

H1: EI dimensions, i.e., ROE and UOE are bivariately (1a) and uniquely (1b) associated with flourishing.

RQ1: Which facets of mindfulness are bivariately (1a) and uniquely (1b) associated with flourishing?

H2: Overall mindfulness is bivariately positively associated with flourishing.

H3: Facets of mindfulness (3a) and overall mindfulness (3b) explain an incremental amount of the variance in flourishing, above and beyond EI dimensions, i.e., ROE and UOE.

3. Method

3.1. Participants and procedure

A convenience sample of 124 university students at the Faculty of Teacher Education in Zagreb (97% female, $M = 20.17$ years; $SD = 1.91$; age ranged from 18 to 25) participated in a study by completing several questionnaires in an online Google format. Participation was voluntary and anonymous during an academic semester at the Faculty of Teacher Education, University of Zagreb.

3.2. Instruments

The Wong and Law Emotional Intelligence Scale (WLEIS, Wong & Law, 2002) was used to measure two dimensions of emotional intelligence, i.e., regulation of emotion (ROE, e.g., *I am able to control my temper and handle difficulties rationally*) and use of emotions (UOE, e.g., *I am a self-motivated person*). WLEIS assesses four dimensions and has 16 items, but in this research, we assessed two dimensions, ROE and UOE with 8 items total. All items are rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

The Five-Facets Mindfulness Questionnaire (FFMQ, Baer et al., 2006) was used to measure facets of mindfulness: observing (8 items, e.g., *I pay attention to sensations, such as the wind in my hair or sun on my face*), describing (8 items, e.g., *I can easily put my beliefs, opinions, and expectations into words*), acting with awareness (8 items, e.g. *I find it difficult to stay focused on what's happening in the present;* reversed), non-judging of inner experience (8 items, e.g., *I criticize myself for having irrational or inappropriate emotions;* reversed) and non-reacting to inner experience (7 items, e.g., *I perceive my feelings and emotions without having to react to them*). All 39 items were rated on a 5-point Likert scale ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*).

Flourishing Scale (Diener et al., 2010) was used to measure self-perceived social-psychological prosperity, (e.g., *I am a good person and live a good life*). All 8 items were rated on a 7-point Likert scale, ranging from 1 (*untrue*) to 7 (*absolutely true*).

4. Results

4.1. Descriptive statistics and correlations

Students in this study reported above average levels of EI dimensions, moderate levels of overall and mindfulness facets and experienced relatively high levels of flourishing (Table 1).

The EI dimensions correlated to each other positively (r = .40, p < .01). Describing, acting with awareness, non-judging and non-reacting facets of FFMQ correlated to each other significantly and positively (r ranging from .18. to .77). FFMQ observing showed positive correlation with describing, negative correlation with non-judging and no correlation with three other FFMQ facets of mindfulness.

The EI dimensions were significantly and positively associated with flourishing at a moderate level (ROE, r = .43, p < .01; OUE, r = .64, p < .01), thus supporting Hypothesis 1a. Regarding the Research Question, all five facets of mindfulness (1a) significantly and positively correlated to flourishing, with correlations ranging from .19 to 52. Overall mindfulness was significantly and positively associated with flourishing at a moderate level, thus supporting Hypothesis 2.

Table 1. Descriptive statistics, Cronbach's alpha and correlations among the study variables.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. WLEIS Regulation of emotion	-	.40**	-.02	.40**	.42**	.33**	.50**	.57**	.43**
2. WLEIS Use of emotion		-	.17	.44**	.40**	.25**	.25**	.47**	.64**
3. FFMQ Observing			-	.27**	-.04	-.25**	.16	.04	.19*
4. FFMQ Describing				-	.46**	.35**	.33**	.77**	.52**
5. FFMQ Acting with awareness					-	47**	.18*	.76**	.52**
6. FFMQ Non-judging						-	.19*	.75**	.37**
7. FFMQ Non-reactivity							-	.54**	.20*
8. FFMQ Overall mindfulness								-	.58**
9. Flourishing									-
Theoretical range	1-7	1-7	1-5	1-5	1-5	1-5	1-5	1-5	1-7
Cronbach's alpha	.86	.85	.58	.87	.83	.82	.65	.88	.90
M	4.92	5.40	3.47	3.43	3.11	3.10	3.06	2.52	5.77
SD	1.21	1.10	0.49	0.64	0.60	0.68	0.54	0.35	0.86

*Note. *p < .05; **p < .01. *Overall mindfulness without observing facet.*

4.2. Regression analyses

Two linear regression analyses were conducted with specific emotional intelligence dimensions (Table 2a) and facets of trait mindfulness (Table 2b) as predictors and flourishing as criteria. Dimensions of EI, ROE and UOE, explained 44% of flourishing (F = 49.14, p < .001), with both dimensions being significant predictors, thus supporting Hypothesis 1b. Regarding Research Question 1b, facets of mindfulness explained 38% of flourishing (F = 15.85, p < .001), with three out of five facets being significant predictors, i.e., observing, describing and acting with awareness.

To determine the unique associations between EI dimensions and facets of mindfulness, hierarchical regression analysis was conducted with EI dimensions entered in Step 1, and facets of mindfulness in Step 2 (Table 3). Facets of mindfulness explained an additional 11% of the variance in flourishing, beyond and above the EI dimensions thus supporting Hypothesis 3a. The final model explained 53% of the variance of flourishing (F = 20.81, p < .001) with only the EI dimension of UOE remaining significant, along with the mindfulness facet of acting with awareness. Additionally, a hierarchical regression analysis with UOE and ROE entered in Step 1, and overall mindfulness without observing facet entered in Step 2 as predictors of flourishing was performed (F = 44.33, p < .001). Overall mindfulness explained an additional 8% of the variance in flourishing (Table 3), thus supporting Hypothesis 3b.

Table 2. Results of regression analyses of flourishing predicted by EI dimensions (2a) and mindfulness facets (2b).

Table 2a

Predictors	***β***
Regulation of emotions	.20**
Use of emotion	.56***
R^2	.45***
Adj R^2	.44***

Table 2b

Predictors	***β***
Observing	.17*
Describing	.27**
Acting with awareness	.32***
Non-judging	.17
Non-reactivity	-.01
R^2	.40***
Adj R^2	.38***

*Note (Table 2a and 2b). β= standardized beta coefficients; *p < .05; **p < .01; ***p < .001.*

Table 3. Results of two hierarchical regression analyses of students' flourishing (final model).

Model	R	R^2	Adj. R^2	ΔR^2	Predictors	β
1	.75***	.56***	.53***	.11***	Regulation of emotion	.13
					Use of emotion	.42***
					Observing	.14
					Describing	.15
					Acting with awareness	.19*
					Non-judging	.14
					Non-reactivity	-.10
2	.73***	.53***	.51***	.08***	Regulation of emotion	.06
					Use of emotion	.45***
					Overall mindfulness	.35***

*Note. β= standardized beta coefficients; *p < .05; **p < .01; ***p < .001.*

5. Discussion

First, the results are consistent with previous studies on the positive relationship between EI and mindfulness (Bao et al., 2015). Second, the results showed that regulation of emotion and self-motivation were significantly positively associated with flourishing, in line with previous studies (Du Plessis, 2023; Zewude et al., 2024). The novelty of this study is that it showed that these EI dimensions were unique predictors of students' flourishing.

Third, overall mindfulness and all facets of mindfulness were positively associated with flourishing, in line with previous studies (e.g., Akin & Akin, 2015; MacDonald & Baxter, 2017). Fourth, regression analysis showed only facets of observing, describing and acting with awareness as unique and significant predictors of flourishing. Describing, i.e., verbalizing inner experiences, and acting with awareness, i.e., being engaged and aware of oneself and surroundings, were found to be significant predictors of students flourishing, which replicates Gajšek et al. (2023) findings and further suggest the crucial role of these facets for experiencing flourishing. The results regarding observing facet being a positive predictor of flourishing are inconsistent with the previous research on Croatian students' sample which did not find observing as a significant predictor of flourishing (Gajšek et al., 2023), but in line with one study on a German student sample (Rahe et al., 2022). This inconsistency regarding observing facet which reflects attending to and noticing thoughts and feelings, could be due to the psychometric properties of the FFMQ observing subscale (Baer et al., 2006; Gračanin et al., 2017). Hierarchical regression analysis found that after controlling for ROE and UOE, only acting with awareness was significantly related to flourishing, indicating that this facet has a unique association with flourishing, beyond variance shared with EI dimensions. Interestingly, ROE did not remain a significant predictor after including mindfulness in the regression predicting flourishing, suggesting that mindfulness facets include some mechanisms of emotional regulation which exert flourishing-promoting effects. In line with that, MacDonald and Baxter (2017) found that mindfulness was related to flourishing via decreased difficulties with emotion regulation.

This study focused on EI as a trait, but future studies may include EI as an ability. Since both EI and mindfulness can be trained (Nelis et al., 2011; Tang et al., 2019), educational institutions may offer such training to students in order to increase their flourishing.

6. Conclusion

This study extends the literature in suggesting that the regulation of emotion, especially the use of emotions are important and may be a base for students' flourishing. The finding that examining individual facets of mindfulness accounted for more variance in general flourishing than using overall mindfulness as a distinct higher-order predictor suggest that investigating mindfulness at the facet level is justifiable to better understand its beneficial effect on flourishing. Among the facets of mindfulness, acting with awareness has the most important role in promoting flourishing.

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SOURCES OF STRESS AND SUPPORT AMONG TEACHERS: A QUALITATIVE ANALYSIS OF FOCUS GROUP INTERVIEWS AND ECOMAPS

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Abstract

Background: Teaching is considered one of the most stressful professions due to the number of responsibilities teachers have. Long-term stress often results in feelings of burnout, depersonalization, or exhaustion. Teacher support can have a significant impact on their well-being and performance, but can also impact students' academic development, including their affective and emotional outcomes. Therefore, identifying stressors and sources of support among teachers is essential to foster a healthier educational environment and improve overall educational outcomes. *Aims:* The aim of this study is to explore the main sources of support and stress that teachers experience, analyze the ways in which teachers recognize stress and its symptoms, and examine the quality of teachers' relationships mapped through their ecosystem. *Methods:* The study sample consisted of 25 teachers (mean age 45.5; 84 % female) from the eastern part of Slovakia who participated in four focus group interviews with an ecomap activity, which visually represents important relationships in their lives. The qualitative data from the interviews were analyzed using a six-step approach to thematic analysis. Ecomap data were evaluated through qualitative categorization of recorded relationships and quantitative assessment of their quality. *Results:* The thematic analysis of teachers' support revealed three main themes: support from the social environment, working conditions and demands, and specific sources as tools of teacher support. Thematic analysis of stress identified four main themes: Covid-19, teacher work, and other factors, including work-life balance, health, and social and political factors. The analysis also distinguished between physical and psychological responses to stress, which affect teachers' well-being and work performance. Furthermore, the results indicate that teachers' ecosystem is primarily formed through supportive relationships, although the work and its parts is the most frequent source of ambivalent or stressful relationships. *Conclusions:* This study highlights the importance of the support of the social environment, especially from school leaders and colleagues. Key stressors, such as time stress, bureaucracy, or student behavior, as the results of which teachers perceive their work as stressful, affect teachers' well-being and work performance. These findings emphasize the need to improve conditions and strengthen support for teachers, especially in the area of schools, which will contribute to their professional development, mental health, and performance in the educational process.

Keywords: *Stress, support, teacher, qualitative analysis, ecological system*.

1. Introduction

Stress significantly affects teachers' sense of effectiveness, job satisfaction, risk of burnout, attrition, well-being, and student engagement (Shernoff et al., 2011). Compared to professionals in other occupational groups, they report considerably higher rates of both physical and psychological problems (Johnson et al., 2005; Kidger et al., 2015; Scheuch et al., 2015; Stansfeld et al., 2009), which positions teaching among the most stressful professions (Holmes, 2005). Key stressors include an unsuitable working environment, excessive working hours and workload, limited opportunities for career advancement, workplace conflicts, bureaucracy, poor communication, low workplace morale, resistance to change, and overly frequent changes (Holmes, 2005). In this context, one of the most critical professional competencies for teachers is the ability to cope with the demands and challenges of the teaching profession while maintaining an acceptable level of well-being (Baumert & Kunter, 2013).

A significant role can be played by the support teachers receive in their lives, which is essential to expand research beyond the sources of stress to include the sources of support and the quality of relationships that teachers maintain in their lives. Investigating these aspects in depth can provide valuable insights into how teachers navigate their professional and personal environments to foster resilience and well-being. Furthermore, our review of the literature indicates a notable gap in research focusing on practicing teachers. Most existing studies focus on novice teachers, particularly in considering a career change, leaving the experiences of experienced educators underexplored. Filling this gap is crucial for a comprehensive understanding of teachers' stress, support systems, and overall well-being. By doing so, we can develop targeted strategies to improve their professional and personal lives.

2. Objectives

The aim of this study was: 1) to explore the main sources of stress and support that teachers experience, 2) to analyze the ways in which teachers recognize stress and its symptoms, and 3) to examine the quality of teachers' relationships mapped through their ecosystem.

3. Methods

3.1. Research sample

Four focus groups were formed in response to a request from Pavol Jozef Šafárik University to participate in the research. In total, 25 teachers from two primary and two secondary schools in the Košice region (East of the Slovak Republic) participated. The average age of the teachers was 44.9 years (min. = 25, max. = 67), with an average of 18.4 years of teaching experience (min. = 1, max. = 36). Women were more heavily represented, comprising 84 % (n = 21) of the participants.

3.2. Research design

Data collection was carried out as part of the international research project 'Global perspectives on teacher well-being and mental health following the COVID-19 pandemic' (https://warwick.ac.uk/fac/soc/ces/research/current/globalteachermentalhealthcovid19/), organized by the International School Psychology Association (ISPA). Participants participated in the research on a voluntary basis, from April to May 2023, and all collected data were anonymized. During the focus group interviews, the ISPA international study research protocol was strictly followed, including 15 questions in three areas: general questions, questions about stressors and support (analyzed in this study), and questions about challenges in teaching and students' discipline. After interviews, the ecomap activity followed and included drawing an ecomap (in the middle of the paper was depicted the teacher, and around them they noted important people and events from their lives) and marking supportive, stressful, and both (supportive and stressful) relationships with suggestions from the ecomap. The research was approved by the Ethics Committee of the Faculty of Arts, University Pavol Jozef Šafárik in Košice.

3.3. Data analysis

3.3.1. Analysis of focus group interviews. According to Braun and Clarke (2006, 2013), the six-step approach to thematic analysis was applied. First, each focus group interview was transcribed. This step involved an active engagement with the data, taking notes and identifying preliminary concepts. Second, an inductive-deductive approach to coding was used, using ATLAS.ti software. After that, the data were grouped into possible themes (the third step). These initial themes were examined and refined in the fourth step of the analysis, which included that each theme represented the coded extracts and the overall data. In the fifth step, we created subthemes and expressed each theme in detail. The final step, the sixth step, involved selecting data extracts, connecting data, themes, and subthemes to research questions, and discussing their implications in a broader context. Data were analyzed without the use of false, incorrect statements, or erroneous interpretations.

3.3.2. Analysis of ecomaps. The ecomap was a self-created diagram that illustrates a teacher's social network, highlighting the types and quality of relationships, and serving as an assessment of teacher's perceived supports and stressors in their environment (Nastasi et al., 2018). Ecomaps were first qualitatively analyzed and then quantified. The size of the network was determined by the total number of relationships. For each participant, we also calculated the number of (i) types of relationships, (ii) support sources, (iii) stress sources, and (iv) ambivalent relationships. The stress-support index (SSI) was calculated by assigning numerical values to each relationship: 1 for support, 1.5 for ambivalence, and 2 for stress.

These values were summed and divided by the total number of sources in the ecomap (Nastasi et al., 2018). The qualitative themes were then identified based on the responses provided by the teachers and the consensus of three assessors specializing in psychology. The relationships represented in the ecomap were classified into the following categories: people, places, activities, things, living sentient beings, events, beliefs, and others (e.g., Ukraine, personal life, expectations) (Tennant et al., 2018).

4. Results

4.1. Sources of stress and support for teachers

Thematic analysis of stress identified three main themes: *work and working conditions*, *the COVID-19 pandemic*, and *others*. Thematic analysis of teacher support revealed three main themes*: support from teachers' interpersonal relationships*, *specific sources*, and *work and working conditions*. The analysis also distinguished between *physical* and *psychological* manifestations of stress, which affect teachers' well-being and work performance.

4.1.1. Sources of stress. *Theme 1: Work and working conditions* are the main source of stress for teachers. As part of their work, they experience time pressure related to administrative work and extracurricular activities (participation in student competitions), which represents an increased burden for teachers. Furthermore, challenges such as student behavior and motivation, as well as difficult relationships with colleagues and parents, contribute significantly to the stress faced by teachers.

Theme 2: The COVID-19 pandemic represents a specific period during which the level of stress and workload have increased for teachers. Although the pandemic has ended, teachers continue to reflect on the challenges they faced during this period, such as technical difficulties and confusion caused by constantly changing rules. The stress associated with online teaching and the ambiguity of pandemic-related guidelines left teachers feeling uncertain and overwhelmed.

Theme 3: Other sources of stress described factors such as work-life balance, health problems, and social and political pressures. Although these were perceived as less significant sources of stress, they still contributed to the general levels of stress of teachers. The challenges of balancing professional and personal responsibilities, dealing with health-related concerns, and managing external pressures from social and political factors added to the stress of teachers.

4.1.2. Sources of support. *Theme 1: Supporting teachers' well-being* from their interpersonal relationships is a crucial source of support for them, particularly those within the school, family and teacher-student interactions. Relationships within the school provide emotional and professional support, especially during challenging times. In addition, family relationships provide emotional relief and guidance, while teacher-student relationships can also provide motivation and fulfillment through personal connections.

Theme 2: Specific sources as tools for teachers' well-being support represent a teacher's hobbies which provide a mental break from their daily routines, helping them recharge and reduce stress. In addition, inner resources, including personal reflection, connection with nature, and spiritual support, offer teachers the strength to cope with challenges and maintain a sense of balance during difficult times.

Theme 3: Work and working conditions were also identified as a theme of teachers' support. For some of them, their work is more than just a job, it is a source of personal fulfillment. The sense of purpose is derived from teaching and interactions with students and colleagues, even during challenging moments. Despite physical exhaustion or stress, teachers find that being in the classroom energizes them and helps them overcome personal difficulties or pains.

4.2. Manifestations of teachers' stress

Theme 1: Physical manifestations of stress among teachers are reflected in health problems such as psoriasis, digestive problems, and heart palpitations, illustrating the direct link between stress and physical well-being. Stress also disrupts sleep patterns, further contributing to general physical discomfort and health problems.

Theme 2: Physiological manifestations of stress represent feelings of restlessness, tension, and irritability, often leading to heightened emotional reactions such as anger or frustration. Teachers also report a loss of positive energy and emotional expression, highlighting the impact of stress on their emotional well-being.

4.3. Quality of teachers' relationships

In general, teachers reported the highest number of supportive relationship sources (60.4%), a lower number of ambivalent relationship sources (29.6%) and the lowest number of sources (10%), resulting in a stress-support index value of 1.24. After categorizing the sources into different categories, the highest frequency of supportive relationships was found in the "people" category (subcategories: friends, family members) and the "place" category (subcategory: nature). The main source of stress for teachers was the category of "activity", particularly related to bureaucracy, statistics, and administration. The highest frequency of ambivalent relationships was found in the "people" category (subcategories: family members, students) and the "place" category (subcategory: school).

5. Discussion and conclusions

The study analyzes the sources of stress and support among teachers in the Eastern Slovakia region and provides valuable insights into working conditions, interpersonal relationships, and their impact on their professional and personal lives. The results highlight the complexity of stressors, but also reveal the potential of a support system that can reduce the level of stress which teachers perceive.

Our findings confirm that work and working conditions are a major source of stress for teachers, which is consistent with previous results by Shernoff et al. (2011) and Holmes (2005), which highlight the importance of workload, administration, and interpersonal conflicts. The unique contribution of this study is to highlight the long-term consequences of the COVID-19 pandemic, including technical challenges, ever-charging rules, and emotional uncertainty. These results are in agreement with Kidger et al. (2015), who identified an increased psychological strain on teachers during crisis periods. As teachers reported, stress manifests itself through physical and psychological symptoms, which was also highlighted by the research of Johnson et al. (2005) or Stansfeld et al. (2009). On the other hand, there is the fundamental importance of interpersonal relationships, especially support from colleagues, family, and students. These findings are consistent with those of Nastasi et al. (2018), which confirms that positive relationships can serve as a protective factor against stress. Specific resources such as hobbies, connection to nature, and internal resources are important coping mechanisms for stress, which is consistent with Scheuch et al. (2015) who found that there is an importance of activities that promote mental health. Ecomap analysis showed that teachers have the highest proportion of supportive relationships (60.4 %), indicating their ability to create positive social networks. However, at the same time, ambivalent (29.6 %) and stressful relationships (10 %) highlight the need to improve the quality of interactions, especially in the workplace. We consider the sample size as a limitation of this study, which was relatively small and regionally specific and can limit the generalizability of the findings. However, the strengths of the study lie in its in-depth exploration of both sources of stress and support through qualitative methods, providing nuanced insights into teachers' lived experiences. This research has practical significance for educators, policymakers, and psychologists by shedding light on the critical stressors teachers face and identifying effective sources of support.

The findings can guide the development of targeted interventions and policies to improve teachers' well-being, ensuring a healthier and more supportive school work environment. Improving the conditions for teachers is essential not only for their personal well-being, but also for the quality of the education system as a whole.

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EXPLAINING AN IMMERSIVE MUSEUM ROOM FAILURE IN INCREASING VISITORS' ENGAGEMENT (PSYCHOLOGICAL IMMERSION) WITH ART WORKS

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Abstract

The failure of an immersive museum room to increase visitors' engagement (psychological immersion) with paintings and sculptures led us to try to understand why this was the case. The following three factors were examined: 1) The room lacked some characteristics of an immersive environment; 2) Visitors did not feel physically immersed; 3) Display of the art works was problematic. Research results show that only the third factor could be held responsible for the failure.

Keywords: *Museum, immersive room, visitors, psychological immersion, failure.*

1. Introduction

Since 2000, one observes a proliferation of publications on the so-called immersive venues obtained through digital devices (Chen, Hu and Jacob, 2024; Zhang, 2020*[2]). Regarding museums, room equipped with such devices are supposed to increase visitors' engagement (psychological immersion) with the exhibited objects (Chen, Hu and Jacobs, 2024; Robaina Calderin et al. 2023*[3]). However, a research project that we conducted in a major Canadian fine arts museum shows no greater engagement (psychological immersion) in this type of room than in others not offering the feature (Dufresne-Tassé et al., 2022). Indeed, visitors do not deal with a greater number of works (paintings, sculptures), nor do they experience an intense engagement with them (psychological immersion) more often than in the other rooms. So, we tried to find out why this was the case and researched three main reasons: 1) The room lacked some of the characteristics of an immersive environment; 2) The visitors did not feel physically immersed; 3) The display of art works was problematic.

2. Some definitions

Physical immersion: The present definition is borrowed from Belaën (2003) and Bitgood (1990). It implies a context that plunges the visitor into another time or space (Bitgood). Thus, visitor finds herself/himself in a place isolated from her/his original environment (Belaën). This definition is yet generally accepted (Dai-in, Melissen and Haggis-Burridge, 2024; Fan, Jiang and Deng, 2022*).

Psychological immersion (engagement): It is, for a visitor, to be fascinated by what she/he is observing, absorbed by what is going on in her/his mind to the point of forgetting all the rest. Her/his attention is then effortless and accompanied by an intensive cognitive-imaginary-affective functioning (Dufresne-Tassé, 2016). As the preceding definition, the present one is similar to contemporary ones (Suh and Prophet, 2018; Zhang, 2020).

3. Museum context

Research is carried out in three rooms of a major Canadian fine arts museum. These rooms display respectively 31, 30 and 29 works of European paintings and sculptures from the same period, 1850-1900.

[1] This research has been funded by the Social Sciences and Humanities Research Council of Canada (SSHRC). It also received logistic support from the Université de Montréal.

[2] References marked with an (*) are only examples as the subject has been treated in many other publications.

[3] Some older references: Kirshberg and Tröndle (2012); Parker and Bond (2010); Pranskünienė (2013); Soren (2009), Sparacino (2004).

The display, which is similar in the three rooms, is roughly of the “white cube” type, the paintings being hung on the walls, while the sculptures, placed on pedestals, are distributed in the center of the space.

The three rooms follow one another. An *Impressionist* room comes first, then follows an *Orientalist* one. A *Romantic* one completes the series. This last room, where the works are presented in exactly the same way as in the previous ones, hosts a digital projection which immerges the works and the visitor in a summer’s night. This projection, that creates what is called a virtual reality, covers the ceiling and walls with the shapes of trees whose leaves move slowly as if shoved by a gentle breeze. Every 30 seconds or so, a bird song is heard. This projection is responsible for the visitor’s physical immersion (see photographs of the three rooms at the end of this text).

4. Research schema

Sample was composed of 30 adults, men and women, aged 20 to 40 years of age. These people enjoyed a secondary education or more, and used to go to the museum two to five times a year. These people were recruited according to the “Snow Ball” technique.

Ways of gathering information from visitors:

Information was gathered from each visitor in three ways.

1. Information was collected from a visitor through the “Thinking Aloud” Technique (Ericcson and Simon, 1993). In fact, we used an adapted and validated version for the museum situation (Dufresne-Tassé et al. 2014). Il consists in asking a visitor who is arriving at the museum to do her/his visit as she/he wishes, saying aloud what comes to her/his mind without bothering with remembering or justifying it. Through what they say, visitors reveal their relationship to the work they are observing, how they explore it, and how their thoughts, images and feelings come into play.
2. Once the visit is over, each visitor is asked to return to the rooms and indicate each of the works in front of which she/he had an experience of psychological immersion.
3. Once this is completed, during an interview, the visitor describes what it is for her/him to have an immersive experience, based on what happened during her/his visit. The definition thus obtained corresponds impressively to the theoretical definition offered above. Indeed, according to the 30 visitors, it is mainly: being elsewhere, taking a trip (80%), and getting closer to the works (20%). The trip is supported by (in order of importance): a) Exploring the work (possibly using information from the label); b) Deepening the meaning of the aspect considered by "attaching" memories and personal knowledge to it, or by imagining "things" that happen elsewhere than in the museum rooms. One feels emotions, pleasure, joy, empathy.

5. Results

The room did not have some of the characteristics of an immersive place?

The characteristics required of an environment for it to be considered immersive (Chen, Hu and Fisher, 2024; Dai-In, Melisssen and Haggis-Burridge, 2024; Hyunkook, 2020; Valteirra Lacalle, 2018) are the following: this environment completely envelops the visitor, it is consistent, its ambient light is subdued, and it solicits more than one sensory modalities.

The analysis of the environment in which the visitor found herself/himself immersed reveals that it met all the previous characteristics. Indeed: the digital projection of a summer night covered both the ceiling and the walls of the room, so that the visitor was completely plunged in this universe; the projection also created a consistent universe that solicited both sight and hearing (birdsong). Furthermore, this solicitation would go on all the time that the visitor was staying in the room. The characteristics of the room cannot therefore be held responsible for the low psychological immersion observed among the visitors of the previous study.

The visitors did not feel physically immersed?

No, that is not the case. Indeed: Upon entering the room or shortly after, 29 of the 30 visitors say: it is beautiful, calm, the atmosphere is pleasant (only one says that it is dark and that he does not like wearing his glasses). A dozen visitors also say that they can almost feel the breeze that moves the leaves. In addition, 5 visitors regret that there is no bench that would allow them to benefit longer from the atmosphere of the room. Finally, 2 visitors suggest that the museum should create other similar rooms. This second factor can therefore, no more than the first one, explain the lack of psychological immersion of the visitors who participated in the study.

The hanging of the works was problematic?

Very likely, and for the following two reasons.

1. The "White Cube" type of hanging invited visitors to ignore the physical immersion induced by the digital projection of a summer night. More precisely, the hanging of the third room was the same as that of the two rooms that the visitor had just visited, as can be seen by browsing the first group of photographs presented below. As in the first two rooms, the hanging invited the visitor to take an interest in each painting or sculpture in turn without worrying about the characteristics of the walls and ceiling. In the third room, this meant leaving aside its immersive character. This interpretation is supported by the fact that only 2 out of 30 visitors briefly mention an aspect of the room or its atmosphere in all what they say about the 29 works exhibited.

2. The subject of the exhibited works (see the second and the third groups of photographs presented below), even when they are landscapes, has no obvious connection with a summer night and its atmosphere as the visitors in this study perceive them. It is therefore quite likely that these visitors put the digital projection aside when they process the paintings and sculptures they observe.

In short, two aspects of the hanging act in concert to make visitors neglect the effect that the immersive installation in which they find themselves has on them. More precisely, by working in the same direction, the two aspects are strong enough to create a gap between the physical immersion experienced by visitors and what they are looking at, thus preventing the physical immersion from positively influencing the treatment of the works.

6. Synthesis and discussion

We just saw: a) that the digital projection creating a virtual reality does indeed have the characteristics that make it an immersive projection; b) that visitors do indeed experience a physical immersion that constitutes a positive experience; c) but that this physical immersion does not promote engagement, or if one prefers, psychological immersion when faced with prints or sculptures exhibited in a fine arts museum; d) the most plausible hypothesis of this failure of the physical immersion seems to be the existence of a gap, more precisely an inconsistency, between what visitors physically experience and what the museography, that is to say, the characteristics of the room where they are, invites them to do.

7. Discussion

Firstly, the last of the preceding observations raises an important question for the museum world: what should be the relationship between the experience lived during physical immersion and the objects on display for immersion to facilitate the processing of these objects? For example, should it constitute an immediate context for the objects? Should it instead offer additional information closely related to the meaning of these objects?

Moreover, the failure of the physical immersion to induce psychological immersion raises a worrying question: are our results really exceptional? To adequately answer this question, one must obviously consider the results of other studies according to at least three of their characteristics. a) According to the type of museum in which these studies were conducted. Indeed, what constitutes the experience of psychological immersion, that is to say the production of meaning by a visitor while she/he is moving around a museum, varies greatly depending on whether she/he is strolling in an archaeology museum, a natural history museum or a fine arts museum (Sauvé-Delorme, 1997); b) According to the way in which objects are presented in the same type of museum, because museography, as we have just seen, greatly influences the visitor's production of meaning. It can just as easily make it impossible as it can strongly stimulate it; c) According to the means used to collect information from the visitor; the determining character of this component of a research is so obvious that it goes without comment.

If we use the three previous parameters to sift through all the research carried out in museums, there remain three studies, those of Desbans (2017), Jancert (2015) and Msica (2019) which arrive at findings similar to ours: physical immersion does not necessarily facilitate psychological immersion. So, all things considered, our observations are not as exceptional as they first appeared.

Finally, in a completely different vein, deepening the understanding of psychological immersion seems to be a pressing need for avoiding misunderstandings, but also for studying what appears to Zhang (2020) a particularly important form of the adult's psychological functioning. In fact, the “Thinking Aloud” technique, used in this study as a means of collecting information from visitors, continually gives access to the result of what their working memory processes, that is to say, their production of meaning from minute to minute, in other words, their continuous cognitive, imaginary and affective production. Thus, “Thinking Aloud” would allow to detail, if not renew, what we now know about psychological immersion and possibly also would enable studying what it entails for an adult.

Figure 1



Impressionist room



Orientalist room



Romantic room









Examples of paintings exhibited in the Romantic Room.





Examples of sculptures.

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TEACHERS' EMOTIONS IN CLASSROOM AND THEIR JOB SATISFACTION: A MEDIATING ROLE OF REGULATION OF EMOTIONS

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Abstract

The increase in reported emotional difficulties, reflected in higher levels of stress and burnout among teachers across Europe, underscores the importance of developing a conceptual understanding of the underlying processes and support mechanisms for teacher well-being, including teachers' emotional competencies. The range of emotions that teachers experience in the classroom is diverse, both in terms of quality and intensity. These emotions have a significant impact on teachers' cognition, motivation and relationships with their students. Furthermore, research indicates that teachers' emotions are closely related to levels of burnout and job satisfaction and also influence the decision to leave the teaching profession. In this context, the experience of pleasant emotions and the use of more adaptive emotion regulation strategies contributes positively to job satisfaction. Research on teachers' emotions, emotion regulation and their effects on teachers' outcomes has gained increasing attention in recent years; however, such research has not yet been conducted in Slovenia. The present study uses in-service teachers' data (N = 1,191; 86.6% females) from a larger data collection entitled Positive Teacher Development Model: Interplay of the Individual (Motivational, Emotional, and Cognitive) and Contextual (School and System-Level) Assets During the School Year. After exploring the psychometric properties (validity and reliability) of the scales used, we analysed teachers' classroom emotions (joy, hopelessness, anger, pride, and love) as predictors of job satisfaction and a mediating role of emotion regulation difficulties between teachers' emotions and their job satisfaction. Finally, practical implications are discussed.

Keywords: *Teachers, emotion, regulation, job satisfaction, Slovenia*.

1. Introduction

The growing prevalence of emotional difficulties, characterised by increasing stress and burnout among teachers across Europe (OECD, 2020), highlights the need for a deeper conceptual understanding of the factors that influence teachers' well-being, including their emotional competencies. Teachers experience a wide range of emotions in the classroom, varying in both their quality and intensity (Burić et al., 2018). The emotions that teachers experience have a significant impact on their mindset, motivation and engagement with students (Sutton & Wheatley, 2003). Furthermore, research shows that teachers' emotions are closely linked to levels of burnout and job satisfaction and also influence the decision to leave the teaching profession (Atmaca et al., 2020). In this context, the experience of pleasant emotions and the use of more adaptive emotion regulation strategies contributes positively to job satisfaction (Aldrup et al., 2020, Brackett et al., 2010). Research on teachers' emotions, emotion regulation and its impact on teachers' outcomes has gained increasing attention in recent years; however, such research has not yet been conducted in Slovenia.

In the present study, we will examine the role of emotions in teachers' job satisfaction in Slovenia. More specifically, after examining the psychometric properties of the scales used, we will analyse teachers' emotions in the classroom (joy, hopelessness, anger, pride and love) as predictors of their job satisfaction. In addition, we will analyse difficulties in emotion regulation as a mediating factor between teachers' emotions and their job satisfaction in a sample of Slovenian teachers.

2. Method

2.1. Participants

The sample included 1191 in-service teachers (86.6% females), aged from 22 to 65 years (M = 42.49; SD = 9.42) from 49 elementary and 21 upper-secondary schools from Slovenia.

2.2. Instruments

The Teacher Emotion Questionnaire (TEQ, Burić et al., 2018) consists of 35 items. Teachers assess their emotions in relation to their teaching, engaging and their interaction with students. It comprises the subscales joy (5 items, e.g. "I feel satisfied when I achieve my learning goals"), pride (6 items, e.g. "The pride I feel when my students succeed confirms that I am doing a good job"), love (6 items, e.g. "I feel happy when I achieve my learning goals"), anger (5 items, e.g. "I feel frustrated when things don't go as planned in class") and hopelessness (5 items, e.g. "I feel helpless because I just can help some of my students"). The original scale also included fatigue, which was not included in the study. Respondents rated the extent to which each item applied to them on a 5-point Likert-type scale ranging from 1 (completely disagree) to 5 (completely agree). The anger and hopelessness scales are reverse-coded. The higher the values, the lower the anger and the lower the hopelessness.

The Difficulties with emotion regulation Scale. The brief version of the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) is a 16-item self-report instrument that measures the following dimensions of difficulties in emotion regulation: nonacceptance of negative emotions (3 items), inability to engage in goal-directed behaviours when distressed (3 items), difficulties controlling impulsive behaviours when distressed (3 items), limited access to emotion regulation strategies perceived as effective (5 items), and lack of emotional clarity (2 items). Respondents rated the extent to which each item applied to them on a 5-point Likert-type scale from 1 (almost never) to 5 (almost always).

The Job Satisfaction Scale (OECD, 2020) measures job satisfaction and comprises 10 items. The Job Satisfaction Scale assesses two aspects of teachers' job satisfaction: satisfaction with the profession (4 items, e.g. "The advantages of being a teacher clearly outweigh the disadvantages") and satisfaction with the current working environment (4 items, e.g. "If possible, I would like to change schools"). The two remaining items assess whether teachers feel that society values the teaching profession and satisfaction with their own job. Respondents rated the extent to which each item applied to them on a 6-point Likert-type scale from 1 (completely disagree) to 6 (completely agree).

2.3. Procedure

The data is part of a research project entitled Positive Teacher Development Model - An interplay of the Individual (Motivational, Emotional, and Cognitive) and Contextual (School and System level) Assets during the School Year, which aimed to investigate individual and contextual factors that can contribute to job satisfaction, retention and reduce burnout. All elementary and upper secondary schools in Slovenia were invited to participate so that the data would reflect the population as closely as possible. Prior to data collection, the questionnaires were translated into Slovenian (if they had not been translated before) using a double translation procedure (two independent translations with a third translator deciding on the translations, all three translators being psychologists). The study was approved by an ethics committee of the Educational Research Institute (No. 3-2024). Informed consent was then obtained from the participants. In addition, all participants were informed about what the survey was about, how the data would be collected, protected and analysed and that they could withdraw their participation at any time. Participants received the link to the online questionnaire battery from the school coordinators. The data was collected at the end of September 2024 to record how the start of the school year affected teachers. It took them around 30 minutes to complete the questionnaire.

2.4. Data analyses

After examining descriptive statistics, correlations, and reliabilities using IBM SPSS Statistics 26, we conducted CFA (confirmatory factor analysis), and SEM (structural equation modelling) using Mplus (Version 8.1; Muthén & Muthén, 1998–2017). A maximum likelihood (ML) algorithm was used to handle missing data and assess parameters in the model. Separate CFA models were conducted for each construct. If indicated by modification indices and justified by the content of the items, a correlation between the items was added. CFA models were brought into the mediation model in the second step. Item loadings were interpreted in accordance with Tabachnick and Fidell (2006), suggesting cut-off values of 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good), or 0.71 (excellent). Model fit was assessed with chi-square ($\chi 2$), comparative fit indices (CFI), root mean square error of approximation (RMSEA), and standardised root mean square residual (SRMR), following the recommendations by Hu and Bentler (1999) for a good fit:

CFI > 0.95, RMSEA < 0.06, and SRMR < 0.08. For adequate fit, the following cut-off values were applied: CFI > 0.90, RMSEA < 0.08, and SRMR < 0.08 (Hair et al., 1998).

3. Results

3.1. Confirmatory factor analyses and reliability analyses

Confirmatory Factor Analyses models for each construct were examined. The items were used as indicators in the models. Fit indices are summarized in Table 1.

Table 1. Model Fit Indices for Latent Constructs.

Scale	$\chi 2$(df)		CFI	RMSEA [90% CFI]	SRMR
Emotion	1689.394 (340)	***	.971	0.058 [0.055–0.061]	0.049
Emotion Regulation Difficulties	531.828 (92)	***	.985	0.063 [0.058–0.069]	0.028
Job satisfaction	131.9476 (25)	***	.993	0.060[0.050–0.071]	0.021

Notes: * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

All scales showed good fit proving their validity. Additionally, reliability analyses showed adequate internal consistency (Cronbach's alphas) for all scales in Teacher emotion Questionnaire: joy: .873, pride: .895; love: .887; anger: .874; hopelessness: .904 as well as for Emotional Regulation Difficulties: .934 and Job Satisfaction: .843.

3.2. Descriptive statistics

Means, standard deviations, and correlations for the scale mean scores are presented in Table 2 to provide a brief insight into the data; however, in the CFA and SEM analyses, questionnaire items were used as indicators of latent variables. Following the recommendation of Curran et al. (1996) for ensuring the multivariate normality required in SEM, no variables (items) needed to be transformed due to excessive skewness or kurtosis.

Table 2. Descriptive Statistics and Correlations across Scales.

Variable	*M*	*SD*	1	2	3	4	5	6
1. Emotion (Joy)	4.77	0.38						
2. Emotion (Pride)	4.43	0.56	.615**					
3. Emotion (Love)	3.98	0.68	.403**	.535**				
4. Emotion (Anger)	3.79	0.82	-.011	-.076**	0.038			
5. Emotion (Dispair)	3.48	.88	-.020	-.039	.113**	.705**		
6. Emotion Regulation Difficulties	1.97	0.64	.000	.029	-.084**	-.476**	-.447**	
7. Job Satisfaction	4.29	0.80	.085**	.097**	.231**	.352**	.322**	-.242**

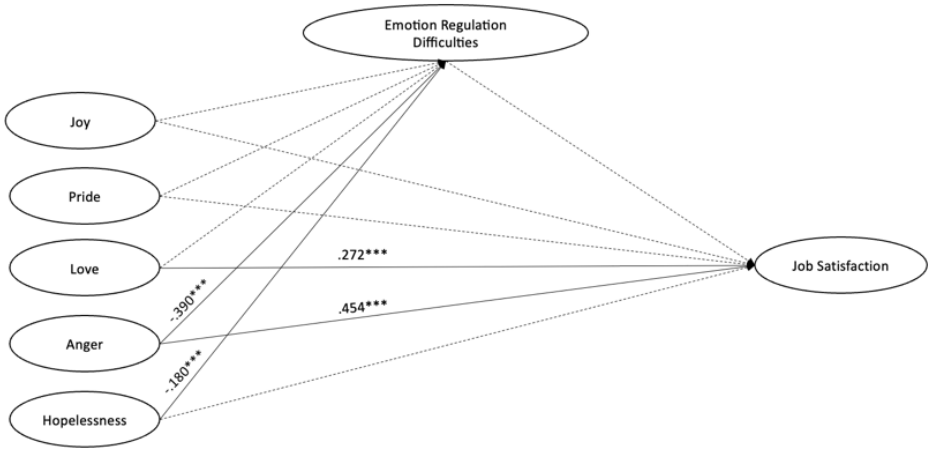
Note. $^{***}p < .001$

We can observe positive associations between emotions joy, pride and love and high positive associations between anger and hopelessness. Emotion regulation difficulties are negatively associated with love, lack of anger and lack of hopelessness, while job satisfaction has significant associations with all other occluded scales.

3.3. Mediation model

Further on we investigated mediation model in which we analyse direct and indirect paths leading from teachers' emotion to emotion regulation difficulties, and job satisfaction. The model fits the data well: $\chi 2(1334) = 3677.922$, $p = .000$; CFI = .968; RMSEA = .038, 90% CI [.037, .040]; SRMR = .049.

*Figure 1. Relationships between Teachers' Emotions, Emotion Regulation Difficulties and Job Satisfaction: Structural Equation Model. The numbers present completely standardised coefficient estimates. Solid lines represent significant paths or correlations and dashed lines indicate non-significant paths or correlations. ***p < .001.*



There are significant direct paths leading from hopelessness and anger to emotion regulation difficulties and from love and anger to job satisfaction. The less anger and hopelessness teacher report the less they also report emotion regulation difficulties. The more love and less anger they report the higher are their levels of job satisfaction. The indirect path from teachers' emotion through emotion regulation difficulties to job satisfaction are not significant.

4. Conclusions

In view of the worsening teacher shortage, the need for support for teachers is increasing rapidly. With many teachers leaving the profession due to stress and burnout (Madigan & Kim, 2021), strengthening their emotional competences can be an important part of the solution. The study highlights how emotions contribute to job satisfaction in different ways. Love and anger were of particular importance. Love is interesting as it was identified as a rare emotion of teachers in the study by Burić et al. (2018). Therefore, its prevalence and supporting mechanisms are worth investigating. On the other hand, anger was identified in the same study (Burić et al., 2018) as a common emotion experienced in situations such as student misbehaviour, violation of classroom discipline, rudeness or laziness. Experiencing unpleasant emotions such as anger is associated with emotional exhaustion, a core component of burnout (Chang, 2009). Our results show that pleasant emotions, such as love, are associated with higher job satisfaction, while unpleasant emotions, such as anger, are associated with lower job satisfaction. Interestingly, difficulties in emotion regulation did not contribute significantly to job satisfaction. Further in-depth analyses are needed in future studies, preferably using a mixed-methods approach and intensive longitudinal studies, to overcome the limitations of the cross-sectional design of the current study, which is based on self-report.

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MEANING IN LIFE, MEANING-FOCUSED COPING AND SUBJECTIVE WELL-BEING OF PARENTS RAISING CHILDREN WITH DISABILITIES

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Abstract

The relationship between meaning in life and subjective well-being is complex. The purpose of this study is to examine the relationship between global and situational meaning in life of parents of children with disabilities with their family satisfaction and subjective happiness as measures of their subjective well-being. In addition, the study examines whether the benefit-finding strategy, a strategy that focuses on meaning in life, mediates the relationship between meaning in parents' lives with their subjective well-being. The sample consisted of 186 parents, the majority of whom were female, who completed self-report questionnaires measuring the presence of meaning in life (as a global meaning measure), personal control (as a situational meaning measure), benefit-finding strategy, family satisfaction, and subjective happiness (as subjective well-being measures). Results showed that both the presence of meaning and personal control were positively related to family satisfaction and subjective happiness. In addition, the benefit-finding strategy was found to act as a mediating factor, i.e. it explained part of the predictive relationship between the presence of meaning in life and personal control with the dimensions of subjective well-being studied. These findings may be useful for mental health professionals aiming to improve the subjective well-being of parents of children with disabilities. In the counseling process, training parents in the benefit-finding strategy can empower them by replacing negative perceptions of disability with its positive effects or consequences.

Keywords: *Meaning in life, subjective well-being, benefit finding strategy, parents, disability.*

1. Introduction

The birth and upbringing of a child with a disability is undoubtedly a major life event for parents and other family members. Previous research has shown that the presence of a child with a disability is likely to cause 'psychological distress', with serious and long-lasting effects on the family. On the other hand, in a significant number of studies, parents of children with disabilities report positive effects on their family life and satisfactory subjective well-being (Bayat, 2007; Jess et al., 2017). Many factors influence parents' subjective well-being, one of which is the coping strategies they choose to deal with the challenges of their child's disability, especially those focusing on meaning in life, such as the benefit finding strategy. In the present study, in order to understand the relationships between meaning in life, subjective well-being and the benefit-finding strategy, the Meaning Making Model was adopted.

The Meaning Making Model (George & Park, 2016) assigns an important role to meaning in life in explaining how individuals cope with serious life events. The model describes two levels of meaning: global and situational meaning. Global meaning includes beliefs, goals and our subjective sense of meaning in life. Situational meaning involves the evaluation of a specific stressor. A key principle of the model is that, when individuals perceive a significant discrepancy between global and situational meaning, they are likely to experience psychological distress and low levels of subjective well-being (Park, 2010). In this situation, efforts to reduce the discrepancy are initiated through the use of coping strategies to recreate meaning. In the case of parents expecting a child, most assume that their child will be healthy and follow a normal developmental pattern. If this is not the case, a diagnosis of disability is likely to violate their beliefs about the fairness of what has happened to them. To resolve this discrepancy between global and situational meaning, parents should either reassess their global meaning or change their situational meaning to a more favorable understanding of the situation so that it does not lead to distress and low subjective well-being (Park, 2010).

Meaning in life is one of the many factors that contribute to subjective well-being (Hammerton, 2022), especially when faced with adversity. One dimension of global meaning, subjective sense (presence) of meaning in life, was found to associate with increased subjective well-being, even among parents of children with intellectual disabilities and/or autism (Griffin & Gore, 2023).

The situational meaning is also an important factor in the process of coping with stressful situations. According to the Meaning Making Model, it is not the event itself that can cause stress for an individual, but the way in which the event is evaluated (i.e., situational meaning). The evaluation of the stressor is shaped by whether the individual perceives the event as a threat or a challenge, or whether they believe that they can control the event or that it will have negative and long-term consequences for their life (Park, 2010).

Coping strategies that focus on meaning in life involve the evaluations that individuals make about their life in general (global meaning) and specifically about the stressor (situational meaning), with the aim of reducing the discrepancy between global and situational meaning, improving psychological adjustment during or after a stressful event, and ensuring subjective well-being. Such strategies include benefit finding, positive reappraisal, and reordering of priorities (Ahmadi et al., 2022). In this study, we examine a benefit finding strategy that focuses on the positive effects and benefits of disability as perceived by parents, in contrast to previous research that has focused on the negative aspects of disability. A number of studies have highlighted reports of positive outcomes, changes and emotions in parents and other family members as a result of parenting a child with disabilities (Beighton & Wills, 2019).

2. Objectives

Research has shown that meaning in life is positively associated with the subjective well-being of parents raising a child with a disability (Mines et al., 2015). However, research on meaning-focused coping strategies and their impact on the subjective well-being of parents of children with disabilities is extremely limited. The present study focuses on the benefit finding strategy. Regarding the hypotheses, it is expected that presence of meaning and personal control will be positively related to family satisfaction and subjective happiness (Hypothesis 1). Furthermore, benefit finding will be positively related to presence of meaning and personal control, family satisfaction and subjective happiness (Hypothesis 2). Finally, it is expected that benefit finding will mediate the relationship between presence of meaning and personal control with family satisfaction and subjective happiness (Hypothesis 3).

3. Method

3.1. Participants

Participants were 186 parents (135 mothers and 51 fathers) who had a child aged 3-7 years with a diagnosed disability (autism, mental retardation, motor disabilities, etc.) with a mean age of 39.04 years (range 25-63 years).

3.2. Research instruments

Participants were tested with five questionnaires: (1) Presence of meaning in life was assessed using the Meaning in Life Questionnaire (Steger et al., 2006) (e.g. 'I understand the meaning of my life'). (2) Personal control was assessed using the respective subscale of the Stress Appraisal Measure (Peacock & Wong, 1990) (e.g., "Do I have the ability to cope well in this situation?"). (3) Benefit Finding Strategy was tested with an improvised scale (e.g. "I have noticed that my child's disability has had a positive impact on third parties (siblings, relatives, community, etc.”). (4) Family Satisfaction Scale (Olson & Wilson, 1982) (e.g. "How satisfied are you with how close you feel to your family members?). 5) Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) (e.g. 'How happy do you consider yourself in general').

4. Results

Pearson's correlation coefficients were then calculated between the variables. According to the results (see Table 1), the presence of meaning in life and personal control show a positive, statistically significant correlation with subjective happiness and family satisfaction, confirming the first research hypothesis. It was also found that the benefit-finding strategy was positively correlated with the presence of meaning and personal control, as well as with the dimensions of subjective well-being, verifying our second research hypothesis.

Table 1. Correlations between Presence of Meaning in Life and Personal Control with Family Satisfaction and Subjective Happiness.

	1.	2.	3	4.
1. Presence of meaning in life	-			
2. Personal control	.292	-		
3. Family satisfaction	.332**	.329**	-	
4. Subjective Happiness	.394**	.340**	.315**	-
5. Benefit Finding Strategy	.449**	.363**	.310**	.331**

Note: **p>0.01

In order to test the third research hypothesis about the mediating role of the Benefit Finding Strategy in the relationship between meaning in life and subjective well-being, a mediation analysis was applied using the PROCESS Model 4 macro in SPSS (Hayes, 2022). First, two models were tested in which the benefit-finding strategy mediated the effect of the presence of meaning in life on family satisfaction and subjective happiness. The analyses (see Table 2) showed that the direct effects of meaning in life on the benefit-finding strategy and the benefit-finding strategy on family satisfaction and subjective happiness were statistically significant. In addition, the indirect effects of purpose in life on family satisfaction and subjective happiness were also found to be statistically significant. Therefore, since both direct and indirect effects were found to be statistically significant, there is a partial mediation of the benefit-finding strategy on the effect of the presence of meaning in life on family satisfaction and subjective happiness. Next, two respective models were tested in which the benefit-finding strategy mediated the effect of personal control on family satisfaction and subjective happiness. The analyses (see Table 3) showed that the direct effects of personal control on benefit-finding strategy and benefit-finding strategy on family satisfaction and subjective happiness were statistically significant. In addition, the indirect effects of personal control on family satisfaction and subjective happiness were also found to be statistically significant. As both direct and indirect effects were found to be statistically significant, it is concluded that there is a partial mediation of the utility search strategy on the effect of personal control on family satisfaction and subjective happiness.

Table 2. Direct and Indirect effects of Benefit Finding strategy (BFS) on the relation of Presence of meaning in life (PML) with Family Satisfaction (FS) and Subjective Happiness (SH).

		B	SE	95% Percentage Confidence Lower	Upper
	Direct effects				
	PML⟶ BFS	0.32***	0.04	0.231	0.420
	PML⟶ FS	0.25***	0.05	0.146	0.354
PML→BFS ⟶ SH	BFS⟶ FS	0.21*	0.07	0.052	0.367
	Indirect effects				
	PML⟶ BFS → FS	0.18**	0.05	0.067	0.266
	Direct effects				
	PML⟶ BFS	0.32***	0.04	0.231	0.420
	PML⟶ SH	0.45***	0.07	0.302	0.615
PML→BFS ⟶ SH	BFS⟶ SH	0.31*	0.12	0.080	0.553
	Indirect effects				
	PML→BFS→ SH	0.35***	0.08	0.183	0.527

Note: ***p <0.001 **p<0.01 *p<0.05

Table 3. Direct and Indirect effects of Benefit Finding strategy (BFS) on the relation of Personal Control (PC) with Family Satisfaction (FS) and Subjective Happiness (SH).

		B	SE	95% Percentage Confidence Lower	Upper
	Direct effects				
	PC → BFS	0.35***	0.06	0.225	0.493
	PC → FS	0.33***	0.07	0.197	0.480
PC → BFS → FS	BFS → FS	0.22*	0.07	0.077	0.378
	Indirect effects				
	PC → BFS → FS	0.25**	0.07	0.108	0.406
	Direct effects				
	PC → BFS	0.35***	0.06	0.225	0.493
	PC → SH	0.54***	0.11	0.323	0.760
PC → BFS → SH	BFS → SH	0.38**	0.11	0.155	0.616
	Indirect effects				
	PC → BFS → SH	0.40**	0.11	0.175	0.631

Note: ***p <0.001 **p<0.01 *p<0.05

5. Discussion and conclusions

According to the results of this study, presence of meaning (global meaning) and personal control (situational meaning) are positively related to family satisfaction and subjective well-being. This finding is supported by the existing literature: high levels of present meaning and personal control lead to higher levels of subjective well-being for parents of children with disabilities (Hammerton, 2022; Grifin & Gore, 2023). In addition, a meaning-focused strategy has been found to be positively related to dimensions of meaning in life and measures of subjective well-being. In our study, the majority of parents tested focused on the positive aspects of disability using a benefit-finding strategy, acknowledging the benefits of their child's disability. Positive associations of benefit finding were found with both family satisfaction and subjective happiness. Previous research has shown that the use of meaning-focused coping strategies has a positive effect on the subjective well-being of individuals facing serious life events such as a terminal illness (Ahmadi et al., 2002), the COVID -19 pandemic (Arslan & Yildirim, 2021), or a natural disaster such as a major earthquake (Guo et al., 2013).

Finally, the present study confirmed the hypothesis that benefit-finding strategy plays a mediating role in the relationship between meaning in life and subjective well-being as experienced by parents raising a child with a disability. Specifically, benefit-finding was found to partially mediate the relationship between the presence of meaning and personal control with family satisfaction and subjective happiness. This suggests that individuals who perceive a greater presence of meaning and personal control in their lives and use the benefit-finding strategy have higher levels of family satisfaction and subjective happiness. Thus, cultivating a sense of purpose and personal control may not only directly enhance subjective well-being, but also indirectly influence it through the benefit-finding strategy. This finding is consistent with the findings of other researchers (Beigthon & Willis, 2016, 2018; Dardas &Ahmad, 2015; Whiting, 2012) that in the presence of meaning in life, a benefit-finding strategy that focuses on the positive effects of disability enhances the influence of the cognitive and affective dimensions of subjective well-being.

6. Applications in parent counseling and further research

The findings of this research on the role of the benefit-finding strategy may be useful to mental health professionals who aim to improve the subjective well-being of parents of children with disabilities. Mental health professionals also need to draw parents' attention to the positive experiences and aspects of their relationship with the child in order to help them cope more effectively with the challenges of disability. To this end, training parents in benefit-finding strategies can be a valuable tool, so that negative perceptions of the child's disability can be replaced with more adaptive appraisals that focus on the positive effects or consequences of the event. Therefore, in counseling interventions with these parents, emphasis needs to be placed on reflecting on, discovering or realizing the potential benefits associated with their child's disability, as this may contribute to their empowerment and improve their subjective well-being.

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THE ROLE OF DOMAIN-GENERAL FACTORS IN NUMERICAL PROCESSING IN EARLY CHILDHOOD

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Abstract

Numerical skills are a major cognitive foundation of mathematical learning, especially in young children. Even though multiple prior studies have examined the isolated role of domain-general factors in numerical processing, the complex relationships between multiple domain-general abilities and numerical abilities have not been tested together. For the first time, we tested spatial skills, visuospatial short-term memory, visuospatial working memory, attention, executive function, and fine motor skills to determine whether they represent distinct constructs and correlate with numerical abilities and the development of numerical abilities independently, or whether they cluster into integrated constructs. Using an extensive sample of children (n = 339) of varying ages (between 3 and 8 years old), we examined the influence of domain-general factors on numerical skills. All participants were introduced to the GiantLeap app, an app designed to conduct child development evaluations in non-controlled environments. The evaluation process is divided into two modules: a series of engaging tasks for the child and questionnaires for the parents. We used factor analysis to cluster tasks into latent variables to analyze the data. Based on the results, we used Structural Equation Modeling with numerical abilities as the outcome variable. First and foremost, we discovered that spatial skills—including visuospatial working memory, visuospatial short-term memory, and mental rotation—directly and strongly affect numerical skills. Executive functions also affect numerical skills but to a lesser extent. Notably, executive functions made a unique contribution to symbolic numerical skills, dissociating symbolic and non-symbolic numerical skills. Interestingly, attention (tested by hyperactive symptoms and commission rates) had no direct or indirect effect on numerical processing. Age affected multiple tasks, but not in the same manner. It had the strongest effect on omission rate and numerical processing, with a weaker effect on spatial abilities (except for mental rotation, which was directly affected by age). Age did not affect attention. These results indicate that multiple factors can affect numerical performance. This conclusion bears significant implications for the early diagnosis of learning disorders and intervention methods for these disorders.

Keywords: *Visuospatial short-term memory, visuospatial working memory, executive function, numerical processing, development.*

1. Introduction

Mathematical education is a relatively new cultural invention. However, it has been suggested that innate and primitive numerical abilities may be a marker for later mathematical abilities (Halberda & Feigenson, 2008). Specifically, evidence from infants, preschool children, and adults, as well as from non-human primates, has consistently shown that processing and manipulation of quantity are preverbal abilities based on defined neurological circuits (Ashkenazi et al., 2012). The approximate number system (ANS) hypothesis suggests that humans and non-human primates have a preverbal ability to intuitively understand approximate quantities and the relations between them. Later, after learning symbolic number words, these words (e.g., two) are mapped to non-symbolic quantity representation based upon the ANS (Halberda & Feigenson, 2008). In line with the ANS hypothesis, multiple studies have found modest positive correlations between accuracy in the ANS task, represented by the Weber fraction (the ratio between two compared approximate quantities that represents the highest individual discrimination ability), and mathematics, meaning that children and adults with better ANS acuity were found to show better math performances (see De Smedt et al., 2013, for narrative reviews).

However, other theories suggest that the symbolic numerical system develops independently from the approximate non-symbolic system and that in the early stages of development, only symbolic numerical representation is related to math achievements (Noel & Rousselle, 2011). According to these theories, math abilities should correlate more strongly with symbolic numerical abilities (tested mostly by symbolic

comparison) than with ANS abilities (tested by non-symbolic comparison). A recent meta-analysis confirmed this assumption; specifically, the study tested the relationships between children's and adults' mathematical abilities and symbolic and non-symbolic comparison abilities. The results revealed that the correlation with math abilities was significantly higher for the symbolic (r = .302) than for the non-symbolic (r = .241) magnitude comparison task, and also that the correlation between math abilities and numerical abilities (symbolic and non-symbolic) decreased very slightly with age (Schneider et al., 2017). However, the same meta-analysis concluded that magnitude comparison (symbolic and non-symbolic) is associated with mathematical competencies over the lifespan, signifying the role of symbolic and non-symbolic abilities in mathematical competencies (Schneider et al., 2017).

While numerical processing is a domain-specific cognitive foundation of children's mathematical learning, domain-general abilities also play a central role in mathematical learning and numerical processing. Multiple domain-general abilities, such as executive functions, attention, working memory, spatial abilities, and fine motor skills, each potentially play a role in the learning of mathematics and the performance of numerical tasks. Note that past studies focused primarily on the isolated effect of a single domain-general ability or on the impact of a few domain-general abilities on the ability to learn mathematics. A comprehensive understanding of the complex interrelations between multiple domain-general abilities and numerical task performance is still lacking (e.g., Gilmore & Cragg, 2018).

1.1. Project goals

Understanding the cognitive foundation of children's early numerical learning and the relationships between this foundation and domain-general factors has central educational significance.

Specifically, investigating children's early numerical learning and identifying markers for mathematical difficulties in very young children can lead to early interventions, even prior to the beginning of elementary school.

Study 1 - The development of symbolic and non-symbolic processing.

Study 2 - The role of visuospatial working memory in symbolic and non-symbolic processing.

Study 3 - Investigating the role of domain-general factors (spatial abilities, executive function, working memory, attention, and fine motor skills) in numerical processing in early childhood.

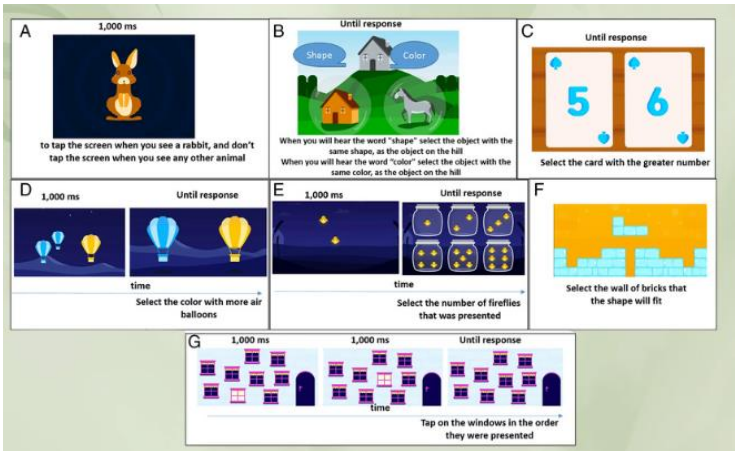
2. Methodology

2.1. Participants

Most of the participants were from the United States (80%), and others were native English speakers from other countries (such as Australia, Canada, and United Kingdom) that performed the GiantLeap diagnostic assessment. They did not receive any reward for participation other than feedback about their relative scores. Our dataset included 4,127 children who performed the diagnostic assessment between 2020 and 2021. Each child that was tested between the ages of 3 and 8 years and completed all the tasks, was included in our analysis: N = 339, 65% boys (Mean age girls 5.78, S.D. = 1.49; mean age boys 5.78, S.D. = 1.42).

2.2. Task

Figure 1. Demonstration of the task taken from the app. A Continuous performance task. B Color-Shape task. C Symbolic comparison D None- symbolic comparison. E Enumeration. F mental rotation. G Corsi Blocks (the presentation for reverse corsi blocks was the same but with different instructions).



3. Results

Figure 2. Correlations between accuracy in non-symbolic tasks with RT and accuracy of the symbolic task for younger children on the left (ages 3, 4, and 5), and older children on the right (ages 6 and 7). As can be seen, the correlation with RT was similar between ages. However, in terms of accuracy the correlation before elementary school was larger than the correlation after elementary school (Z = 2.54, p = .005).

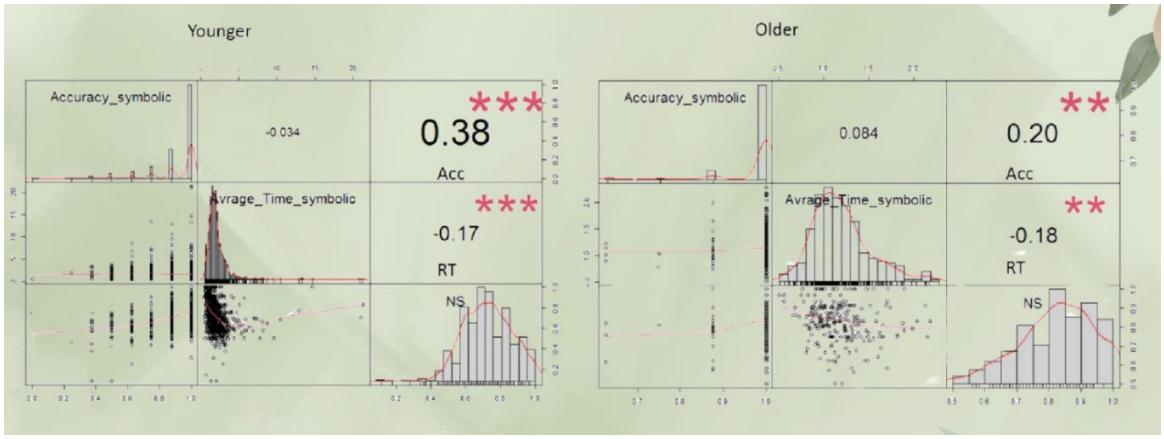


Figure 3. Correlations between RTs in symbolic task with RTs for subitizing and RTs for counting from the enumeration task for younger children is displayed on the left and for older children is displayed on the right. As can be seen, the correlation with subitizing was larger in the course of elementary school (ages 6 and 7, r (208) = .37, p < .001) than before elementary school (ages 3, 4 and 5, r (696) = .17, p < .001).

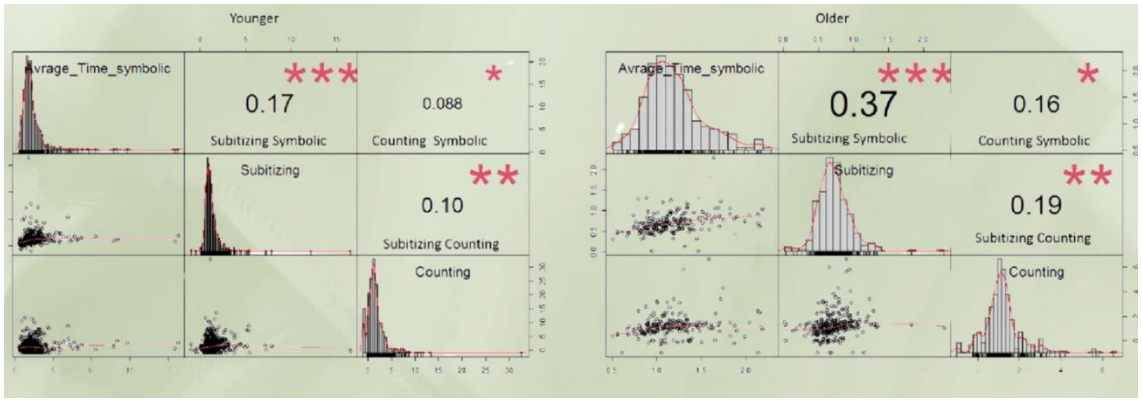


Figure 4. Developmental paths of the associations between visuospatial working memory and numerical processing, network analysis and SEM analysis.

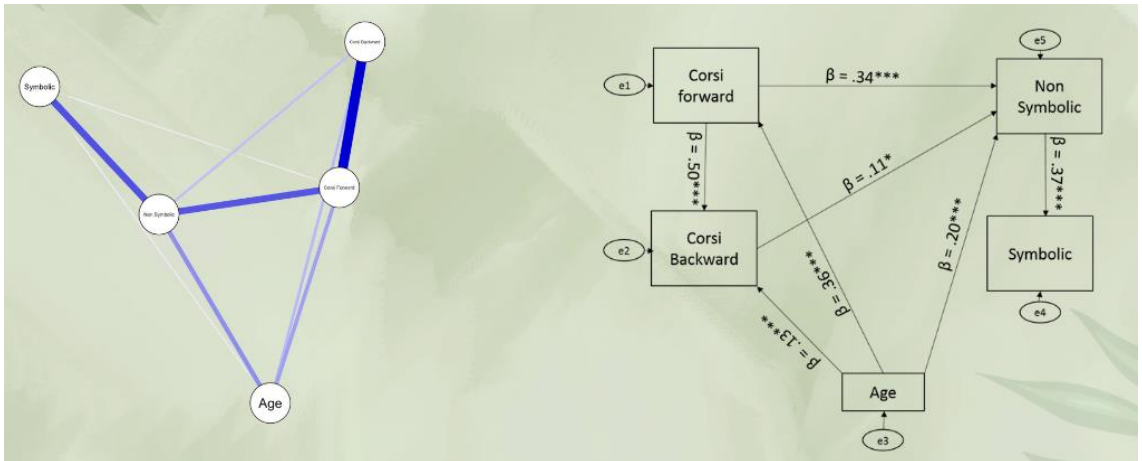
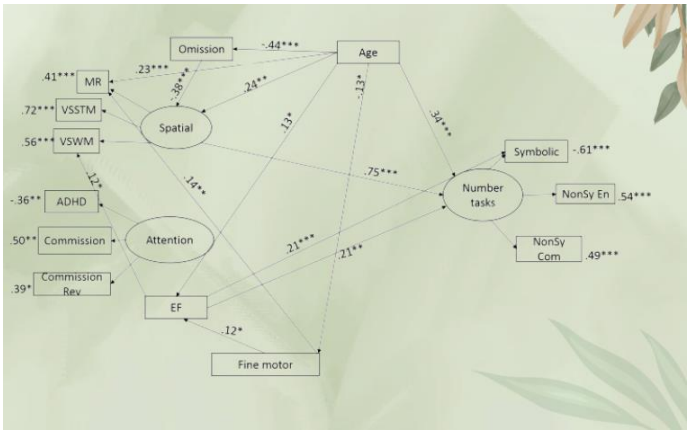


*Figure 5. Final model based on the factor analysis results combined with modifications according to AMOS program suggestions. MR = mental rotation; VSSTM = visuospatial short-term memory; VSWM = visuospatial working memory; commission rev = commission reverse; EF = executive function. NonSy = non-symbolic. En = enumeration. Com = comparison * = p < .05, ** = p < .01, *** = p < .001*



4. Discussion

One of the main questions that guided the present study was to understand how symbolic representation develops and whether symbolic representations are built upon approximate non-symbolic representation. The findings demonstrate that symbolic comparisons were associated with approximate non-symbolic representation most strongly prior to elementary school, while the correlations were weaker during elementary school.

On the other hand, correlations between subitizing and symbolic processing were found during elementary school but not prior to elementary school. This result suggests that symbolic representation of Arabic numerals changes during development. Before elementary school, there is a large resemblance between symbolic and non-symbolic approximate representation. However, during elementary school, two systems exist: one for symbolic representation, associated with subitizing, and another system for approximate non-symbolic representations.

One of the main goals that guided the present study was to understand the role of spatial abilities in numerical processing and the modulation effect of age on these relations. As expected, we found that the quantity comparison tasks are directly associated primarily with spatial short-term memory and, to a lesser degree, with spatial working memory. Because these two associations decrease with age, we suggest that younger children are using a spatial strategy more than verbally mediated strategies during numerical comparison tasks.

The associations were stronger between non-symbolic comparison and spatial abilities compared to symbolic comparison and spatial abilities. In fact, when including symbolic and non-symbolic comparison in one model, there was no direct link between symbolic comparison and spatial abilities. Similarly, in the unified model, age affected non-symbolic comparison abilities but not symbolic comparison abilities, demonstrating that symbolic representation is built upon non-symbolic representation.

Lastly, we discovered that spatial skills (composed of visuospatial working memory, visuospatial short-term memory, and mental rotation) directly and strongly affect numerical skills. Executive functions also affect numerical skills but to a lesser extent. Notably, executive functions made a unique contribution to symbolic numerical skills, dissociating symbolic and non-symbolic numerical skills. Interestingly, attention (tested by hyperactive symptoms and commission rates) had no direct or indirect effect on numerical processing. Age affected multiple tasks but not in the same manner. It had the strongest effect on omission rate and numerical processing, with a weaker effect on spatial abilities (except for mental rotation, which was directly affected by age). Age did not affect attention.

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PERSONALITY TRAITS, PSYCHOLOGICAL CAPITAL AND PARENTAL BEHAVIORS AS DETERMINANTS OF CAREER DECISION-MAKING DIFFICULTIES IN ADOLESCENCE

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Abstract

This study examines the impact of personality traits, psychological capital, and parental behaviors on career decision-making difficulties. It involved 560 students from various high schools in Croatia, assessed twice over the course of one year, in their third and fourth grades. Participants completed the Career Decision-Making Difficulties Questionnaire, the HEXACO-60 personality inventory, the Compound Psychological Capital Scale, the Parental Career-Related Behavior Scale, and a Sociodemographic Data Questionnaire. The results show a moderate level of career decision-making difficulties among students. Personality traits, psychological capital, and parental behaviors together explain 34% of the total variance in career decision-making difficulties. The findings also suggest that individuals with higher levels of extraversion and conscientiousness, as well as stronger psychological capital, experience fewer difficulties in making career decisions. Conversely, those with higher levels of parental interference and disengagement face greater challenges. Notably, psychological capital emerged as the strongest determinant, which is promising since it is more amenable to change through interventions. In conclusion, personality traits, psychological capital, and parental career-related behaviors significantly influence career decision-making difficulties.

Keywords: *Career decision-making difficulties, career choice, personality traits, psychological capital, parental behaviors.*

1. Introduction

Effective career development requires individuals to establish a personal career path and make various career-related decisions. Gati and colleagues (1996) proposed the concept of an "ideal career decision-maker"—someone who recognizes the necessity of making career choices and possesses both the willingness and ability to make well-informed decisions. Any deviation from this ideal may hinder the decision-making process or lead to suboptimal career choices due to difficulties in making decisions (Gati et al., 1996). The authors introduced a hierarchical classification of career decision-making difficulties, categorized into three main groups: lack of readiness, lack of information, and inconsistent information. Lack of readiness, which occurs before the decision-making process begins, includes low motivation to engage in decision-making, general indecisiveness, and dysfunctional beliefs about career choices. The second category, lack of information, refers to insufficient knowledge about the decision-making process, about personal characteristics, existing career options, and methods for gathering relevant information. Lastly, inconsistent information encompasses unreliable data and both internal and external conflicts. The latter two categories specifically pertain to challenges encountered during the decision-making process (Gati et al., 1996). Previous studies have highlighted that both personal and contextual factors can influence an individual's career development, including career decision-making difficulties. Research has shown that extraversion and conscientiousness have a positive impact, while emotionality has a negative effect (Albion & Fogarty, 2002; Di Fabio et al., 2014; Gati et al., 2011). Additionally, psychological capital—rooted in resilience and optimism—has been identified as a valuable asset (Dudasova et al., 2021). Moreover, families can play a crucial role in personal growth and career development, either supporting or hindering the process (Dietrich & Kracke, 2009), which can also influence career decision-making (Marcionetti & Rossier, 2016; Šimunović et al., 2020).

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2. Objectives

This paper aims to examine the potential origins of career decision-making difficulties among high school students by exploring both personal factors (such as personality traits and psychological capital) and contextual influences (including parental career-related behaviors).

3. Methods

3.1. Study design

We employed a longitudinal research design with two measurement points, ensuring a one-year gap between two assessments. This study is part of the Croatian Science Foundation project "Free Career Choice" (Project No. IP-2019-04-7537), which explores the career development of young and middle adolescents.

3.2. Sample

The sample consisted of adolescents who were followed throughout during high school. At T1, they were in the 3rd grade (approximately 17 years old, N=747), and at T2, they were in the 4th grade (approximately 18 years old, N=660). The number of adolescents who participated in both time points was N=560 (61.3% girls).

3.3. Instruments

To assess career development difficulties among adolescents, we used the Career Decision-Making Difficulties Questionnaire - Revised (CDDQ-R; Gati et al., 1996). This instrument evaluates three distinct challenges in the career decision-making process: lack of readiness, lack of information, and inconsistent information. It provides scores for each of these dimensions as well as a total score reflecting overall career decision-making difficulties. The CDDQ-R has demonstrated strong psychometric properties in both international and Croatian samples (Babarović & Šverko, 2018). In this study, the questionnaire showed excellent internal consistency, with an alpha coefficient of .95.

To assess the personal and contextual determinants of career decision-making difficulties, we utilized measures of personality, psychological capital, and perceived parental career-related behaviors. We used the *HEXACO-60* (Ashton & Lee, 2009) to assess six personality traits: honesty-humility (H), emotionality (E), extraversion (X), agreeableness (A), conscientiousness (C), and openness to experience (O). The HEXACO model has demonstrated strong cross-cultural validity (Thielmann et al., 2019), including in Croatian samples (Babarović & Šverko, 2013). Reliability in our sample was adequate, with alpha coefficients ranging from .72 to .81, aligning with findings from the original study (Ashton & Lee, 2009). We assessed psychological capital using the *Compound Psychological Capital Scale* (CPC-12R; Dudasova et al., 2021), which measures four dimensions: hope, optimism, resilience, and self-efficacy. While the original study supported a four-dimensional structure (Dudasova et al., 2021), our data indicated a strong general dimension of psychological capital, with excellent internal consistency (α = .93). *The Parental Career-Specific Behaviors* measure (Dietrich & Kracke, 2009) was used to assess three types of career-related parental behaviors: support, interference, and lack of engagement. The three-factor structure has been well established in Croatian samples (Šimunović et al., 2020), and in this study, internal consistency of the three scales was high, with alpha coefficients ranging from .90 to .92.

The assessment was conducted in schools using an online testing platform. Prior to administration, approvals and consents were obtained from the Ministry of Education, the Ethical board at the Institute, school principals, as well as from the students and their parents.

4. Results and discussion

Our results suggest that high school adolescents experience a moderate level of career decision-making difficulties (M = 4.46), which is consistent with our previous findings from similar samples (Babarović & Šverko, 2018). Adolescents reported facing somewhat greater challenges with lack of readiness (M = 4.81, Sd = 1.16), while inconsistent information was identified as the least pronounced difficulty (M = 4.17, Sd = 1.88).

Table 1. Career decision-making difficulties, personality traits, psychological capital and perceived parental behaviors in adolescent sample.

	N	*Min*	*Max*	*M*	*Sd*
Lack of Readiness	662	1.00	9.00	4.81	1.16
Lack of Information	662	1.00	9.00	4.41	1.88
Inconsistent Information	662	1.00	9.00	4.17	1.74
Career ecision-making difficulties	662	1.00	9.00	4.46	1.44
Honesty	747	1.00	5.00	3.18	0.69
Emotionality	747	1.00	5.00	3.15	0.62
Extraversion	747	1.00	4.88	3.11	0.67
Agreebleness	747	1.20	5.00	2.98	0.58
Conscientiousness	747	1.70	4.80	3.25	0.52
Openness	747	1.10	5.00	3.22	0.71
Psychological capital	660	1.42	6.00	4.52	0.94
Parental Support	660	1.00	5.00	3.91	0.88
Parental Interference	660	1.00	5.00	2.39	1.10
Parental Disengagement	660	1.00	5.00	1.95	0.97

As expected, the three career decision-making difficulties were highly correlated. However, lack of readiness showed a notable deviation from the other two difficulties, which displayed a strong intercorrelation. Additionally, somewhat different patterns of relationships were observed between career decision-making difficulties and the personal and contextual characteristics considered in the study.

Table 2. Correlations between career decision-making difficulties, personality traits, psychological capital and perceived parental behaviors.

	LR	LI	II	CDDQ	H	E	X	A	C	O	Psy Cap	PS	PI
Lack of Readiness LR													
Lack of Information LI	.56												
Inconsistent Information II	.52	.86											
Career decision-making difficulties	.72	.95	.93										
Honesty H	-.17	-.09	-.12	-.13									
Emotionality E	.18	.07	.08	.11	.20								
Extraversion X	-.25	-.31	-.23	-.31	-.06	-.18							
Agreebleness A	.05	.08	.04	.07	.25	.01	-.07						
Conscientiousness C	-.21	-.24	-.27	-.27	.23	-.02	.16	.05					
Openness O	-.08	-.01	.00	-.03	.05	-.05	-.11	.03	.12				
Psychological capital PsyCap	-.27	-.40	-.34	-.39	.04	-.12	.41	.05	.32	.03			
Parental Support PS	-.09	-.24	-.23	-.23	.07	.15	.22	-.02	.19	-.07	.33		
Parental Interference PI	.25	.28	.37	.34	-.14	.02	-.08	.06	-.12	.04	-.08	-.12	
Parental Disengagement PD	.23	.35	.41	.38	-.15	-.11	-.11	.05	-.15	.05	-.18	-.43	.53

Regression analysis revealed that career decision-making difficulties can be explained by personality traits, psychological capital, and parental career-related behaviors, accounting for 34% of the total variance. The strongest positive contributors were psychological capital, extraversion and conscientiousness, which tend to reduce career decision-making difficulties, while parental interference and disengagement played a detrimental role, exacerbating career decision-making difficulties. Considering the three individual career decision-making difficulties, a very similar pattern was observed, with some deviations. Lack of readiness was better explained by personality traits, which is not surprising as it is considered a more general personal characteristic, not solely tied to the career decision-making process (Gati et al., 1996). The other two difficulties, related to lack of information and inconsistent information, showed very similar patterns of influential determinants, with only a few discrepancies, which is expected due to their strong intercorrelation.

Table 3. Regression analysis: contribution of personality traits, psychological capital and parental career-related behaviors for explaining career decision-making difficulties (N=560).

		Lack of Readiness	Lack of Information	Inconsistent Information	Career decision-making difficulties
Honesty		-.17***	-.05	-.04	-.08*
Emotionality		.17***	.04	.06	.09*
Extraversion		-.14**	-.13**	-.06	-.12**
Agreebleness		.08*	.09	.04	.08*
Conscientiousness		-.08	-.06	-.13**	-.10*
Openness		-.05	-.01	.01	-.01
Psychological capital		-.16***	-.31***	-.23***	-.28***
Parental Support		.07	-.01	.01	.06
Parental Interference		.15**	.12**	.20***	.17***
Parental Disengagement		.11*	.18***	.24***	.21***
	R	.47	.56	.57	.59
	R^2	.22	.31	.33	.35
	$_{adj}R^2$	.21	.30	.31	.34

This study highlights key determinants of career decision-making difficulties in adolescence, emphasizing the role of both personal and contextual factors. As expected, protective factors include psychological capital, extraversion, and conscientiousness, while risk factors are parental interference and disengagement. These findings underscore the need for interventions that foster adolescent psychological capital and involve parents, who play a crucial role in shaping career-related behaviors.

While the longitudinal design of this study is a strength, voluntary participation introduced limitations, affecting the final sample. Future studies should focus on minimizing attrition and include more diverse adolescent samples.

5. Conclusion

Personality traits, psychological capital, and parental behaviors are key determinants of career decision-making difficulties, responsible for 34% of variability in career decision-making difficulties. Among considered determinants, the psychological capital was found to be the most significant. Given its influence on all aspects of career decision-making, and its relative ease of change compared to the other factors, it is crucial to develop strategies and interventions to enhance psychological capital. Therefore, interventions should focus on strengthening the components of psychological capital (resilience, optimism, hope, and self-efficacy) to improve the career decision-making process during adolescence. However, it is essential to acknowledge the negative impact of parental interference and disengagement. Therefore, this study emphasizes the need for interventions that actively involve parents as key contributors to adolescent career development.

Acknowledgements

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SOME PERSONAL AND CONTEXTUAL DETERMINANTS OF CONGRUENCE BETWEEN VOCATIONAL INTERESTS AND EDUCATIONAL PROFILE OF ADOLESCENTS

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Abstract

Vocational high schools prepare students for specific career with limited opportunities for horizontal mobility, making it crucial for students to attend schools that align with their interests and support their career development. In other words, it is essential for students' interests to match the educational programs they pursue to achieve congruence, which, according to Holland, is a key determinant of positive career outcomes such as job satisfaction and success. The aim of this study was to examine the congruence between vocational interests and educational profiles among vocational high school students and to explore the role of personality traits and parental behaviors in achieving this alignment. The study included 335 second-year vocational high school students from various fields across several Croatian cities. Participants completed the HEXACO-60 personality inventory, the PGI-Short vocational interests questionnaire, the Parental Career-Related Behaviors Scale, and a general sociodemographic questionnaire. Congruence between interests and educational profiles was assessed using profile correlations, the Iachan M index, and the Brown and Gore C index. Results indicate that students achieve moderately high levels of congruence between their interests and educational profiles. Significant positive correlations were found between congruence and extraversion, conscientiousness, and parental support, while significant negative correlations were observed with emotionality, openness, parental interference, and lack of parental involvement. Personality traits and parental behaviors together explained up to 20% of the total variance in congruence, with emotionality, openness, and parental interference identified as significant predictors. Higher levels of congruence were observed in students who were less emotional, less open, and whose parents interfered less in their career decisions. These findings highlight the important role of both personality traits and parental behaviors in achieving alignment between students' interests and educational profiles.

Keywords: *Congruence, vocational interests, educational profile, personality traits, parental behaviors, vocational high schools.*

1. Introduction

Career interests begin to form in childhood, often as idealized visions of future professions. In Croatia, the first major career decision occurs when choosing a high school. Ideally, this choice should align with students' interests to ensure satisfaction with their education and future career success (Holland, 1997). However, at 14–15 years old, students may not yet possess the maturity required to make well-informed decisions. Career maturity refers to an individual's readiness to make educational and career choices appropriate to their age and development (Savickas, 1984). Research suggests that eighth-grade students lack sufficient knowledge about the labour market, indicating a need for greater focus on career decision factors (Babarović & Šverko, 2011). Career guidance is crucial in addressing inadequate vocational maturity. Social and family pressures, along with insufficient or misleading information, can hinder informed decision-making. Due to the challenge of making important career decisions at an early age, it is essential to examine the congruence between students' vocational interests and their educational paths. Beyond vocational interests, other intrinsic factors, such as personality traits, and extrinsic influences, including parental behaviours, may significantly impact these career decisions.

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One of the most well-known career choice theories is Holland's RIASEC model, which categorizes professional interests and work environments into six types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (Holland, 1997). This theory suggests that individuals seek work environments that match their skills and preferences, leading to higher job satisfaction and career success (Ohler & Levinson, 2012). Research indicates that while congruence between career interests and work environments contributes to positive professional outcomes, the relationship remains complex (Assouline & Mier, 1987; Nye et al., 2017). Studies on Croatian students show variability in the alignment between interests and academic programs. Research on first-year university students suggests moderate congruence levels, with significant individual differences (Černja Rajter et al., 2019; Černja Rajter, 2022). High school students with strong Investigative, Artistic, and Enterprising interests tend to enrol in gymnasium programs, while those with Social, Realistic, and Conventional interests are more likely to choose vocational schools (Usslepp et al., 2020). These findings highlight the importance of vocational interests in educational choices and suggest that career counselling could improve alignment between student preferences and their chosen fields of study.

Personality traits significantly influence vocational interests and career choices. The HEXACO personality model, which includes Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness, is particularly relevant for examining career-related decisions (Ashton & Lee, 2007). Research has shown that Openness is positively associated with Investigative and Artistic interests, while Extraversion and Agreeableness correlate with Social interests (McKay & Tokar, 2012; Šverko & Babarović, 2016). Additionally, Neuroticism is negatively linked to Realistic and Investigative interests, suggesting that personality traits may shape students' career decisions. Studies indicate that personality not only influences professional interests but also impacts career adaptability and decision-making confidence (Di Fabio et al., 2015; Vashist et al., 2021). While some research suggests that personality plays a minor role in high school choice (Usslepp et al., 2020), other studies highlight its significant effect on long-term career development (Wille & De Fruyt, 2014). Examining the relationship between personality and career choice can provide valuable insights for career counselling and education planning.

Besides personality, external factors like parental influence play a crucial role in shaping students' career interests and choices. Parents contribute to career development through financial support, role modelling, and educational encouragement (Bryant, Zvonkovic & Raynolds, 2006). Research shows that parental encouragement of STEM-related activities increases students' interest in STEM careers more effectively than personal traits alone (Šimunović & Babarović, 2021; Tey et al., 2020). However, excessive parental interference can lead to career indecision and anxiety (Dietrich & Kracke, 2009; Šimunović, Šverko & Babarović, 2020). Additionally, perceived parental support is a stronger predictor of students' career confidence than objective parental behaviours (Ginevra, Nota & Ferrari, 2015).

Given the lack of research on factors affecting career congruence, it is essential to examine whether students choose the high school based on their vocational interests, and how personality and parental behaviours, due to their demonstrated significance in career decision-making, shape these choices.

2. Objectives

The objective of this study is to examine the level of congruence between vocational interests and educational profiles of high school students and to explore the role of personality traits and parental behaviors in achieving this congruence.

3. Methods

3.1. Participants

The study included 335 second-year high school students (aged 15 to 16) attending 16 different vocational programs. The sample consisted of both genders, with 142 male and 193 female students.

3.2. Instruments

Vocational interests were assessed using the Personal Globe Inventory-Short (PGI-S) (Tracey, 2010), which includes 40 career-related activities grouped into 10 interest scales. Participants rated their interest on a 7-point Likert scale. These scales were used to determine RIASEC personality types. Congruence between vocational interests and educational profiles was measured using three indices: Brown and Gore's C Index, Iachan's M Index, and Profile Correlation, each assessing different aspects of alignment between individual interests and educational environments. Personality traits were measured using the HEXACO-60 questionnaire (Ashton & Lee, 2009), which assesses six personality dimensions:

Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness. It consists of 60 statements rated on a 5-point Likert scale. Parental influence was evaluated with the Perceived Parental Career-Related Behavior Scale (Dietrich & Kracke, 2009), which measures parental support, interference, and disengagement using 15 items rated on a 5-point Likert scale. Additionally, a demographic questionnaire collected data on age, gender, school type, and parental socioeconomic and educational background.

3.3. Procedure

Prior to data collection, approvals were obtained from the Ministry of Science and Education, the Ethics Committee of the Ivo Pilar Institute, and school principals. Written consent was gathered from students and their parents. The study was conducted in school computer labs using the Career Path platform. The participation was voluntary and students could withdraw at any time. Completion took less than one school period, and responses were anonymized to ensure confidentiality.

4. Results

Table 1 presents the descriptive statistics of the three congruence indices. Profile Correlation measures the alignment between individual interests and educational profiles, where 1 indicates high congruence, -1 indicates complete mismatch, and 0 no correlation. Compared to previous findings (M=0.30, SD=0.42; Černja Rajter, 2022), the results in this study (M=0.21, SD=0.47) indicate lower but still positive congruence with high variability. The Iachan M Index (M=13.36, SD=9.28) suggests low congruence with high variability. According to Iachan (1984), scores below 13 indicate mismatch, while scores above 26 suggest high congruence. The results of this study point to a relative mismatch. The Brown & Gore C Index (M=9.99, SD=3.61) suggest moderate congruence with moderate variability.

Table 1. Descriptive Statistics of Congruence Measures (N=330).

Measure	*Min*	*Max*	*M*	*SD*	Skewness	Kurtosis
Profile Correlation	-0.95	0.96	0.21	0.47	-0.42	-0.86
Iachan M Index	0	36	13.36	9.28	0.39	-0.84
Brown & Gore C Index	0	18	9.99	3.61	-0.32	-0.01

Table 2 shows that all three congruence indices correlate significantly, positively, and strongly (ranging from .708 to .776), with the highest correlation between the Iachan M index, and the C index. An analysis of the correlation between congruence indices and personality traits reveals weak but significant negative correlations with emotionality. The Profile Correlation and Iachan M indices are weakly but positively correlated with extraversion, while the C index is not. Conscientiousness shows weak but significant positive correlations with all indices. Openness is moderately and significantly negatively correlated with all indices, suggesting that students with higher congruence between professional interests and educational profiles tend to have lower openness, which is an unexpected result. Honesty and agreeableness show no significant correlations with congruence. Correlations between congruence indices and parental career-related behaviors show that the C index is not significantly related to any parental behavior. The Profile Correlation and Iachan M are weakly but positively correlated with parental support, and weakly but negatively correlated with parental interference and disengagement. Although the correlations are low, these findings align with the expectations.

Table 2. Correlations Between Congruence Measures, Personality Traits and Parental Behaviours.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Profile Correlation	1										
2. Iachan M Index	,708**	1									
3. B&G C Index	,757**	,776**	1								
4. Honesty-Humility	,064	-,033	-,006	1							
5. Emotionality	-,135*	-,115*	-,142*	,143*	1						
6. Extraversion	,121*	,075	,121*	,106	-,084	1					
7. Agreeableness	,072	,018	,035	,425**	-,043	,019	1				
8. Conscientiousness	,172**	,126*	,161**	,245**	-,095	,362**	,157**	1			
9. Openness	-,332**	-,295**	-,264**	,022	,036	-,051	,069	,020	1		
10. Parental Support	,147**	,101	,151**	,108	,125*	,212**	,086	,215**	-,153**	1	
11. Parental interference	-,240**	-,108	-,187**	-,218**	-,001	-,200**	-,165**	-,217**	,141*	-,275**	1
12. Parental Disengagement	-,177**	-,099	-,194**	-,190**	-,088	-,311**	-,104	-,267**	,194**	-,519**	,457**

*p<,05; **p<,01

Table 3. Hierarchical Regression Analysis with Profile Correlation as the Criterion (N=330).

	Step 1	Step 2
	β	β
Honesty-Humility	,024	,004
Emotionality	-,108**	-,117**
Extraversion	,041	,015
Agreeableness	,057	,040
Conscientiousness	,139**	,113
Openness	-,334**	-,305**
Parental Support		,043
Parental interference		-,152**
Parental Disengagement		,004
R	,400	,429
R^2	,160**	,184**
ΔR^2	,160**	,024**
F for the model	9,727	7,588

Note: **p<,01

The study also examined the relationship between personality traits and congruence. Findings revealed significant negative correlations between congruence and emotionality and openness, and positive correlations with conscientiousness and extraversion. Specifically, students with higher levels of emotionality and openness displayed lower congruence, while those with higher conscientiousness and extraversion had higher congruence. The results were largely consistent with previous research, except for the openness trait, where findings diverged. High openness might lead students to have a wide array of interests, making it difficult for them to align their educational path with their professional interests. The study found that parental support was positively associated with congruence, while parental interference and lack of involvement were negatively associated. These findings align with research suggesting that supportive parents positively influence professional adaptability, while overbearing or uninvolved parents hinder career alignment. Personality traits, especially emotionality and openness, and parental interference were significant predictors of congruence, with higher emotionality, openness, and parental interference leading to lower congruence. Personality traits, particularly openness, emerged as the most significant predictor.

The study had limitations such as incomplete responses and voluntary participation, which may influence the sample characteristics. Additionally, since only second-year high school students were included, the results may not be generalizable to other grades. Future research should focus on more diverse sample of students, while longitudinal studies could provide insights into how dynamics between interests, personality traits, and parental behaviours evolve over time.

5. Conclusion

The results of this study highlight the importance of career guidance in aligning students' educational choices with their interests. Schools should enhance career counselling and make tools like career self-assessment available to students. Additionally, parental support plays a crucial role in this process, and parents should be educated on how to assist without over-influencing their children's decisions. The study also emphasizes the need for continued research on the factors affecting career congruence and professional development in adolescents.

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ANSWERED AND UNANSWERED STUDENTS' OCCUPATIONAL CALLING DURING STUDYING: IMPORTANT FOR THEIR WELL-BEING AND WHY?

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Abstract

People who consider their work as a calling find it fulfilling, intrinsically rewarding, meaningful, and socially useful. Perceiving and living work as a calling is related to various positive work outcomes, both for the employee and the organization. Unfortunately, not all employees can live their calling at work due to various organizational or other contextual reasons. Unanswered calling leads to lower levels of well-being and job satisfaction. Although the construct of calling was mainly researched within the work settings, the perception of work as a life calling already exists among students during their studies. Research shows that calling is a salient construct for a substantial proportion of college students and is also related to higher levels of well-being. However, studies of unanswered calling in students are scarce. This study adds to the literature by exploring the role of both answered and unanswered calling in students. The aim of the study was to explore the relationship between students calling orientation, satisfaction of basic psychological needs, and well-being. A mediation model was proposed with basic psychological needs mediating the relationship between students answered and unanswered callings and academic satisfaction, students' burnout, and flourishing. Since calling is often associated with the teaching profession, our sample included 198 students (96.5% female), from the first to the fifth year of study at the Faculty of Teacher Education in Zagreb, Croatia. Self-report measures of unanswered and answered calling during studying (*Unanswered Calling Scale, Answered Calling Scale*), basic psychological needs (*Student Psychological Needs Scale*), academic satisfaction (*Academic Satisfaction Scale*), flourishing (*Flourishing Scale*) and students' burnout (*School Burnout Inventory*) were used. The findings of mediation analysis revealed that answered calling was positively related to satisfaction of basic psychological needs which in turn increased students flourishing and academic satisfaction, and decreased academic stress. Contrary to that, unanswered calling was negatively related to the satisfaction of basic psychological needs consequently to lower flourishing and academic satisfaction, and higher academic burnout. These results show that feeling that one's calling is answered while studying is important for both students' well-being and ill-being. The results also point to the importance of interventions aimed at helping students view their future jobs as a calling. Also, university teachers should be encouraged to cultivate factors that can help students to have their future work calling answered during their studies.

Keywords: *Answered calling, ill-being, students' basic psychological needs, unanswered calling, well-being.*

1. Introduction

Employees can have different attitudes toward their work, known as work orientations. To this day, three different work orientations have been identified. Job orientation refers to understanding work mainly as a source of income, career orientation emphasizes achievement and advancement while calling orientation includes viewing work as fulfilling, purposeful, and socially useful (Wrzesniewski, 2003). Research has shown that perceiving work as a calling is related to various positive outcomes, both personal and professional, including higher life and job satisfaction (Peterson et al., 2009), higher organizational commitment, and fewer intentions to withdraw (Thompson & Bunderson, 2019).

Perceiving a calling is not the same as living a calling. Some people perceive that they have found and live their calling (answered calling), while others feel that their calling has not been fulfilled (unanswered calling) (Berg et al., 2010). Unanswered calling can be caused by various situational factors such as lack of work choice or organizational support (Duffy et al., 2018). Although both perceiving a calling and living a calling result in positive work and life outcomes, living a calling or answered calling has stronger links to these outcomes than just perceiving it. Also, employees with unanswered calling report

poorer physical and psychological health compared to those with answered calling or no calling at all (Gazica & Spector, 2015).

The perception of work as a life calling can emerge not only among employees but also among students during their studies. The most of today's college students receive the message that finding their calling is essential (Fisher, 2014). In one study 44% of undergraduate students reported having a calling to a particular kind of work (Duffy & Sedlacek, 2010). In another study, more than two-thirds of a sample of college students expressed that the construct of work calling was relevant to how they thought about their future careers (Hunter et al., 2010).

Similarly, as with employees, perceiving a calling within the student population is related to various positive academic and personal outcomes. Within the academic domain perceiving a calling result in higher academic satisfaction (Dufy et al., 2011), mainly because it increases career decision self-efficacy and work hope. Also, it is related to higher academic engagement and lower absenteeism (Ensher & Ehrhardt, 2020). In the personal domain perceiving a calling is positively related to life satisfaction and life meaning (Duffy & Sedlacek, 2010; Steger et al., 2010).

Although the consequences of having occupational calling during the studies have been researched to a certain extent, the research on actually living a calling is lacking. Perceiving occupational calling while studying does not mean that circumstances at college always allow students to actually live it. Some of them find and live their occupational calling while studying (answered calling), while others perceive to have a calling but are unable to live it (unanswered calling). Research in work settings has shown positive outcomes of answered calling and negative of unanswered ones, but it is not clear whether the same relationship is true for the student population.

2. Objectives

The purpose of this study was to examine the relationship between answered/unanswered students' occupational calling and well-being, and the role of satisfaction of basic psychological needs in this relationship. The following hypotheses and research questions were posed:

H1: Answered calling is positively related to academic satisfaction and flourishing, and negatively to academic burnout.
H2: Unanswered calling is negatively related to academic satisfaction and flourishing, and positively to academic burnout.
H3: Satisfaction of basic psychological needs for competence, autonomy, and relatedness mediates the relationship between answered/unanswered calling and academic satisfaction, flourishing, and academic burnout.

3. Method

3.1. Participants and procedure

A convenience sample consisted of 198 students (96.5% female) from the integrated undergraduate and graduate program at the Faculty of Teacher Education in Zagreb, Croatia. The students participated voluntarily and anonymously.

3.2. Instruments

Answered Occupational Calling Scale (Dobrow & Tosti-Kharas, 2011) was adjusted and used to assess how strongly students perceive their studies as more purposeful, meaningful, and aligned with their passion for becoming teachers. The scale consists of twelve items (e.g., *I feel destined to study at this faculty*) which participants rated on a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). A higher total score, representing the average of all item ratings, indicates greater sense of answered calling.

Unanswered Occupational Calling Scale (Gazica, 2014) was adjusted and used to assess the extent to which participants perceive an occupational calling that they are not currently pursuing. The scale consists of six items (e.g., *I feel drawn to study for another profession because I expect that such study would fulfill me personally*) which participants rated on a 6-point Likert scale, ranging from 1 (strongly disagree) to 6 (strongly agree). A higher total score, representing the average of all item ratings, indicates a stronger perception of an unanswered calling.

Student Psychological Needs Scale (Goldman et al., 2017) was used to measure students' satisfaction of psychological needs. The scale consists of 24 items measuring four factors: competence (8 items, *I am competent at this faculty*), autonomy (8 items, e.g., *At this faculty, I have the freedom to learn in my own way*), relatedness with colleagues (4 items, e.g., *I am close to several of my colleagues*),

relatedness with professors (4 items, *I cannot relate to my professors*, reversed). All items were rated on a 7-point Likert scale, ranging from 1 (*not at all true*) to 7 (*very true*). The total score was calculated as an average rating of subscales and total scale, whereby a higher result indicates higher satisfaction of academic needs.

Academic Satisfaction Scale (Schmitt et al., 2008) was used to measure students' academic satisfaction. The scale consists of six items (e.g., *All in all, I am satisfied with the education I can get at this university*) which participants rated on a 7-point Likert scale, ranging from 1 (not at all true) to 7 (very true). A higher total score, representing the average of all item ratings, indicates higher academic satisfaction.

Flourishing Scale (Diener et al., 2010) was used to measure self-perceived social-psychological prosperity, (e.g., *I am a good person and live a good life*). All 8 items were rated on a 7-point Likert scale, ranging from 1 (*untrue*) to 7 (*absolutely true*). A higher total score, representing the average of all item ratings, indicates higher flourishing.

School Burnout Inventory (Salmela-Aro et al., 2009) was adjusted and used to measure academic related burnout. The scale consists of nine items measuring exhaustion at schoolwork, cynicism toward the meaning of school and sense of inadequacy at school (e.g., *I feel overwhelmed by my academic work*). All items were rated on a 6-point Likert- scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). A higher total score, representing the average of all item ratings, indicates higher academic burnout.

4. Results

4.1. Descriptive statistics and correlations

The descriptive statistics and intercorrelations of all measured variables are presented in Table 1. All correlations were in the predicted directions.

Table 1. Descriptive statistics, correlations among the study variables and Cronbach's alpha.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. answered calling	-	-.57**	.46**	.63**	.32**	.39**	.64**	.64**	.34**	-.51**
2. unanswered call.		-	-.46**	-.44**	-.21**	-.33**	-.52**	-.49**	-.34**	.52**
3. autonomy			-	.49**	.27**	.48**	.84**	.61**	.32	-.60**
4. competence				-	28**	.40**	.80**	.52**	.55**	-.68**
5. relatedness (c)					-	.15*	.50**	.21**	.28**	-.14*
6. relatedness (p)						-	.68**	.43**	.25**	-.51**
7. needs (tot)							-	.65**	.50**	-.71**
8. aca. satisfaction								-	.37**	-.56**
9. flourishing									-	-.51**
10. aca. burnout										-
Theoretical range	1-6	1-6	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-6
Cronbach's alpha	.92	.95	.95	.85	.92	.83	.92	.89	.89	.90
M	4.00	2.31	4.83	5.40	6.07	4.36	5.16	5.20	5.71	3.45
SD	0.96	1.36	1.24	0.95	1.08	1.22	0.82	1-10	0.76	1.36

*Note. *p < .05; **p < .01; relatedness (c) = need for relatedness with colleagues; relatedness (t) = relatedness with professors; needs (tot) = total score for satisfied psychological needs; aca. = academic.*

4.2. Mediation model

The hypothesized mediation models were tested by the bootstrapping method using PROCESS macro for SPSS. The number of samples in the bootstrapping method was 5000 and the confidence interval was 95%.

Mediation analyses examined the proposed role of satisfied psychological needs at the faculty in the relation between answered/unanswered calling and well-being/ill-being. Answered calling positively predicted students' satisfaction of psychological needs (*b* = .55, *SE* = .05, *95% CI* [.46, .64]), and students' satisfaction of psychological needs positively predicted academic satisfaction (*b* = .55, *SE* = .09, *95% CI* [.38, .72]) and flourishing (*b* = .44, *SE* = .08, *95% CI* [.29, .56]), while negatively predicting academic burnout (*b* = -1.07, *SE* = .11, *95% CI* [-1.28, -.86]). Unanswered calling negatively predicted students' satisfaction of psychological needs (*b* = -.32, *SE* = .04, *95% CI* [-.39, -.24]), which in turn positively predicted academic satisfaction (*b* = .73, *SE* = .08, *95% CI* [.57, .89]) and flourishing (*b* = .40, *SE* = .07, *95% CI* [.27, .53]), while negatively predicting academic (*b* = -1.00, *SE* = .09, *95% CI* [-1.19, -.82]).

Results of total (c), direct (c') and indirect effects (a*b) presented in Tables 2, 3, 4 indicate that the mediation effects were significant. The satisfaction of psychological needs at the faculty mediated the

relationship between un/answered calling and academic satisfaction, flourishing and academic burnout. For un/answered calling and flourishing, as well as answered calling and academic burnout, these mediation effects were complete.

Table 2. Mediation role of basic psychological needs in the relationship between unanswered/answered calling and academic satisfaction.

	Effect	*SE*	*LLCI*	*ULCI*	R^2	*F*
Answered calling						
Total effect	.72	.06	.60	.85	.42	71.29**
Direct effect	.42	.07	.28	.57	.52	70.22
Indirect effect	.30	.06	.20	.41		
Unanswered calling						
Total effect	-.39	.05	-.49	-.29	.25	32.41**
Direct effect	-.16	.05	-.25	-.06	.47	56.80**
Indirect effect	-.23	.04	-.31	-.16		

Table 3. Mediation role of basic psychological needs in the relationship between unanswered/answered calling and flourishing.

	Effect	*SE*	*LLCI*	*ULCI*	R^2	*F*
Answered calling						
Total effect	.27	.05	.16	.37	.12	12.68**
Direct effect	.02	.06	-.10	.15	.25	21.45**
Indirect effect	.24	.04	.17	.33		
Unanswered calling						
Total effect	-.20	.04	-.27	-.12	.12	13.56**
Direct effect	-.07	.04	-.15	.01	.26	22.65**
Indirect effect	-.13	.03	-.18	-.08		

Table 4. Mediation role of basic psychological needs in the relationship between unanswered/answered calling and academic burnout.

	Effect	*SE*	*LLCI*	*ULCI*	R^2	*F*
Answered calling						
Total effect	-.72	.09	-.89	-.55	.27	36.66**
Direct effect	-.13	.09	-.31	.05	.52	69.71**
Indirect effect	-.59	.08	-.74	-.44		
Unanswered calling						
Total effect	.51	.06	.39	.63	.27	36.58**
Direct effect	.20	.06	.08	.31	.54	76.26**
Indirect effect	.32	.05	.23	.41		

5. Discussion

The study aimed to investigate the relationship between students' calling orientation, satisfaction of basic psychological needs, and well-being. Mediation models were proposed, with basic psychological needs serving as a mediator between students answered and unanswered calling, academic satisfaction, burnout, and flourishing. The mediation analysis results supported the hypotheses, showing that answered calling was positively associated with satisfaction of basic psychological needs, which in turn led to increased flourishing and academic satisfaction, while reducing academic burnout. In contrast, unanswered calling was negatively associated with satisfaction of basic psychological needs, resulting in lower flourishing and academic satisfaction, and higher academic burnout. These results are consistent with previous studies on students, which have shown the impact of perceiving a calling on academic satisfaction (Duffy et al., 2011) and life satisfaction (Duffy & Sedlacek, 2010). Since employees who endorsed an unanswered occupational calling tended to experience lower job and life satisfaction and higher psychological distress (Gazica & Spector, 2015), a recent study has shown that satisfying basic psychological needs can help prevent academic burnout (Siregar et al., 2023).

6. Conclusion

This study extends the literature on the role of both answered and unanswered calling in students. The findings emphasize the importance of feeling that one's calling is answered during studies, as it affects both student well-being and ill-being. They also underscore the value of career counseling services that help students identify and align with their sense of vocational calling. At universities, interventions aimed at fulfilling students' psychological needs could be effective in reducing burnout, while fostering a culture that helps students connect their studies to a broader sense of purpose could enhance their psychological well-being.

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SPECIAL EDUCATION TEACHERS' ATTRIBUTIONS AND THE FACTORS THAT INFLUENCE THEM, PRE AND POST COMPLETION OF A GRADUATE QUALIFICATION IN SPECIAL EDUCATION

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Abstract

Aims: The study aimed to explore the factors that predict Irish special education teachers' attributions towards students with and without special educational needs (SEN). Predictive variables included teachers' role, length of SEN experience, graduate training status, teacher efficacy and attitudes toward people with disabilities. The relationship between teachers' roles (primary, post-primary, and special school) and their attributions towards students with and without SEN was also examined. Finally, a pre-post comparison group correlation was employed to examine if there were differences in special education teachers' efficacy for inclusive practice, attitudes towards people with a disability and attributions towards students with and without SEN, pre- and post-completion of a postgraduate qualification in SEN. *Method:* Special education teachers (SETs) enrolled in a Graduate Diploma (Grad Dip) in SEN completed the Teacher Attribution Scale (TAS), the Teacher Efficacy for Inclusive Practice (TEIP) Scale, and the Interaction with Disabled Persons Scale at the commencement of the programme (Time 1; N = 80) and upon its completion (Time 2; N = 35). SETs without a postgraduate qualification (Non-Grad Dip) also completed these questionnaires at Time 1 (N = 17) and Time 2 (N = 11). *Results:* Hierarchical regression analyses found that teacher role and teacher efficacy for inclusive practice predicted stability attributions for students with identified needs. Mixed factorial ANOVAs were conducted to further examine the effect of teachers' role. It was found that primary school SETs tended to report greater stability attributions in comparison to post-primary SETs and special school teachers. Using mixed factorial ANOVAs to compare Grad Dip and Non-Grad Dip teachers' attributions, efficacy for inclusive practice and attitudes at Time 1 and Time 2, it was found that aside from Grad Dip teachers having lower efficacy for inclusive instruction compared to Non-Grad Dip teacher, neither presentation of SEN, time, nor completion of a Grad Dip SEN or not, influenced teachers' efficacy for inclusive instruction, attitudes towards people with disabilities or attributions in any of the three domains. *Conclusions:* The findings highlight the importance of addressing teachers' roles and efficacy in inclusive education, particularly in managing stability attributions. They also highlight the need to explore the impact of postgraduate programmes in inclusive education on teachers' attitudes and beliefs.

Keywords: *Teachers' attributions, graduate education, inclusive and special education, teacher efficacy for inclusive practice.*

1. Introduction

Teachers play a vital role in fostering inclusive classrooms (Boyle et al., 2020) and their attitudes towards the inclusion of students with special educational needs (SEN) are considered essential to understanding effective inclusive education in schools (Boyle et al., 2020). Attribution theory, as a theoretical framework, may provide a means of linking teachers' beliefs and attributions to their classroom behaviour. For example, teachers can attribute student failure to internal factors (e.g., ability or effort) or external factors (e.g., task difficulty or luck), which can be stable or unstable and controllable or uncontrollable (Weiner, 2000).

Teachers' attributions for student failure can be influenced by varied factors such as the identified needs of students, teacher's role, training, attitudes towards people with disabilities and their self-efficacy for inclusive practice. Research has suggested that teachers can perceive students with Specific Learning Disabilities (SpLD) as having internal, stable difficulties unlikely to change over time, which can negatively affect their expectations of the students and the support they provide (Woodcock & Hitches, 2017). However, Brady and Woolfson (2008) found that teachers' locus of causality and stability attributions for students with learning difficulties did not differ or were more positive when compared to attributions

towards students without such needs. In terms of controllability, across studies, teachers generally perceive the cause of failure for students with learning difficulties as being less controllable when compared with their peers without such needs (Woodcock & Hitches, 2017). Teacher role may also influence attributions. Special school teachers tend to have more positive views of students' ability to change over time than mainstream and learning support teachers (Brady & Woolfson, 2008). Interestingly, learning support teachers, despite working closely with students with additional needs, tend to hold more negative attributions, similar to mainstream teachers (Woolfson et al., 2007). Research on the impact of postgraduate training on teachers' attitudes towards inclusion remains limited (Woolfson et al., 2007). However, one study suggested that postgraduate qualifications in special education do not consistently predict teachers' attributions regarding locus of causality, stability, or controllability (Woolfson & Brady, 2009). Attitudes toward people with disabilities in society have also been found to influence teachers' attributions. Teachers with low sympathy towards individuals with disabilities tend to attribute student failure to external factors, while those more comfortable with disabilities paradoxically perceive students as having less control over their learning progress (Brady & Woolfson, 2008). Teachers' efficacy beliefs may also influence their attributions. Teachers confident in supporting students with learning difficulties are more likely to attribute poor performance to external factors (e.g., curriculum or teaching quality), rather than internal factors (Woolfson & Brady, 2009). However, some studies did not find that efficacy beliefs predicted attributions towards students with learning difficulties, likely due to measurement inconsistencies (Brady & Woolfson, 2008).

The present study aims to investigate the following research questions (RQs): What teacher factors predict special education teachers' (SETs') attributions towards students with and without SEN? Is there a difference between SETs' (primary, post primary and special school) locus of causality, stability, and controllability attributions towards students with and without SEN? Is there a difference in SETs' efficacy for inclusive practice, attitudes, and attributions towards students with and without SEN following completion of a postgraduate qualification in SEN?

2. Methodology

For RQ1, predictive variables (teachers' role, length of SEN experience, GradDip status, teacher efficacy and attitudes toward people with disabilities) were used to predict performance on criterion variables (teachers' attributions towards students with and without identified SEN). For RQ2, the relationship between teacher roles (primary, post primary, and special school) and their attributions was examined. For RQ3, a longitudinal correlation study, using a pre and post comparison group panel design was employed to examine differences between teachers who were completing a postgraduate qualification in SEN (GradDip) and those who were not (Non-GradDip), at intervals spanning an academic year, namely, pre (Time 1) and post (Time 2) completion of a graduate diploma in SEN. Variables included teacher efficacy for inclusive practice, teachers' attitudes towards people with a disability and teachers' attributions towards students with SEN.

2.1. Participants

A total of 295 teachers enrolled in the Combined Post-Graduate Diploma for Teachers involved in Learning Support and Special Education (GradDip) programme were invited to participate. The programme, funded by the Department of Education and Skills (DES) in Ireland, supports special education teachers (SETs) in primary, post-primary, and special schools (DES, 2019). 81 questionnaire packs were returned (27.1% response rate). The Non-GradDip group (SETs who were not enrolled or who had not completed the GradDip) was selected through systematic sampling from a database of Irish schools, with 17 questionnaires returned (17% response rate). At Time 2, data were collected from 35 GradDip and 11 Non-GradDip teachers. Demographic details such as gender, school type, teaching experience, and SEN experience were recorded.

2.2. Measures

Teacher Attribution Scale (TAS) (Woolfson & Brady, 2008) - measured attributions regarding student difficulties, using vignettes based on Weiner's model, covering locus of causality, stability, and controllability. Adaptations were made to reflect the Irish education system. High levels of reliability were found for the subscales with alphas of .91, .80, and .90 for locus of causality, stability, and controllability, respectively.

Teacher Efficacy for Inclusive Practice (TEIP) Scale (Sharma et al., 2012) - assessed teacher self-efficacy in inclusive instruction, collaboration, and behaviour management. Alpha coefficients were 0.83, 0.79, and 0.85, respectively.

Interaction with Disabled Persons Scale (IDP) (Gething, 1991) - evaluated teachers' attitudes towards individuals with disabilities. Factor analysis supported a two-factor structure (Discomfort and Sympathy), consistent with previous studies (Tait & Purdie, 2000).

2.3. Procedure

Questionnaire packs were distributed to the seven Course Directors offering the GradDip. Teachers were asked to complete the questionnaires in the first two weeks following programme commencement. For the comparison group, questionnaire packs were posted to principals in 40 Primary, 40 Post Primary and 20 Special Schools. The study design required a commitment to a second data collection point. All Course Directors were contacted again towards the end of the academic year and five Directors agreed to disseminate the packs. Questionnaire packs were again posted to all respondents from the Non-GradDip group. Statistical analysis was conducted using SPSS 26.0, with exploratory factor analysis applied to the IDP scale to determine an appropriate factor structure. Ethical approval for the study was required and granted by the UCL Research Ethics Committee. In addition, ethical clearance was required and gained form two of the seven third level providers of the GradDip.

3. Results

3.1. Research question 1: Factors predicting teachers' attributions

A series of hierarchical linear regression analysis was conducted to investigate the factors predicting teachers' attributions towards students with and without SEN at Time 1 (N=97). Length of SEN teaching experience, GradDip status, and attitudes of discomfort and sympathy failed to predict SETs' locus of causality, stability and controllability attributions, both for students and without SEN. It was found that teacher's role and teacher efficacy for inclusive practice were significant predictors of stability attributions for students with SEN. Primary SETs were more likely to report higher stability attributions for students with SEN in comparison to special school teachers, meaning they are more likely to expect students' poor performance to persist over time. This model explained 7.5% of the variance ($F(2, 86) = 4.55$, $p = .013$). In the final model, controlling for SEN experience and GradDip status, teacher efficacy was a predictor of lower stability attributions and primary school role was a predictor of higher attributions in this domain. This model explained 12% of the variance in teachers' stability attributions ($F(7, 81) = 2.71$, $p = .014$).

For students without SEN, teacher role was a significant predictor of stability attributions ($F(2, 86) = 3.50$, $p = .035$), explaining 5.5% of the variance. . However, neither primary nor post-primary emerged as a significant predictor on their own.

3.2. Research question 2: Teachers' attributions and school role

A 3×2 mixed factorial ANOVA was conducted to examine the relationship between teacher role and teachers' attributions for students with and without SEN. For Locus of Causality and Controllability attributions, no significant effects were found for SEN status or teacher role. For Stability, a main effect for SEN was observed (Wilks Lambda = 0.90, $F(1, 94) = 10.44$, $p = .002$, partial $\eta^2 = .10$), with higher more negative stability attributions reported for students without SEN. A significant effect for role ($F(2, 94) = 5.16$, $p = .007$) showed that primary teachers reported higher stability attributions compared to post-primary teachers.

3.3. Research question 3: Teacher efficacy, attitudes, and attributions

A 2×2 mixed factorial ANOVA assessed differences between GradDip and Non-GradDip teachers in self-efficacy, attitudes, and attributions pre- and post-completion of the GradDip. For overall efficacy, there was a significant main effect for time (Wilks Lambda = 0.88, $F(1, 41) = 5.72$, $p = .021$, partial $\eta^2 = .122$) and group ($F(1, 41) = 5.35$, $p = .026$, partial $\eta^2 = .115$), indicating increased efficacy at Time 2. GradDip teachers reported lower efficacy overall compared to Non-GradDip teachers. However, findings were not significant after applying the Bonferroni adjustment. For efficacy in Inclusive Instruction, a main effect for time (Wilks Lambda = 0.90, $F(1, 42) = 4.50$, $p = .040$, partial $\eta^2 = .097$) and group ($F(1, 42) = 5.66$, $p = .002$, partial $\eta^2 = .21$) showed that GradDip teachers reported lower efficacy for inclusive instruction but this increased over time in comparison to the Non-GradDip teachers. No significant effects were observed for the other efficacy factors (Collaboration and Managing Behaviour) With regard to Interactions with People with Disabilities (IDP), no significant effects were observed for discomfort or sympathy after Bonferroni correction. Similarly, no significant effects for time, group, or interactions were found using the Teacher Attribution Scale.

4. Discussion

The study found that primary school special education teachers (SETs) were more likely to attribute poor student performance to stable factors for students with SEN. This suggests a negative attributional style, where primary SETs may expect these students' difficulties to persist over time. Attribution theory (Weiner, 2000) suggests that if teachers view student difficulties as stable, they may have lower expectations, which can negatively affect students' confidence and motivation. Primary SETs' negative stability attributions may stem from the structure of special education provision, where support is provided long-term (Griffin & Shevlin, 2011). This system may lead to reduced expectations, as teachers focus on maintaining support rather than implementing interventions (Rix et al., 2013). In contrast, post-primary SETs work within a system where students with SEN are more integrated into mainstream classrooms, allowing for greater application of differentiated instruction (O'Gorman & Drudy, 2011). Neither teaching experience nor completion of a postgraduate qualification in SEN (GradDip) predicted teachers' attributions regarding locus of causality or controllability. Other studies suggest that previous experience supporting students with SEN positively influences teachers' attitudes (Brady & Woolfson, 2008). Experience supporting students with SEN may be insufficient in influencing deep-seated attributional beliefs without high-quality training and reflective practice (Sokal & Sharma, 2017). Teacher efficacy for inclusive practice was a positive predictor of stability attributions. Teachers who felt confident in their ability to teach inclusively were more likely to see students' difficulties as changeable over time.

Unexpectedly, the study found that SETs viewed students without SEN as experiencing more stable difficulties than those students with SEN. This may reflect an implicit belief that students without access to special education support face greater long-term academic challenges. This aligns with the self-serving bias theory, which suggests that teachers may view students with SEN more positively due to their role in providing additional educational support (Woolfson et al., 2007). Primary SETs reported more negative stability attributions for all students, regardless of SEN status. Primary SETs are possibly more inclined to believe that student difficulties will persist over time, reinforcing the need for targeted interventions to shift these perspectives. In contrast, post-primary SETs and special school teachers demonstrated more flexible attributions, likely due to greater collaboration and exposure to inclusive teaching methods (Hansen et al., 2020).

Contrary to expectations, completing a postgraduate qualification in SEN (GradDip) did not lead to significant changes in teacher efficacy for inclusive practice, attitudes toward people with disabilities, or attributions towards students. GradDip teachers reported lower self-efficacy for inclusive instruction at the start of their programme, possibly due to self-awareness of gaps in their skills (O'Gorman & Drudy, 2011). However, their efficacy did not improve significantly over time, possibly due to limited opportunities to apply their learning (Tschannen-Moran & Hoy, 2007). Similarly, attitudes toward people with disabilities remained stable, suggesting that beliefs about disability are deeply ingrained and require more than coursework to change (Woolfson & Brady, 2009). The structure and content of professional development programmes may need to be revisited to ensure they challenge underlying beliefs and attributional biases (Avramidis & Kalyva, 2007).

4.1. Limitations

The use of hypothetical vignettes to measure teachers' attributions may not fully capture the complexities of real-life classroom practices. The reliance on self-report measures introduces potential biases, including social desirability bias. Unequal group sizes impacted the power of statistical analyses, potentially leading to Type II errors. Additionally, attrition in the longitudinal panel study limited the ability to fully track changes over time. The Bonferroni correction, applied to control for Type I familywise errors, may have increased the risk of Type II errors, leading to a cautious interpretation of findings.

4.2. Implications

This study enhances the understanding of special education teachers' (SETs) attributional beliefs and their impact on inclusive education. Findings emphasise the role of teacher efficacy in shaping stability attributions, suggesting that confidence in inclusive instruction fosters more positive expectations of student progress. This highlights the need for professional development programmes that combine theoretical learning with hands-on mastery experiences to build teacher confidence (Bandura, 1997). The results challenge assumptions about the influence of a postgraduate qualification in special education. The lack of significant differences in attributions between GradDip and Non-GradDip teachers suggests that formal training alone may not shift deep-seated attributional beliefs. Effective professional development should integrate experiential learning, mentoring, and collaboration to encourage meaningful conceptual change. Systemic factors, such as the long-term allocation of SEN support, may contribute to the more negative stability attributions observed among primary SETs. Future research could employ longitudinal designs to

track changes in SETs' attributions over time, particularly as they gain experience or complete postgraduate training. Investigating the effectiveness of professional development programmes tailored to attribution retraining could be beneficial. Additionally, combining qualitative and quantitative methods could provide a richer understanding of teachers' attributional beliefs and their impact.

5. Conclusion

This study provides valuable insights into the factors influencing special education teachers' (SETs) attributions towards students with and without special educational needs (SEN). Findings highlight that primary SETs are more likely to hold negative stability attributions, potentially reinforcing low expectations. Additionally, teacher efficacy positively predicted stability attributions, reinforcing the importance of inclusive education training. However, postgraduate qualifications in special education did not significantly alter attributions, suggesting a need for more reflective and experiential learning approaches.

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WOMEN REBEL MORE AGAINST MALE AUTHORITY THAN AGAINST FEMALE AUTHORITY

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Abstract

It is hypothesized that the influence of a source of authority varies according to his/her competence and genre. It is also expected variations of influence depending on the subordinate gender. 240 participants, in four groups of 30 men and 30 women, answered an allegiance at work questionnaire. A competency and a gender effect are observed. It is particularly noted that, confronted with a competent leader, the submission of women is superior to their insubordination only if the leader is a woman, and that, conversely, confronted with an incompetent leader, the insubordination of women does not take precedence over their submission only when the leader is a man. An analysis in terms of male and female management style is proposed.

Keywords: *Social influence, power of authority, competence, gender.*

1. Introduction

French and Raven (1959), who consider power to be a potential influence, have presented a typology containing 6 sources of interpersonal power, that is, 6 resources which a social agent is likely to have in order to modify the attitude or behaviour of others: coercion (control of others' conduct through threats of negative sanctions) and reward (promises of positive sanctions), legitimacy (recall of the right to be obeyed), expertise (based on the competence of the agent of power), reference (the target identifies with the source of power), and information (argumentative qualities of the message). However, these various strategies of power are not completely independent, at least not in terms of their genesis. Therefore, Lobrot (1966) emphasizes that, historically, several of these forms of power have maintained a link of genetic dependence: in semi-deserts, where irrigation canals were necessary, it was first resorted to technical experts for the realization of the said works. Then, as in any society, interpersonal conflicts emerged and had to be settled; and thus, those technical experts were elected as legitimate bodies to carry out the arbitrations. Finally, since the arbitration decisions were not always observed by the belligerents, a power of coercion was established and at first, the arbitrators were entrusted with this police task. However, on a synchronic level, each of these forms of power seems to be independent of others and self-sufficient. In legitimacy, for example, a form of power in which the source of power considers that it has the right to be obeyed, and the receiver of the order recognizes that it has the duty to obey, obedience must be effective even in the absence of coercion. And this seems to be even more true with the highest form of legitimacy, that is to say with authority, where the correspondence between the hierarchical position and power is statutorily defined, the same as the manner of acceding to this position and the field of exercise of power (that was, for example, the case in Migram's study, 1974). As Vanneufville (2011) indicates, in this form of power, the subordinate becomes a puppet: "When an order is given, it applies as an absolute order […]. At work, one must obey [...]. The boss knows" (p120). The receiver of an order issued by an authority must therefore, at least in theory, obey it unconditionally, and in particular, without the source having to explain their order's reason for being or pertinence. The first questioning of this study concerns the actual validity of this unconditionality. Certain authors, such as Morelli (1983) thus argue that the obedience behaviours observed in Milgram's work come more from a power due to competence, than a power due to authority. A laboratory study conducted by Penner, Hawkins, Dertke, Spector and Stone (1973), consisting of electric shocks applied (or avoided) to rats, supports this hypothesis: submission to authority is conditioned by the applicant's competence and only intervenes if the latter is perceived as competent, with conducts of insubordination if this is not the case. We hereby hypothesize that the same phenomenon may be observed at the workplace, more precisely with a modulation of the obedience of subordinates to the orders of their hierarchy according to the level of competence attributed to them.

Another characteristic of the power agent that we wish to examine, on an explanatory basis, concerns its gender. The question then is whether a power agent with an authority status will see their influence vary according to their gender.

Finally (third matter), it was observed **(**Mayoral & Gangloff, 2013) that women are more rebellious than men, but without taking into account neither the level of competence, nor the gender of the source of authority to which participants were confronted. The point is therefore to also examine if this more pronounced disobedience of women will be found regardless of the level of competence and the gender of the authority source.

2. Method

240 students of the Tandil faculty (Argentina) were divided into four groups (each of them made of 30 men and 30 women, aged between 22 and 24 according to the groups) in order to form, on a voluntary basis, our sample groups.

The participants were first instructed to imagine that they had just obtained their first job, with either a man or a woman as their boss, and that their boss was considered by the other employees to be either competent or incompetent. Each participant was then invited to respond individually to the 12 items of the allegiance questionnaire of Gangloff and Caboux (2003), translated and adapted to Spanish by Mayoral and Gangloff (2008a, b) (see annex). More precisely, the instructions red as follows: "You have just obtained your first job in the private sector. You will be working in a team led by a woman (vs. a man) of about 45. Upon your arrival, your workmates inform you that your boss is very competent (vs. is utterly incompetent). Taking into consideration this situation, we ask you to respond as sincerely as possible to the following questionnaire (the Johm Temis questionnaire) and to indicate, for each question, how you think you would behave. This questionnaire is anonymous and your answers will only be processed from a statistical point of view. We therefore inform you that there are no good or bad answers: what is important is your appreciation." Therefore, three independent variables were taken into consideration: the target's gender and competence, and the participant's gender.

3. Hypotheses

H1: competent bosses will give rise to more submission than incompetent bosses.

H2: competent bosses will give rise to more submission than insubmission (H2a), and the reverse applies for incompetent bosses (H2b).

H3: competent bosses will get less submission from women than from men (H3a), and incompetent bosses will also be challenged more by women than by men (H3b).

4. Results

The data obtained according to our three variables (competence and gender of the boss, gender of the participants) is listed in Table 1.

Table 1. Means (and standard deviation) obtained.

	Competent boss		Incompetent boss	
	Male boss	Female boss	Male boss	Female boss
Men	0.61 (0.14)	0.61 (0.17)	0.42 (0.14)	0.42 (0.17)
Women	0.50 (0.16)	0.61 (0.20)	0.40 (0.21)	0.43 (0.17)
Men + Women	0.55 (0.16)	0.61 (0.18)	0.410. 18)	0.43 (0.17)

4.1. The effect of competence

4.1.1. The effect of competence: comparison of the data regarding competence vs. incompetence. Overall (men and women grouped together), competence gives rise to more obedience than incompetence, both when the boss is female ($F(1, 119) = 29.789$ $p \approx .00$ $n2 = .20$) and when the boss is male ($F(1, 119) = 20.69$ $p \approx .00$ $n2 = .149$). The analysis based on the gender of the participants leads to the same results: amongst men, competence gives rise to more obedience than incompetence, both when faced with a female boss ($F(1, 59) = 18.49$ $p \approx .00$ $n2 = .24$) as well as in the presence of a male boss $F(1, 59) = 24.916$ $p \approx .00$ $n2 = .30$); the same is true for women participants, both when the boss if female

($F(1, 59) = 11.767$ $p \approx .00$ $n2 = .169$) and when they are male ($F(1, 59) = 11.767$ $p \approx .00$ $n2 = .169$). However, we wanted to conduct complementary analyses by comparing the data obtained with the theoretical mean.

4.1.2. The effect of competence: comparison between the data and the theoretical mean. Overall (men and women grouped together), in the presence of a competent boss, obedience is higher than disobedience, both when the boss in question is female ($t(59)=4.443$ $p \approx 0.00$) and when they are male ($t(59)=2.564$ $p=0.013$). The analysis according to the gender of the participants leads to the same results, but only in the case of men: in the presence of a competent boss, they obey more than they disobey, whether their boss is female ($t(29)=3.501$ $p=0.002$) or male ($t(29)=4.128$ $p \approx 0.00$). On the contrary, in the case of women, in the presence of a competent boss, submission is higher than insubmission only when their boss is female ($t(29)=2.833$ $p=0.008$), the difference being insignificant when the boss is male ($t(29)=-0.097$ $p=0.923$ ns).

Also, overall (men and women grouped together), when the boss is incompetent, disobedience exceeds obedience, whether the boss is female ($t(59)=-3.225$ $p=0.002$) or male ($t(59)=-3.810$ $p \approx 0.00$). The analysis according to the gender of the participants leads to the same results, but once again solely in the case of men: in their case, when the boss is incompetent, disobedience exceeds obedience, whether the boss is female ($t(29)=-2.580$ $p=0.015$) or male ($t(29)=-2.919$ $p=0.007$). On the contrary, in the case of women, in the presence of an incompetent boss, insubmission only exceeds submission when their boss is male (t(29)=-2,604 $p=0.014$), the difference being insignificant when the boss is female (t(29)=-1.959 $p=0.060$).

4.2. The gender effect

4.2.1. The effect of the gender of the boss. We had not established any hypothesis for this situation. We thus notice that when the boss is competent, their gender has no effect at all, neither for male participants, nor for female participants grouped together ($F(1,119) = 2.819$ $p = .096$ ns). But the analysis according to the gender of the participants indicates that this is only true for men ($F(1,59) = 0.005$ $p = .94$ ns). On the contrary, for the female participants, a competent female boss is obeyed more than a competent male boss ($F(1,59) = 5.31$ $p = .02$ $n2 = .08$).

When the boss is incompetent, their gender has no effect at all, neither for male and female participants grouped together ($F(1,119) = 0.329$ $p = .567$ ns), nor for male participants ($F(1,59) = 0.005$ $p = .94$ ns) or female participants ($F(1,59) = 0.618$ $p = .43$ ns) taken individually.

4.2.2. The effect of the participants' gender. When faced with a competent boss, there is no difference between men and women when the boss in question is female ($F(1.59)= 0.00$, $p=1.00$ ns); on the contrary, when the boss in question is male, women are less submissive than men ($F(1.59)=8.17$ $p=0.006$ $n2 = 0.12$).

Faced with an incompetent boss, there is no visible difference between men and women, neither when the boss in question is male ($F(1.59)=0.293$, $p=0.59$ ns), nor when they are female ($F(1.59)=0.148$, $p=0.70$ ns). More precisely, an item-by-item analysis shows male/female differences in 7 out of the 48 sentences (12 items x 4 conditions):

- faced with a competent female boss, men are more likely than women to consider that their boss is in the best position to know what is good for the company (Q11) ($F(1,59)=13.88$ $p \approx .00$ $n2=0.193$) and at the same time less hesitant than women to make remarks to their boss (Q5) ($F(1,59)=5.80$ $p=0.019$ $n2=0.091$)
- faced with a competent male boss, men are more likely than women to believe that their boss' opinion prevails over theirs (Q9) ($F(1,59)=5.74$ $p=0.02$ $n2=0.090$), and, in order to advance in the hierarchy, they accept their boss' decision more than women do (Q6) ($F(1,59)=4.527$ $p=0.038$ $n2=0.072$)
- faced with an incompetent boss, men try to defend their ideas more than women do (Q3), both when their boss is female ($F(1,59)=4.46$ $p=0.039$ $n2=0.071$) and when their boss is male ($F(1,59)=4.191$ $p=0.045$ $n2=0.067$)
- faced with an incompetent boss, women accept less than men do to be controlled (Q10) ($F(1,59)=4.191$ $p=0.045$ $n2=0.067$).

5. Discussion / conclusion

Our first hypothesis was that competent bosses would benefit from more submission than incompetent bosses. We notice that this is indeed the case. This role of competence is perfectly consistent with the observations of **Artz, Goodall and Oswald (2017): having followed** over several years 35 000 employees in the United Kingdom and in the United States, these authors note that the competence of the

boss (well ahead of the salary or the work itself) is the most revealing indicator of job satisfaction (variable which one can legitimately think that it correlates with submission).

We also thought (hypothesis H2a) that competent bosses would get more submission than insubmission and, conversely (hypothesis H2b), that incompetent bosses would be subjected more to insubmission than to submission. On these two points, we observe a gender effect, our two hypotheses being verified solely in the case of men: in the case of women, when faced with a competent boss, submission is only higher than insubmission when the boss is female (the difference is not significant when the boss is male), and when faced with an incompetent boss, insubmission solely prevails over submission when the boss is male (the difference is not significant when the boss is female.)

This effect of the gender of the boss, for which our questioning was exploratory and for which we had not made any hypothesis, is also noted when we compare submission to a male boss with submission to a female boss: if this variable has no effect for men (regardless of the competence of the boss in question) or for women when the boss is incompetent, on the contrary, in the case of women, a competent boss is obeyed more when they are female than when they are male.

Our H3a hypothesis was that competent bosses would get less submission from women than from men, and (H3b) that when faced with an incompetent boss, women would protest more than men. We indeed observe more insubmission in the case of women, which corresponds to the result found by Mayoral & Gangloff (2013), but in a more refined manner: it is indeed solely in the presence of a male and competent boss that women prove to be more disobedient than men. We therefore agree with Artz and Taengnoi (2016), who also observe that women are more dissatisfied under the authority of a woman, than under that of a man, while men are not affected by the gender of their boss. This effect of the gender of the boss also contrasts with the remarks of Houel (2014), who, by using a psychoanalytical approach, considers that women submit more voluntarily to a male authority than to a female one. In fact, Houel starts from the mother-daughter relationship during childhood: for all children, be they boys or girls, the mother is their first object of both attachment and authority **and rivalry**. But the girl, at one time or another, aspires to become a woman, and thus needs to liberate herself **from this maternal hold and to rebel**. But being employed again, under the authority of a woman, resumes this conflictive situation, says Houel. We note here that if this rivalry is likely to reborn, it does not translate however into the conflict envisioned by Houel against female bosses, but, on the contrary, into conflicts aimed against male bosses.

A more general explanation of this effect of the gender of the boss can be provided by the study of Folkman (2015), conducted in the United States on 7 280 managers (64% men and 36% women). If a previous study by Landry (1989), conducted in addition on a small number of students (14 women and 7 men), concluded in more competence attributed to men, as compared to women, Folkman (2015) observes instead that women are considered to be more enterprising and more honest than men; they would inspire and motivate their subordinates more, and would develop teamwork better than men, being better able to create group cohesion. In numerous managerial aspects, they would be more competent and would be better leaders than their male counterparts.

One of the limits of our results is the operationalization of the situation proposed to our participants who were students: in order to make the situation as realistic as possible, we have asked our students to imagine themselves at their first job place and to answer a questionnaire of allegiance. It is possible that this first-job situation may have slowed down the frequency of responses of insubordination. However, pending the replication of this study on a population of employees in office who imagine changing their jobs (for example), the results obtained provide new elements on the functioning of the power of authority whose conditional nature we notice. In particular, they highlight the role of the gender of the authority source in what regards female subordinates. We believe that this contribution of knowledge is also likely to allow male executives to adjust their management strategies.

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MARITAL WELL-BEING AND PARENTAL POSITION AT FAMILIES WITH ADULT CHILDREN

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Abstract

The relationships between adult children and their parents remain an important social and emotional resource for both, but can also cause a range of difficulties. The marital and parental subsystems are interrelated, but these interrelations nature changes throughout the family life cycle. Most studies examine the consequences of leaving the parental home for young people, but - for parents - to a lesser extent. Some studies show that postponing leaving the "parental nest" can be detrimental to the well-being of the marital relationship and the parents' relationships with their adult children. Our study aim was to examine the nature of the relationship between marital relationships and the parental position of parents of adult children at different stages of the family life cycle. The main attention was focused on the "empty nest" stage, when there is a radical redistribution of marital and parental functions. There were parents, who lived separately from their adult children aged 22 to 35 years (30 respondents). The groups of comparison included parents at the previous stage - with older adolescents (39 persons), as well as parents with adult children, who still lived with their parents, i.e. with a protracted separation (26 respondents). The whole study sample consisted of 95 people (30 men and 65 women) aged 41 to 64 years. The following methods were used in this study: "Family Communication" by Yu. Alyoshina et al., "Triangular Love Scale" by R. Stenberg, "Relationship Assessment Scale" by S. Hendrick, "Parental Position in Relation to Adult Children" by R. Egorov & I. Shapovalenko. We came to the following conclusions. The well-being of marital relations is associated with the parental position at different stages of the family life cycle differently. In general, at the *empty nest stage*, there is a deeper closeness both between spouses and with children. The interactions with children are based more on mutual understanding. At this stage, parents are less focused on children and are more focused on marital relations. In spouses, *living together with adult children*, marital relationships are not interconnected with the level of acceptance of the child, but are associated with control over the child. In *families with adolescents*, no correlations were found between marital relations and the parental position, which may indicate a greater concentration of spouses on the parental function. These results allow us to determine the foci of psychotherapeutic influence in psychological assistance to families with adult children more accurately.

Keywords: *Marital well-being, parental position, empty nest stage, adolescent, child-parent relationships.*

1. Introduction

It is known that family relationships are one of the most important factors of psychological well-being (Hawkins & Booth, 2005). Along with this, an important factor is personal maturity and autonomy (Manukyan, 2002). Both of these factors are closely related to the nature of the relationship between adult children and their parents (Saraiva & Matos, 2012). In previous studies, we have proven that the relationship between psychological well-being and parental separation is mediated by marital satisfaction (Chebotareva & Koroleva, 2019).

As a rule, when a child becomes an adult, the quality of parent-child relationships improves. These relationships, despite the changed patterns of interaction (Shapovalenko & Egorov, 2019), remain important social and emotional resources for both parties (Nomaguchi, 2012). Difficulties in the relationships between adult children and their parents can create a wide range of difficulties for both children and parents (Bouchard, 2016). Cohabitation or separate residence of parents with adult children can affect the nature of their relationships in different ways (Alyoshina, 2002; Aquilino & Supple, 1991). On the one hand, couples report an increase in the quantity and quality of their time together and increased intimacy after their adult children begin living independently, which in turn leads to increased marital satisfaction. But some couples

report that at this stage they experience increasing boredom and loneliness in their relationship, which can lead to divorce (Nagy & Theiss, 2013).

The marital subsystem is considered a fundamental element underlying the development and functioning of the entire family. The marital and parental subsystems are interrelated, but the nature of this interrelationship changes over the family life cycle. Most research examines the consequences of leaving the parental home for young adults and parent-child relationships (Jiao & Segrin, 2021), to a lesser extent for parents (Hall, 2023). The few studies that examine the parental experience suggest that delaying leaving the nest may be detrimental to the well-being of the marital relationship and the parents' relationships with their adult children (Aquilino & Supple, 1991).

2. Objectives

The **aim** of our study was to examine the nature of the relationship between marital relations and the parental position of parents of adult children at different stages of the family life cycle. The main attention was focused on the "empty nest" stage, when a radical redistribution of marital and parental functions occurs. As comparison groups, we included spouses at the previous stage - families with older adolescents, as well as from families with adult children who have not moved to the empty nest stage, i.e., with a protracted separation.

Our research hypotheses were:

1. The relationship between marital relationships and parental position is more pronounced at the "empty nest" stage than in spouses living with adult children or older adolescents.

2. The quality of marital relations at the "empty nest" stage is associated with the nature of the relationship with children. The less control and more acceptance parents show towards adult children, the better their marital relations.

3. Methods

The study **sample** consisted of 95 people (30 men and 65 women) aged 41 to 64 years. Families of 30 respondents were at the "empty nest" stage, living separately from their adult children aged 22 to 35 years (M = 27.8); 26 respondents lived together with children in the same age range as in the first group (M = 26.8); 39 respondents were from families with children - older teenagers (aged 16 - 20 years, M = 17), living together with their parents, i.e. at the stage preceding the "empty nest". All respondents were married from 11 to 44 years, had from one to three children in the above age ranges.

The following **methods** were used to study marital relationships: "*Communication* in the Family" by Yu.E. Aleshina et al., which allows us to assess the degree of trust in marital communication, mutual understanding, similarity of views, semantic unity, psychotherapeuticity and ease of communication; "Triangular scale of *love*" by R. Stenberg (adapted by O.A. Ekimchik), which allows us to evaluate the relationship between the three main factors of love: emotional closeness, passion and commitment. "*Relationship* assessment scale" by S. Hendrick (adapted by O.A. Sychev), which diagnoses satisfaction with close relationships in adults, including spouses, which reflects the satisfaction of the psychological needs of partners. To study the *parental position*, the questionnaire "Parental position in relation to adult children" by R.N. Egorov, I.V. Shapovalenko was used, which assesses the ratio of control and acceptance patterns in parental strategies of interaction with the child.

4. The results

The results of the study, obtained from a comparative analysis of the data of the three studied groups, showed the absence of significant differences in the spouses' assessments of their satisfaction with marital relations, the quality of communication and the feeling of love. In all three groups, the spouses highly assess their marital relations. They are also satisfied with the established nature of communication in the couple, understand each other's needs well, know the interests of the partner, and can communicate easily and naturally. In all three groups, the spouses appreciated most mutual understanding, ease and psychotherapeutic nature of communication.

At the empty nest stage, ease of communication is rated somewhat higher than at other stages. The group with adult children living together shows the greatest variability of indicators. The indicators of all three components of love (closeness, passion and commitment) are also within the range of normative values. In general, love relationships in the sample are harmonious. Apparently, such results are explained by the fact that the sample was made up of people with a preserved marriage at mature stages of marriage, accordingly, with more successful relationships. However, within all groups there is a large data scatter in

relationship satisfaction and in the characteristics of love relationships. Our study was aimed at identifying possible reasons for this variability through an analysis of the relationship between marital and parent-child relationships.

The analysis of the **parental position** showed that, in general, all three groups can be attributed to the balanced type of parental position in relation to adult children. At the empty nest stage, parents are somewhat more accepting of the children and recognize their autonomy. Spouses with adult children, living together with their parents, tend to exercise somewhat greater control over their children, while spouses with teenagers have a somewhat lower level of child acceptance.

Spearman's correlation analysis between marital relations (communication, love, and satisfaction) and parental position (acceptance and control) did not reveal statistically significant relationships in spouses with teenagers. Apparently, at this stage, parent-child relations are determined to a greater extent by the crisis of adolescence and are less associated with the marital relations of the parents.

In the group of spouses at the *empty nest stage*, noticeably more statistically significant correlations were found than in the group of spouses - parents of teenagers. At the empty nest stage, *many characteristics of marital relations are negatively associated with the indicator of child rejection*. The strongest negative correlation between parental *rejection of a child* and closeness in love relationships ($r = -0.55$), trusting communication (self-assessment $r = -0.57$ and spouse's assessment $r = -0.47$), and psychotherapeutic nature of marital communication ($r = -0.43$) was found. Significant inverse correlations were also found between parental *rejection* of a child and the overall level of relationship satisfaction (-0.39), similarity in spouses' views (-0.38), and such components of love as passion (-0.367) and commitment (-0.453). In general, the ability of spouses to be in good contact with each other gives more opportunities for their adult children to separate from their parents successfully and safe, and for parents to trust their children more, to abandon strict expectations of them, and to focus more on their own spousal relationships.

It is important that in this group there are no significant connections between the characteristics of marital relations and *control over the child*, while in the group of spouses living together with their adult children, on the contrary, connections between marital relations and control over the child were found, and not a single significant connection with rejection of the child was revealed. Control over an adult child living together with parents significantly positively correlates with mutual understanding between spouses ($r = 0.42$) and trust in communication (0.38). The correlation between the degree of satisfaction with the relationship and control showed a tendency towards significance (0.35). Perhaps, in such families, control over the child performs the function of organizing marital communication, which, in turn, complicates the separation of the child from the parental family and postpones the beginning of his or her independent life.

The results of the factor analysis (principal component analysis with varimax rotation) allowed us to see the *differences in the structure of the relationships between the characteristics of marital and parent-child relationships at different stages* of family relationships, and the results obtained confirm the data of the comparative analysis. In general, in the empty nest group, there is a deeper closeness between spouses who have restructured their relationships with each other, in contrast to spouses living together with adult children and teenagers. These two groups are similar in that they are more focused on children.

The conducted content analysis of the parents' ideas about *the factors preserving their marriage*s at different stages of the family life cycle provided additional information about what is important for respondents in their marriages. Thus, it turned out that in different groups the importance of communication and feelings for preserving relationships differs. Also, the respondents' answers showed that in the group of parents, living together with their adult children, there is higher percentage of spouses who maintain their marriage out of habit, which distinguishes them from spouses from the empty nest, where there is more focus on partnerships, care for each other and common interests.

5. Conclusions

Thus, we can conclude that the well-being of marital relations is differently associated with the parental position at different stages of the family life cycle.

In general, at the *empty nest stage*, there is a deeper closeness between the spouses, and between the spouses, and with the children. The strategies of interaction with children are more based on mutual understanding. That is, it can be assumed that, in general, there has been a separation and restructuring of relationships with children and with each other. At this stage, parents are less focused on children than in families with adult children and teenagers, and are more focused on their spousal relationships.

In spouses *living together with adult children*, marital relations are not interconnected with the level of acceptance of the child, but certain aspects of marital relations are associated with control over the child. Perhaps this is explained by the high child-centeredness of the parents in such families and a certain degree of triangulation of adult children, the mediation of marital relations by the performance of parental functions.

In *families with teenagers*, no correlations between marital relations and parental position were found, which may indicate a greater concentration of spouses on the parental function.

The results of the study allow us to determine the focuses of psychotherapeutic influence in psychological assistance to families with adult children more accurately. These data allow us to optimize work with requests regarding both marital and parent-child relationships at the empty nest stage, as well as individual psychotherapy aimed at rethinking people's identity in their post-parental period.

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FEAR IN POLITICAL COMMUNICATION: EMPHASIS ON FEAR OF UNKNOWN

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Abstract

Politics involves emotions (Redlawsk, 2006) and reasoning (Redlawsk & Pierce, 2017). The study of political communication campaigns generally follows two directions (Weber, 2007): emotional valence (positive and negative campaigns) and the impact of enthusiasm and fear. The modern founder of this latter direction is considered to be political psychologist and scholar Ted Brader. If the political communication process is filled with content and imagery associated with success and aimed at evoking enthusiasm, voter motivation to engage in the political process increases, reinforcing existing beliefs and making political decisions based on these beliefs—such as voting for a candidate. Conversely, if the political communication process is filled with content and imagery associated with fear, voter motivation increases to reconsider existing beliefs and encourage reassessment of their choices based on current evaluations. The analysis of threat perception is central to understanding Brader's findings. Moreover, the perception of threat can have both direct and indirect impacts on political behavior. The hypothesis of this paper suggests that negative emotions require more differentiation to have an indirect influence on political behavior as clear and distinct as direct influence: the likelihood of predicting political behavior through the political communication process will increase, and the political communication process will become more precise. Based on a qualitative content analysis of the Georgian Dream Party statements, this paper hypothesizes that if we do not limit our response to threats solely to fear (Brader & Marcus, 2013) but also consider the fear of unknown, we can better highlight the indirect influence on political participation and engagement, significantly narrowing the field of interpretation in the political communication process.

Keywords: *Political communication, fear, content analysis.*

1. Introduction & literature review

Fear of the unknown refers to anxiety around unpredictable situations or events. It can also link to things that people find unfamiliar or strange. Individuals are likely to experience fear of the unknown when there is a lack of information. Another name for the condition is intolerance of uncertainty.

Intolerance of uncertainty (IU) has been extensively studied in political psychology, revealing significant influences on political beliefs and behaviors.

(i) Association with Political Conservatism – Research indicates that individuals with higher needs to manage uncertainty and threat are more likely to exhibit conservative political orientations. This suggests that conservatism may offer psychological comfort by providing clear structures and resistance to change.

(ii) Neural Processing and Political Polarization - Research indicates that intolerance of uncertainty can modulate brain-to-brain synchrony during exposure to political content. Individuals with higher IU levels tend to process political information in a more polarized manner, aligning their neural responses more closely with like-minded individuals.

(iii) Perception of Threat and Policy Preferences - Individuals with high IU are more likely to perceive the world as dangerous, which can lead to stronger support for policies emphasizing security and nationalism. This heightened threat perception influences attitudes toward immigration and international relations.

(iv) Belief in Conspiracy Theories - IU has been linked to the endorsement of conspiracy theories. The need for certainty drives some individuals to accept simplistic explanations for complex events, making them more susceptible to conspiratorial thinking.

(v) Impact on Political Engagement - High levels of IU can lead to political disengagement or extreme partisanship. The discomfort with uncertainty may cause individuals to avoid political participation or, conversely, to adopt rigid ideological positions to mitigate uncertainty.

These examples underscore the pivotal role that intolerance of uncertainty plays in shaping political attitudes and behaviors, influencing everything from ideological leanings to susceptibility to misinformation.

Ted Brader's work on fear and enthusiasm in political psychology, particularly in his book "Campaigning for Hearts and Minds (2006)", explores how emotional appeals shape political behavior. While intolerance of uncertainty (IU) is not a primary focus of his work, there are strong theoretical connections between IU and Brader's findings on fear and enthusiasm in politics.

(i) Fear and IU – Brader's research shows that fear-based political ads make people more vigilant, leading them to seek out more information and reconsider their political choices. Individuals with high IU, however, may respond differently—they may avoid uncertain or ambiguous political messages altogether, or they may gravitate toward strong, authoritative figures who promise stability.

(ii) Enthusiasm and IU – Brader argues that enthusiasm reinforces existing political loyalties and encourages participation. For those with high IU, enthusiastic messaging that offers certainty and clear political direction (e.g., strong party identity or nationalism) may be particularly persuasive.

(iii) Threat Perception and IU – Brader's work aligns with research showing that IU is linked to heightened threat sensitivity. If a political campaign uses fear effectively, people with high IU might be more likely to support policies or candidates that promise security and order.

While Brader himself may not have explicitly studied IU, his work on emotion in political campaigns intersects with how uncertainty intolerance shapes political behavior.

While there is no direct research linking intolerance of uncertainty (IU) with Ted Brader's specific studies on fear and enthusiasm in political campaigns, related research indicates that individuals with high IU may respond differently to emotional political messages. For instance, studies have shown that fear and anxiety can influence political decision-making, potentially affecting how individuals with high IU process political information.

Additionally, research on how the brain responds to politically charged information suggests that individuals with high IU may process such information differently, which could influence their reactions to fear-based and / or enthusiasm-based political messages.

These insights suggest that IU could play a role in moderating responses to emotional appeals in political campaigns, aligning with the mechanisms identified in Brader's research.

2. Theoretical framework & main questions

Paper analyzes Georgian Dream's political rhetoric and pivotal speeches in consolidating power through the fear of the unknown. It heavily depends on two main theoretical frameworks: (i) psychological conditioning and (ii) political framing.

Psychological conditioning and political psychology are deeply connected, as conditioning shapes how individuals form political beliefs, react to political stimuli, and engage in civic behavior. Essentially, political systems leverage psychological conditioning to influence behavior, from voting habits to ideological rigidity.

In the context of Ted Brader's groundbreaking framework of Fear vs. Enthusiasm, three types of conditioning are especially interesting: (a) operant conditioning and political engagement - for example, negative reinforcement, like public shaming or legal penalties, may discourage political dissent or opposition; (b) social conditioning and ideological loyalty - for example, media conditioning through repeated messaging can create echo chambers and reinforce political polarization, and (c) fear conditioning and political manipulation - for example, fear-based conditioning makes people more likely to support authoritarian policies or surrender civil liberties in exchange for security.

Candidates have clear incentives to use appeals intended to stir an emotional response in the audience (Jerit 2004; Brader 2005, 2006; Crigler, Just, and Belt 1996) – for instance in terms of mobilizing the crowds by drumming up enthusiasm, or in persuading undecided voters by triggering anxiety on relevant issues. Using emotions to give messages a distinctive "branding" and to "affectively connect" with voters is, of course, not a new approach (Nai, Maier 2021).

When it comes to the role of emotions in politics, consistent evidence shows their centrality for exposure to (and processing of) political information (Redlawsk 2006; Valentino et al. 2008; Nai et al., 2017), cognition (Kühne et al. 2011; Miller 2011), political attitudes (Vasilopoulos, Marcus, and Foucault 2018), and voting choices (Marcus 2000; MacKuen et al. 2010). This being said, much less evidence exists from the supply side; to what extent do politicians rely on emotional messages when competing for public office?

Paper relies on cognitive and affective dimensions of political conceptualization while analyzing Georgian Dream's pre-election (October 2024) and post-election rhetoric.

The main questions of the research are:

- ✓ Does fear based on conspiracy trigger / reinforce intolerance of uncertainty?
- ✓ Does intolerance of uncertainty in politics lead to / reinforce political polarization?
- ✓ Does political polarization challenge Ted Brader's paradigm of fear vs. enthusiasm?

This paper believes that without distinct answers to these questions, Ted Brader's framework tends to be reductionist, seeking to isolate root causes in the characteristics of individual voters or single pathways. This paradigm is very rich and productive, and it has produced some of the field's most enduring findings, including Ted Brader's groundbreaking research. But it is also quite constraining, as scholars in this paradigm seek to demonstrate that one specific set of predictors is truly foundational. These quests for foundational causes often end up ignoring the mediating and moderating processes that may well have more important effects than the foundations.

3. Main findings & analysis

Georgian Dream officials, particularly Prime Minister Irakli Kobakhidze and the Honorary Chair of the Georgian Dream Bidzina Ivanishvili, have frequently invoked the terms "Global War Party" and "Deep State" in their political discourse. These terms are used to describe alleged entities influencing global conflicts and Georgian politics and to induce the fear of the unknown in voters.

Irakli Kobakhidze's Mentions:

- December 2024: Kobakhidze expressed support for Donald Trump's efforts to dismantle the "Deep State," suggesting that its defeat would benefit Georgia's interests.

- December 2024: He referred to the "Global War Party," accusing it of instigating global conflicts and asserting that defeating it was crucial for Georgia's well-being.

- May 2024: Kobakhidze accused the "Global War Party" of orchestrating the attempted assassination of Slovakian Prime Minister Robert Fico, further alleging that such entities threaten political figures opposing their agendas.

- July 2024: He claimed that the "Global War Party" was responsible for the first assassination attempt against Donald Trump, highlighting the group's alleged reach and influence.

Bidzina Ivanishvili's Mentions:

- April 2024: At a rally, Ivanishvili accused the "Global War Party" of preventing Georgia and Ukraine from joining NATO, suggesting that this exclusion left them vulnerable to Russian aggression.

These instances underscore Georgian Dream officials' consistent use of "Global War Party" and "Deep State" to articulate their perspectives on international influence and domestic political dynamics.

Qualitative content analysis of these speeches from the highest hierarchy of the Georgian Dream and statements from the major opposition parties and CSOs show that Georgian Dream's political rhetoric has historically relied on a mix of political frames. Their prioritization tends to shift depending on the political climate; however, their general messaging strategies reveal a certain common pattern. Paper considers 5 most prevalent frames (Just, Crigler, Neuman 2006) that illustrate how affect is so closely bound to the cognitive structure of political understanding. Georgian Dream primarily operates through an Us-Them and Control lens, ensuring they maintain political dominance by discrediting opponents and presenting themselves as the guarantors of stability. Economic rhetoric serves as a supporting narrative, while human impact is largely secondary.

3.1. Example: Analyzing GD political council statement

The statement is a strongly worded political document that employs conspiracy-laden rhetoric, emphasizing themes of fear, global war party, conspiracy, peace, opposition, and Europe.

Below is a content analysis based on these key themes.

Fear - is a dominant emotional appeal throughout the text. The statement suggests that Georgia is under existential threat from external forces, primarily Western institutions allegedly controlled by the "global war party" and the "deep state." The document frequently warns of "sanctions, war, and the loss of sovereignty", portraying Georgia as a besieged nation resisting foreign coercion. Fear is reinforced through references to Ukraine's destruction, the imposition of economic hardships, and the supposed goal of turning Georgia into a second war front.

Example: "The threats that were once whispered behind closed doors have now been made public: 'Either you go to war, or we will punish you.'"

This sentence portrays Western actors as making ultimatums, attempting to force Georgia into a war against its will, reinforcing fear of external control and national destruction.

Global War Party - is the central antagonist in this statement. It is framed as a transnational force that manipulates countries into war for its own interests. The statement attributes wars in “Ukraine and other parts of the world” to this entity, arguing that Georgia has so far resisted becoming another victim.

Example: "The global war party can only manipulate the views of a small minority. The supporters of the collective National Movement—the local war party—are being pitted against their own country’s national interests."

This passage equates internal opposition groups with the "global war party," painting them as traitors rather than legitimate political competitors.

Conspiracy - the statement heavily relies on conspiracy narratives, particularly the existence of a "deep state" that secretly controls governments, media, and financial institutions. The deep state is portrayed as a shadowy, unelected force that overrides democratic decision-making. It is alleged to have manipulated Ukraine into war, orchestrated economic crises in the EU, and seeks to punish Georgia for refusing to submit to its agenda.

Example: "President Trump stated even before the election that 'either America will destroy the 'deep state' or the 'deep state' will destroy America.”

This reference to Trump’s rhetoric aligns Georgia’s struggles with the broader global battle against the so-called deep state, reinforcing the idea of a hidden elite working against national interest.

Peace - while the statement condemns Western institutions, it presents the current Georgian leadership as the sole force protecting peace. Peace is framed as Georgia’s most valuable achievement under its government, and the West is accused of trying to undermine it by pushing Georgia into war with Russia. The opposition is cast as a "war party" attempting to drag the country into conflict.

Example: "Ultimately, no amount of sanctions will intimidate the Georgian people, who understand well that no sanction can compare to the destruction of their country."

Here, peace is equated with the refusal to engage in conflict, implying that Western actors seek to destroy Georgia through war.

Opposition - the statement presents opposition groups as Western puppets rather than legitimate political actors. It characterizes them as part of the "local war party", working against Georgia’s national interests. The document claims they lack independent thought and are unwilling to debate government representatives, implying cowardice and subservience to foreign powers.

Example: "Unfortunately, their servile mindset prevents them from critically assessing the actions of American and European bureaucracies."

This framing suggests that opposition figures are brainwashed or compromised, rather than political actors with genuine concerns.

Europe - the European Union is depicted as being in “a state of decline, manipulated by the deep state, and acting against its own interests”. The statement criticizes the European Parliament’s resolutions against Georgia and claims that most European countries are not sovereign but merely follow the deep state’s orders. However, it does not outright reject the idea of European integration. Instead, it suggests that Europe must first "cleanse itself” of the deep state before Georgia can truly align with it.

Example: "We hope that by 2030, the EU will have fully overcome informal oligarchic influence and the 'deep state' problem, creating the right conditions for Georgia’s EU membership."

This line implies that while Georgia still seeks EU integration, it will only do so under conditions that align with its current government’s vision—one in which Europe is free from alleged deep-state influence.

To conclude, this statement constructs a narrative of Georgia as a besieged but resilient nation, resisting a powerful, hidden elite that seeks to “drag it into war”. It heavily relies on conspiracy theories about the "global war party" and "deep state," blaming Western institutions for economic hardships, international conflicts, and political interference. The opposition is dismissed as foreign-controlled, and peace is framed as a government achievement that the West wants to sabotage. This rhetoric aligns with broader populist and anti-globalist narratives, which often depict elites, foreign powers, and internal opposition as threats to national sovereignty.

4. Summary & discussion

Georgian Dream's messaging is strategically crafted to consolidate domestic support, vilify opposition figures, and create an "us vs. them" mentality, portraying the government as a defender of peace and independence.

Georgian Dream in all the analyzed statements appeals to fear, nationalism, and anti-Western sentiment while still leaving the door open for a "future, reformed EU integration". This, in its turn, creates ambiguity, triggers intolerance of uncertainty, leading to permanent, non-stop strikes against the rule of Georgian Dream for well over 100 days; despite severe crackdowns and disproportionately high penalties.

Back to the main questions highlighted in the paper - in all cases the answer is YES. The next step of the study could be testing them as hypotheses and possibly, build a new framework, where intolerance of uncertainty could play a moderating role.

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NEUROTICISM AND ARTIFICIAL INTELLIGENCE ANXIETY. THE MEDIATING ROLE OF CORE SELF-EVALUATION

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Abstract

Through a quantitative approach, this paper investigates the relationship between Neuroticism and Artificial Intelligence Anxiety and the mediating role of Core Self-Evaluation in this relationship. As AI technologies become deeply embedded in various sectors such as social media, smart devices, healthcare, and education, understanding how people perceive and interact with Artificial Intelligence is progressively essential. A total of 297 participants, consisting of 32 males and 165 females, completed surveys measuring their Neuroticism, Artificial Intelligence Anxiety, and Core Self-Evaluation levels. The data were collected via Google Forms using the following structured questionnaires: Neuroticism Scale, Artificial Intelligence Anxiety Scale, and Core Self-Evaluation Scale. Results showed significant positive correlations between Neuroticism and Artificial Intelligence anxiety ($r=-.301$, $p<.01$) suggesting that individuals with higher levels of AI anxiety are inclined towards adopting more skeptical viewpoints regarding AI technologies. Moreover, three of the four Artificial Intelligence anxiety subscales (job replacement, $r=-.178$, $p<.05$; sociotechnical blindness, $r=-.208$, $p<.01$, and Artificial Intelligence configuration, $r=-.166$, $p<.05$) also showed negative significant correlations with the attitudes toward AI. At the same time, Core Self-Evaluation showed significant negative correlations with the composite score of Artificial Intelligence anxiety ($r=.304$, $p<.01$) and all its subscales (learning, $r=-.304$, $p<.01$; job replacement, $r=-.181$, $p<.05$; sociotechnical blindness, $r=-.236$, $p<.01$, and Artificial Intelligence configuration, $r=-.218$, $p<.01$). Furthermore, Core Self-Evaluation was found to be a strong mediator between Neuroticism and Artificial Intelligence Anxiety. Understanding the role of AI anxiety and Core Self-Evaluation in shaping attitudes toward Artificial Intelligence can inform the development of strategies to mitigate negative perceptions and foster more positive attitudes toward Artificial Intelligence technologies.

Keywords: *Neuroticism, Artificial Intelligence, core self-evaluation, mediation.*

1. Introduction

Grouped under the broad domain of AI, applications such as Machine Learning, Big Data processing, Deep Learning, and Neural Networks have generated significant interest in recent years. Usually defined as a suite of tools and technologies designed to augment and enhance organizational performance (Alsheibani, Cheung, & Messom, 2018), the rapid expansion of AI-based technologies has heightened public awareness as companies continuously seek new ways to increase their businesses and profit (Bourne, 2019).

Decisions regarding the introduction and implementation of AI-based technologies will predominantly be made by influential stakeholders, such as large corporations and governments rather than individual users (Chen & Wen, 2021; Jones, Kaufman, & Edenberg, 2018). The inevitable impact of AI on society is evident, as highlighted by various authors (Makridakis, 2017). This impact may take various forms, ranging from optimism and hope (Kieslich, Lünich, & Marcinkowski, 2021) to significant challenges (Wang & Wang, 2019).

2. Literature review

Neuroticism reflects a person's tendency to adopt a negative cognitive style and focus on their negative aspects (Watson, 2000). Barlow and his collaborators emphasize that "neuroticism is typically defined as the tendency to experience frequent and intense negative emotions in response to various

stressors" (Barlow et al., 2014, pp. 344-345). The spectrum of negative emotions is broad, with the authors (Barlow et al., 2014) observing that this perspective generally encompasses "anxiety, fear, irritability, anger, sadness (…) although the strongest emphasis has been placed on the experience of anxious or depressive mood states" (Barlow et al., 2014, p. 345).

According to Barlow and his colleagues (2014), the prevailing view of the world as a dangerous place, combined with limiting beliefs about an individual's ability to confront challenging events, consistently aligns with the heightened negativity characteristic of neuroticism (Barlow et al., 2014). Additionally, Costa and McCrae (1992) and Goldberg (1993) assert that neuroticism refers to individual differences in negative emotional responses to threats, frustration, or loss. Lahey (2009) points out that factor analyses have revealed substantial correlations among the elements operationally defining neuroticism, which include irritability, anger, sadness, anxiety, worry, hostility, self-consciousness, and vulnerability (Lahey, 2009, p. 241). Furthermore, Widiger (2009) notes that individuals with high levels of neuroticism manage environmental stress poorly, perceive ordinary situations as threatening, and may view minor frustrations as overwhelming or hopeless.

Core self-evaluation (CSE) represents a person's fundamental and subconscious appraisal of their worth, competence, and capabilities (Judge, Locke, & Durham, 1997). Iqbal (2012) highlights that "people with high core self-evaluation (CSE) feel confident and think positively of themselves, whereas those with low self-evaluation tend to lack confidence" (Iqbal, 2012, p. 132). According to Judge and colleagues (1997), core self-evaluation (CSE) is a construct representing a broad dispositional trait composed of four specific characteristics: self-esteem, generalized self-efficacy, emotional stability (low neuroticism), and locus of control (Judge et al., 1997).

An integrative perspective on the effects fostered by a high core self-evaluation (CSE) is offered by Judge and Kammeyer-Mueller (2011), who emphasize that "people with positive core self-evaluations (CSE) view themselves positively across various situations and approach the world with confidence and self-assurance. They believe they are capable of solving problems (high self-efficacy), deserving of respect and esteem (high self-esteem), in control of their circumstances (internal locus of control), and tend to be optimistic, free from doubt and worry (high emotional stability)" (Judge & Kammeyer-Mueller, 2011, p. 332).

Characterized by a strong sense of control over their own lives, individuals with positive core self-evaluations (CSE) tend to view themselves favorably concerning challenging situations they may encounter, confidently believing in their ability to overcome any obstacle they face (Stumpp et al., 2010). Conversely, individuals who assess themselves negatively display low self-confidence, perceive themselves as less capable than others, and often focus on their shortcomings or failures while adopting a victim mentality (Judge et al., 1997).

Bernazzani (2017) observed that AI technologies will likely replace various jobs, especially those categorized as 3D – dumb, dirty, and dangerous. The increasing reliance on AI may lead to a loss of meaning as human work is substituted by automation. Moreover, individuals may be compelled to change careers and upgrade their skill sets. Supporting this, Manyika and colleagues from the McKinsey Global Institute (2017) estimated that “by 2030, 75 million to 375 million workers (3 to 14 percent of the global workforce) will need to change occupational categories” (p. 4). While these changes are anticipated to enhance economic productivity (Wang & Wang, 2019), they also raise concerns and anxieties about the future development and application of AI. This anxiety, related to current or future interactions with AI technologies and accompanied by negative thoughts regarding these interactions (Rosen & Weil, 1990), is termed AI anxiety. Johnson and Verdicchio (2017) define AI anxiety as fear or unease from worrying about AI becoming uncontrollable. Although earlier studies (Wang, 2007) have shown that anxiety associated with AI technology can either hinder or encourage future behavioral intentions, Johnson and Verdicchio (2017) highlighted that the emotional response of anxiety or fear may deter individuals from engaging with A. Based on the findings from the literature review, the following hypotheses were selected (Figure 1):

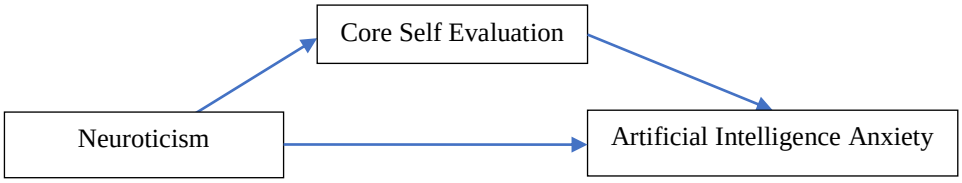
Hy1: Neuroticism negatively correlates with Core Self Evaluation

Hy2: Core Self Evaluation negatively correlates with Artificial Intelligence Anxiety

Hy3: Neuroticism positively correlates with Artificial Intelligence Anxiety

Hy4: Core Self Evaluation mediates the relationship between Neuroticism and Artificial Intelligence Anxiety

Figure 1. Conceptual framework.



3. Methods

The sample comprised 197 participants, including 32 males and 165 females, aged between 18 and 55 years, with a mean age of 20.59 years (SD = 5.87). Data collection utilized a purposive convenience sampling method and a self-reported data collection technique. Participants received a brief explanation of the study's objectives before completing the survey, and informed consent was obtained. Confidentiality of their data was assured, with the information used exclusively for research purposes.

Participants completed a series of questionnaires, which included the following measures: the Artificial Intelligence Anxiety Scale (Wang & Wang, 2019), the Core Self-Evaluation Scale (Judge et al., 2003), and the Neuroticism Scale (Eysenck & Eysenck, 1968).

The Artificial Intelligence Anxiety Scale (AIA) (Wang & Wang, 2019) consists of 21 items (e.g., "I am afraid that widespread use of humanoid robots will take jobs away from people") across four subscales: learning, job replacement, sociotechnical blindness, and AI configuration. Responses are measured on a seven-point Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). For the current sample, the internal consistency coefficient was $\alpha = .938$.

The Core Self-Evaluation Scale (Judge et al., 2003) includes 12 items (e.g., "I am confident I get the success I deserve in life"). Responses are distributed on a five-point Likert scale, with one representing “Strongly disagree" and five representing "Strongly agree." For this sample, the internal consistency coefficient was $\alpha = .828$.

The Neuroticism Scale (Eysenck & Eysenck, 1968) comprises 12 items (e.g., "I am often troubled by feelings of guilt"). Responses are recorded on a five-point Likert scale, where 1 signifies "Strongly disagree" and 5 indicates "Strongly agree." The composite score achieved a Cronbach's Alpha of $\alpha = .917$.

4. Results

The analysis was conducted using SPSS 26.0 software and the PROCESS macro version 3.2.02 developed by Andrew Hayes (Preacher & Hayes, 2004). Table 1 presents an overview of the means, standard deviations, and bivariate correlations for all study variables. The results indicate several significant positive and negative correlations.

The findings reveal that Neuroticism negatively correlates with Core Self-Evaluation (r=-.622**, p<.01), thereby confirming our first hypothesis. This aligns with the observation that individuals with high neuroticism scores tend to hold limiting beliefs about their ability to manage demanding or challenging situations (Barlow et al., 2014), in contrast to the confidence and self-assurance experienced by individuals with high CSE (Judge et al., 2003).

Table 1. Descriptive statistics and inter-correlations of the study variable.

	Mean	SD	1	1.a	1.b	1.c	1.d	2	3
1. Artificial Intelligence Anxiety	83.64	24.11	-						
1.a Learning	23.19	10.82	.790**	-					
1.b Job replacement	30.29	8.42	.790**	.337**	-				
1.c Sociotechnical blindness	18.20	5.50	.810**	.433**	.713**	-			
1.d AI configuration	11.94	5.54	.802**	.542**	.548**	.600**	-		
2. Core Self Evaluation	39.16	7.27	-.304**	-.304**	-.181*	-.236**	-.218**	-	
3. Neuroticism	41.04	10.70	.301**	.219**	.250**	.226**	.277**	-.622**	-

**p<0.01; *p<0.05

The second hypothesis (Hy2: Core Self Evaluation negatively correlates with Artificial Intelligence Anxiety) was also confirmed by the results (r=-.304**, p<.01). Therefore, elevated levels of

AI-related anxiety are negatively linked to the ability to solve problems, self-trust and confidence, and internal locus of control (Judge & Kammeyer-Mueller, 2011).

Concerning the third hypothesis (Hy3: Neuroticism positively correlates with Artificial Intelligence Anxiety), the results indicated a significant positive correlation ($r = .301$, $p < .01$) between Neuroticism and AI Anxiety (Table 1). This relationship can be attributed to traits commonly associated with neuroticism – the tendency to experience frequent and intense negative emotions such as anxiety, fear, irritability, and sadness (John & Srivastava, 1999). Several factors contribute to AI-related anxiety, particularly among those with high levels of neuroticism. One key factor is the complexity of AI technologies, which often function in ways that are not fully understood by the general public. This, combined with the "black-box" nature of many AI systems, contributes to a sense of uncertainty (Pellegrino, 2015). Furthermore, concerns about job displacement due to automation can be particularly troubling for those who worry and perceive AI's future as overwhelming or hopeless.

The fourth hypothesis (Hy4: CSE mediates the relationship between Neuroticism and Artificial Intelligence Anxiety) was tested using the PROCESS macro developed by Andrew Hayes (Preacher & Hayes, 2004). The model included Neuroticism as the predictor variable, Core Self-Evaluation (CSE) as the mediator, and Artificial Intelligence Anxiety as the outcome variable (Figure 1).

Table 2. Regression results for the mediation process.

Model	Coeff.	SE	t	p	CI(lower)	CI(upper)
Without mediator						
Neuroticism -> AI Anxiety (c)	.6777	.1539	4.4051	.0000	.3743	.9811
With mediator						
Neuroticism -> CSE (a)	-.4225	.0381	-11.0810	.0000	-.4977	-.3473
CSE -> AI Anxiety (b)	-.6329	.2861	-2.2118	.0281	-1.1972	-.0685
Neuroticism -> AI Anxiety (c')	.4103	.1945	2.1100	.0361	.0268	.7939

In the first step of the analysis, the regression of Neuroticism on AI Anxiety, ignoring CSE, is significant, $F(1,195) = 19.40$, $p < .01$, $R2 = .09$, $b = .67$, $t(195) = 4.40$, $p < .01$. The second step of the mediation model shows that the regression of the Neuroticism on CSE, is significant, $F(1,195) = 122.78$, $p < .01$, $R2 = .38$, $b = -.42$, $t(195) = -11.08$, $p < .01$. The third step of the mediation process shows that CSE, controlling for Neuroticism is also significant, $F(2,194) = 12.34$, $R2 = .11$, $p < .05$, $b = -.63$, $t(194) = -2.21$, $p < .05$. The last step reveals that controlling for CSE, Neuroticism is a less significant predictor of AI Anxiety, $b = .41$, $t(194) = -2.11$, $p < .05$.

5. Conclusion

The current study aimed to explore the impact of Neuroticism on AI anxiety using a quantitative approach. Additionally, it examined the mediating role of CSE in the relationship between Neuroticism and AI anxiety. The findings revealed a significant positive correlation between Neuroticism and AI anxiety and negative ones between CSE and Neuroticism, as well as between CSE and AI Anxiety, in line with results from previous research, indicating that individuals with higher levels of neuroticism are more likely to experience heightened anxiety concerning the development and implementation of AI technologies (Kieslich, Keller, & Starke, 2022).

Despite the significant findings of this study, several limitations must be acknowledged. A key limitation is the use of a cross-sectional design, which hinders the ability to establish cause-and-effect relationships. Additionally, the small sample size restricts the generalizability of the results. Future research should explore the role of self-esteem, self-efficacy, and locus of control in shaping AI Anxiety to help the development of strategies to mitigate negative perceptions and foster more positive attitudes toward AI technologies.

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PEDAGOGICAL STAFF MEMBERS PERSPECTIVE: CHANGE OF EMOTIONAL AND BEHAVIORAL PROBLEMS OF SPECIAL SCHOOL STUDENTS

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Abstract

The goal of this study was to examine, from the perspective of pedagogical staff, the differences between emotional and behavioral problems of SEN students in one special school in Estonia in two timepoints – at the beginning and end of the school year. A sample of all SEN students (n = 51) in one special school was rated individually by their teachers (n = 12), assistant teachers (n = 12) and support specialist (n = 3) at two timepoints. For all the students, the three same members of the school pedagogical (one teacher, one assistant teacher, one support specialist who deal with students daily) staff completed the Strengths and Difficulties Questionnaire – Instructor Version. Research results indicated that special school students' emotional and behavioral problems – hyperactivity, emotional problems, conduct problems and peer problems, at the beginning of a school year were more frequent compared to the results at the end of the school year. Also, it was found that prosocial behavior was more prevalent among students in the special school at the end of the school year compared to the beginning of the study. Additionally, in terms of gender differences, the results of this study are in line with the other studies suggesting that boys were more likely to have higher behavioral problems scores and girls have a significantly greater level of prosocial behavior and emotional problems. The results of this pilot study extended research findings in this area identifying the improvement of behavioral functioning among special school students with intellectual disabilities during one full school year as assessed by pedagogical staff.

Keywords: *Emotional and behavioral problems, SDQ, special needs school.*

1. Introduction

Schools have to provide optimal learning opportunities for all pupils regarding the academic and well as social-emotional competences, which is important in the framework of various research focuses, e.g., the differences between students with and without special educational needs (SEN) and SEN students in different settings – inclusive classes or special school settings. Research (e.g., Schwab et al., 2016) indicated higher rates of students with SEN in both special schools and inclusive classes compared with students without SEN, whereby school setting (attending an inclusive class or special school) does not explain any differences between students' self-reported and parents-reported socio-emotional problems. Research findings (Reed et al., 2012) show for example that children with autism spectrum disorders who were placed in special schools improved their behavioral problems (conduct and hyperactivity among others) better than children in regular schools followed by parents' reports. On the one hand, the number of learners enrolled in special classes in mainstream schools has increased and on the other hand, learners with officially defined SEN in special schools has decreased year by year in Estonia (European Agency for Special Needs and Inclusive Education, 2023; Santiago et al, 2016).

The current pilot study examined the impact of behavioral functioning of SEN students with mild intellectual disabilities attending the special school during school year. This pilot study tries to provide an estimation of the change of the prevalence of pedagogical staff-assessed emotional and behavioral problems of children with SEN on the example of one special school in Estonia.

2. Methods

In this pilot study we examined changes in emotional and behavioral problems during one school year period for SEN students in one of the special schools in Estonia. A longitudinal single group pre-post

design was used to compare measures of the staff ratings of all SEN students across SDQ subscales scores in the beginning and end of the academic year.

The special school for SEN students was chosen by convenience from among 41 special schools in Estonia intending SEN children with mild intellectual disabilities and where the teaching takes place according to the Simplified National Curriculum (2010) for basic schools, which is the curriculum for students with mild intellectual disability in Estonia. The special school in the study was smaller in size (range 51-53 students) with small classes (range 4-7 students) under the supervision of a teacher with postgraduate qualifications in teaching and specialist training in special educational needs. In addition to the teacher, each class had assistant teachers and support specialists (psychologist, special educator; social pedagogue, speech therapists). The children attended the school daily.

2.1. Research method, data collection and sampling

The Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) is an internationally widely used brief screening instrument for identifying emotional and behavioral problems in children with student, parent, and instructor versions used freely (SDQ, 2001) and differences during schoolyear in this study were measured using change scores for SEN students on the SDQ – as an official Estonian translation of the instructor-reported SDQ and as a validated and reliable measure (Kyttäla et al, 2021).

A sample of all SEN students (n = 51) in one special school in Estonia was rated individually by their teachers (n =12) and assistant teachers (n = 12) and support specialist (n = 3) at the beginning of school year (Time 1) and 9 months later at the finishing of school year (Time 2). For all of the students, the three same members of the school pedagogical staff (one teacher, one assistant teacher, one support specialists – school psychologist, special educator, social pedagogue or speech therapists) who deal with students daily completed individually the SDQ questionnaire at T1 and T2. In total, members of the school pedagogical staff (n = 27) reported on the students they teach and deal with daily basis. Staff members were on average 41.12 years old (SD = 11.88) and 82% were female. The student sample included 51 11–17-year-old pupils attending to the special schools. At T1 students were on average 14.28 years old (SD = 2.04) with 55% boys and 45% girls. Thus, we had data for 96% of all students attending the participating school. Data was not available for the remaining students (n = 2) due to a decision by parents.

Multi-informant ratings were aggregated using combined ratings about special school students' emotional and behavioral problems comparing SDQ scores across five (conduct problems, emotional problems, hyperactivity, peer problems, and prosocial behaviors) subscales at both assessment points. High scores on the difficulties (conduct, emotional, hyperactivity, and peer problems) scales represent a high degree of difficulties and a high score on the prosocial scale represents a high degree of prosocial behavior scoring on a three-point scale (0 = not true, 1 = somewhat true, and 2 = certainly true).

2.2. Data analysis

For the analysis of the data, we used an overall mean raw score calculated from the means of all subscales with higher values indicating more severe problem behaviors or higher degree of prosocial behavior. Multi-informant ratings were aggregated using combined (teacher, assistant teacher and support specialists) ratings about each SEN students' SDQ subscales scores, whereby multi-informant data are generally superior for obtaining reliable prevalence estimates (Johnson et al., 2014). A series of paired *t*-tests were used for comparing SDQ subscales across different timepoints among SEN students' scores.

3. Findings

The descriptive analyses concern SEN students' emotional and behavioral problems in two timepoints based on school staff ratings, showing significant differences in all SDQ subscales both in the total sample and for boys and girls separately between two timepoints of measurement. It was found that special school boys' and girls' emotional and behavioral problems – conduct problems, emotional problems, hyperactivity, and peer problems, at the beginning of a school year were more frequent compared to the results at the end of the school year. In addition, prosocial behavior was more prevalent among boys and girls in special school at the end of the schoolyear compared to the beginning of the study. Thus, preliminary results in the form of descriptive statistics showed that special school students' emotional and behavioral problems decreased, and prosocial behavior increased during the school year, indicating an improving effect (Table 1).

Table 1. SDQ mean scores for subscales in boys and girls and in all special school students based on pedagogical staff members reports at the beginning of study (T 1) and at the end of study (T 2).

	Timepoint 1	2		Timepoint 1	2		Timepoint 1	2	
	All	All	*t*-value	Boys	Boys	*t*-value	Girls	Girls	*t*-value
Conduct problems	0.66	0.36	8.95**	0.83	0.44	8.04**	0.46	0.27	4.57
Emotional problems	0.82	0.50	10.68**	0.85	0.49	8.62**	0.79	0.51	6.40
Hyperactivity	1.10	0.84	7.31**	1.24	0.98	5.46**	0.94	0.69	5.07
Peer problems	0.76	0.46	9.99**	0.84	0.50	7.91**	0.68	0.40	6.23
Prosocial behavior	0.72	1.34	24.14**	0.66	1.29	17.48**	0.78	1.41	16.85

Table 2 shows the means for all subscales of the SDQ according to gender in two timepoints and results indicated that conduct problems, hyperactivity, and peer problems scores were significantly higher for boys based on pedagogical staff members reports. Prosocial behavior was higher for girls based on school staff reports in two timepoints (statistically significant differences), but there were no statistically significant differences in emotional problems between boys and girls across two timepoints of measuring.

Table 2. Gender differences across SDQ mean scores among special school students based on pedagogical staff members reports at the beginning of study (T 1) and at the end of study (T 2).

	Timepoint 1	2		Timepoint 1	2	
	Girls	Boys	*t*-value	Girls	Boys	*t*-value
Conduct problems	0.46	0.83	7.83**	0.27	0.44	4.15**
Emotional problems	0.79	0.85	1.53	0.51	0.49	0.29
Hyperactivity	0.94	1.24	6.05**	0.68	0.98	5.96**
Peer problems	0.68	0.84	3.61**	0.40	0.50	2.36**
Prosocial behavior	0.78	0.66	3.13**	1.41	1.29	3.32**

4. Conclusion

Initial results of this pilot study measured by pedagogical staff evaluations, in the form of descriptive statistics, show evidence that special school students' emotional and behavioral problems were reduced, and prosocial behavior was elicited showing improving impact during attending special school during the school year. Thus, SEN students with mild intellectual disabilities in one special school in Estonia made improvements in terms of emotional and behavioral (conduct problems, hyperactivity, emotional problems, peer problems and prosocial behavior) problems measured by pedagogical staff multi-informant ratings. These results confirm other recent demonstrations of superior performance in special schools for children with autism spectrum disorders (Reed et al, 2012).

In terms of gender differences, the results of this study are in line with other studies (e. g. Helland et al., 2022; Kyttäla et al., 2021; Sargisson et al, 2016) suggesting that boys were more likely to have higher behavioral problems scores with more likely to have conduct, peer and hyperactivity problems and female students have a significantly greater level of prosocial behavior, whereby, research that focused on the concordance between the self- and teacher-rated-versions showed that reports on difficulties in social behavior were not always in agreement (Kypttäla et al, 2021).

This study also had some limitations. Due to individual difficulties related to the type of students' disability and for the purpose of gathering the most complete information for all students in special needs schools, we used school staff and not student self-reports. Self-reported measures were not always the best for every population – given the nature of the special needs and the anonymity of the subjects. In this research, there is a lack of generalizability with the small sample size as a pilot study based on the example of one school in Estonia.

The main strength of this study was that, to our knowledge for the first time, a longitudinal research design was used to examine the role of behavioral functioning among students with mild intellectual disability attending special needs schools.

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EXPLORING NEW SPACE APPROPRIATION STRATEGIES IN FLEX-OFFICES: A QUALITATIVE STUDY

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Abstract

Since the covid-19 pandemic, telework has developed and became the norm in companies worldwide. With people working from home several days per week, offices' occupation rates have plummeted, leaving open-spaces partly empty. Companies have seen this phenomenon as an opportunity to reduce costs by reducing the number of workstations per employee. As a result, workers in such setups do not own a specific desk. They rather belong to an area, in which several positions are available for them to use, but none of these can be considered "theirs". But it has been demonstrated that developing a feeling of appropriation or ownership over one's workspace through a range of processes (i.e., personalization) has a range of positive consequences such as improving work satisfaction (Rioux & Pignault, 2013) or reducing emotional exhaustion caused by lack of privacy (Laurence, Fried, & Slowik, 2013). However, although flex-offices are promptly developing, research about the impact of such design on appropriation and related issues are scarce. To address this topic, we conducted 17 semi-structured interviews, with workers from a French telecommunication company, some of whom had a personal desk and some of whom were in a flex-office. We interrogated their relationship to their own workspace and the ways they relate to it. We conducted a thematic analysis, following Braun and Clarke's guidelines (2006) to shed light on issues related to space appropriation. Our results show that a vast majority of individuals value their feeling of workplace belonging. Even when individual personalization is severely hindered, workers will express feeling like they belong to their workspace or are working towards developing this feeling. They will develop strategies and habits to develop a new feeling of appropriation through collective and individual processes (i.e., collective personalization, habits forming, team space regulation) more compatible with flex-offices. This study allows us to postulate that space appropriation goes beyond individual personalization and knowledge of the physical environment. When hindered, this complex and multifaceted psychological process can translate in many ways. This study points out the importance of letting employees turn their space into a place. It will be followed by quantitative research to further investigate these processes and their consequences in terms of behaviors and attitudes in the workplace.

***Keywords*:** *Flex-desk, flex-office*, *workplace appropriation*, *workplace attachment.*

1. Introduction

During the COVID-19 crisis, new regulations regarding social distancing and sanitary constraints profoundly impacted how companies view and organize their workspaces. In the French telecommunications company where this study was conducted, individual offices are disappearing in favor of centralized, nomadic offices, also known as "flex-offices." These offices are standardized spaces equipped and organized uniformly, offering workstations on a daily basis to employees as needed. However, the number of workers assigned to the shared space exceeds the number of available workstations, necessitating a rotation system so that, thanks to telework, the number of on-site employees does not exceed the number of available workstations each day. This setup promotes flexibility in workspace use and allows for significant cost savings for the organization. However, since the 1980s, when open and flex office spaces emerged, studies have highlighted mixed effects of these configurations on employee performance and health. Van der Voordt (2004) reported positive effects on job satisfaction, while De Been & Beijer (2014) demonstrated improved interpersonal communication. Conversely, Maher and Von Hippel (2005) identified negative impacts on individual performance, particularly when tasks are complex. Regardless of the results, researchers consistently emphasized the influence of workspace design on health (Öhrn et al., 2021), employee cohesion and collaboration (Arundell et al., 2018; Haapakangas,

Hallman, Mathiassen, & Jahncke, 2019), and individual performance (Kim, Candido, Thomas, & De Dear, 2016; Jahncke & Hallman, 2020).

This study was conducted in a French telecommunications company in which three types of offices can be found: individual offices, assigned desks in open-plan spaces, and increasingly common flex-offices as described above. The progressive disappearance of individual and assigned offices is perceived by employees as a break from company's culture. Official communications from the company reference the concept of a "regenerative workstation", aiming to create work environments promoting employee health, performance, work engagement, and brand identification. However, the coherence between these goals and the development of flex-offices is not straightforward. As mentioned earlier, literature suggests that these factors are influenced by the ability to appropriate the workspace (Rioux & Pignault, 2013; Barbillon, Moch, & Rioux, 2006). This raises the question: what does workspace appropriation look like in flex-offices?

Fischer (1989) describes workspace appropriation as a set of spatial practices involving control over workspaces and a psychological process of transforming and personalizing spaces. Authors using this conceptualization identify two common appropriation strategies: personalizing the workspace with personal items (Barbillon, Moch, & Rioux, 2006) and mastering and developing first-hand knowledge regarding the environment through its regular use and exploration (Morval & Judge, 2000; Rioux, 2004). The first strategy involves bringing personal objects into a space to define one's territory, regulate social interactions, and express one's identity (Wells, 2000). The second refers to increasing knowledge and understanding of the environment through movement and use of the space (Rioux, 2004).

Studies in the UK and US highlighted the positive effects of workspace appropriation through personalization in reducing stress at work (Halpern, 1995), improving job satisfaction (Sundstrom & Sundstrom, 1986) and enhancing well-being and physical health (Wells, 2000). Flex-offices, however, inherently involve shared workspaces, impacting certain appropriation strategies such as individual personalization. Consequently, it seems relevant to explore the broader psychosocial impacts of this spatial reorganization through the lens of workspace appropriation strategies used by employees.

2. Methodology

The aim of this protocol was to thoroughly understand the various workspace appropriation strategies implemented by employees depending on the type of configuration in which they worked (i.e., flex office, individual office, fixed desk in an open space). Specifically, the study sought to gather answers to the following questions:

- How do different workspace configurations affect the importance employees place on workspace appropriation?
- To what extent does the development of workspace appropriation differ among employees in flex-offices compared to those in other office types?
- To what extent do new forms of workspace organization (i.e., flex-offices) hinder versus facilitate certain appropriation strategies?

2.1. Participants

Seventeen employees (11 men, 6 women) from four subdivisions of the company participated in this qualitative study. Their age ranged from 36 to 66 years old (*Myears* = 50; *SDyears* = 7.71) and they had an average tenure of 23 years in the company (*SDyears* = 10.15) and 5.27 years in their current roles (*SDyears* = 3.45). Among them, nine worked in flex-offices, two had private offices, and six had fixed desks in collective spaces.

2.2. Procedure

The study was conducted across four sub-divisions of a telecommunication company, distributed throughout France. Invitations to participate in semi-structured interviews regarding their relationship with their workspace were sent to employees via their managers. The interviews were conducted via Teams and lasted 58 minutes on average. At the start of the interviews, participants were reminded of the confidentiality of the study and their right to withdraw at any time. They were then invited to answer a series of open-ended questions about the arrangement of their workspace and their relationship with it (e.g., "Can you tell me about your current workspace? How would you describe your relationship with your workspace?"). Participants were encouraged to respond freely. Additional questions were occasionally added to elicit more detailed or precise answers.

3. Analysis

Following the guidelines of Braun & Clarke (2006), we conducted a thematic analysis of the interviews.

The two researchers responsible for the study read the 17 interview transcripts and coded the segments according to the themes mentioned. The two sets of coding were then compared, and differing parts were discussed. At the end of this process, 473 segments of interest emerged, coded into 19 categories such as communication, logistics, social relationships, or noise. The links between each category and our research questions were then examined.

4. Results

Ultimately, our findings are summarized in five key points, developed in this section:

4.1. Importance given to workspace appropriation according the type of office

Out of the 17 employees interviewed, 16 associated workspace appropriation with benefits, notably for their well-being and comfort. However, significant differences were observed depending on work configurations. For most employees in flex-offices, appropriation is described as a difficult goal to achieve: “I miss the comfort of knowing where I’m going, having my desk, putting up the photo of my little boy, my daughter. It’s impersonal; you arrive, put your stuff down, the day goes by, and you leave.” In contrast, for employees in private offices or fixed desks in a collective space, appropriation is described as an acquired and beneficial element: “In my office, I have some privacy. I like arriving in the morning, closing my door, and telling myself, ‘This is my personal space.’” “This place is mine, because I get back to it every morning.” These opinions align with what the rest of our data suggests, namely that workspace appropriation is, seemingly, a rather challenging process in a flex-office environment. However, this does not mean that employees in flex-offices have abandoned this psychological process. Rather, they must rely on new dimensions over which they do not always have control, making their sense of appropriation more fragile. Our interviews revealed four of these dimensions, contributing to the appropriation of the workspace for our participants.

4.2. First dimension: Familiarity with the workspace

This is the dimension that participants most frequently associated with the appropriation of their workspace (11 out of 17 respondents). Employees with fixed desks explain that maintaining a quasi-“intimate” sensory relationship (spatial arrangement, visual perspective, smells) gives them the impression that it truly belongs to them: “Humans have a gregarious instinct. I have my place; I always sit here. My phone charger is here, my manager is on my left. The view is familiar to me.” “This feeling [of being at home] comes from the fact that I always sit here. I always have this view. The carpet smells the same. I know I’m at my desk.” On the other hand, employees in flex-offices explain that this familiarity is what they lack to develop this feeling: “In the morning, I lack a form of habit that you can’t develop here. You arrive and don’t know where you’ll sit or what your work position will be like.”

4.3. Second dimension: Personalization

The second dimension is mentioned by 10 out of 17 participants. As described by Wells (2000), these participants say they bring personal objects to work for various reasons: to decorate (paintings, plants) or improve their work environment (better-quality keyboard, computer screen). Participants working from a flex office mention this dimension but emphasize that changing desks daily makes personalization of their workspace impossible and associate it with the perception of an anonymous space: “In a flex office, you don’t create your own environment. All the desks are identical, like Airbnbs. You never really feel like it’s yours... But it’s not really ‘not yours’ either. You’re in an anonymous place.” However, some workers in flexible offices describe other modalities of personalizing their space than those mentioned in scientific literature, such as more collective personalization strategies like printing photos or buying plants to decorate the shared space, as well as creating areas of conviviality: “We don’t have paintings, we don’t have decorations, nothing. But in the cabinet, we have cookies, tea, and coffee for the team. We’ve made this place ours with sweets.”

4.4. Third dimension: Physical and psychological proximity with the team

The third dimension refers to perceived proximity with the team. This was described by four people, all working in flex offices, as a true determinant of their sense of workspace appropriation. In short, the strong psychological proximity between team members allows them, when occupying a space together, to develop a sense of appropriation towards it "We didn't decorate, we're not allowed to. This place is ours because we're all here together. It's the team. It really comes down to my team being here." "We feel like this place is ours because we have a sense of belonging to the team. There's a lot of solidarity among us. We share a lot. There's a strong team spirit and strong collaboration. So yes, since our team is so cohesive, I also feel like it's a place where we feel at home."

4.5. Fourth dimension: Co-creation and co-regulation of the workspace

The fourth and final dimension related to workspace appropriation, mentioned by three employees in flex-offices, is what we call co-creation or co-regulation of the space. This strategy involves taking control of a space by establishing common rules and defining ways to occupy it as a team. In the scientific literature, it corresponds to an aspect of personalization (Wells, 2000), but in our study, it takes a different form due to the specificities of flex-offices. Indeed, the employees referencing this strategy adopt an approach to appropriating their space by personalizing not the decoration or the items around them but rather the overall layout, rules, and collective functioning governing it. In fact, the physical modifications they describe do not involve bringing objects as studied thus far, but rather designing the layout of the space (e.g., the number of desks and quiet booths, the size of the break room). Thus, their space reflects the characteristics and specificities of their work group. This process was implemented both officially and unofficially. The company planed workshops to allow employees to design their future collective space according to their needs: "We organized some workshops to design the functioning of the future space. Except for a few grumblers, everyone was quite happy. We arranged our space as we wanted it." Additionally, in some cases team members decided on their own accord to collectively define and implement rules for their workspace : "We set some basic rules with my colleagues. If you take a spot on one day and you are here the next day, you get to keep it. This doesn't apply from Fridays to Mondays." "The managers in my area really involved their teams. They asked them what rules they wanted to implement, what they thought about this or that. These are things that absolutely need to be defined by the team members."

5. Discussion and conclusion

From the analysis of our data, it emerges that regardless of the type of workspace occupied, employees generally do not give up on appropriating it but rather adapt the way they strive to achieve this. In our sample for instance, the topic is considered important by 94% of participants. Additionally, some of the levers of workspace appropriation, even in the new types of spaces considered (i.e., flex-offices), are related to previous scientific observations (Barbillon, Moch, & Rioux, 2006). For instance, the importance of personalization and overall mastery/knowledge of the environment stands out from our interviews as particularly significant.

However, two dimensions from our interviews are more unique, as they are exclusively associated with flex-offices. These dimensions—psychological and physical proximity with the team, and co-creation/co-regulation of the space—are not mentioned by employees working in other types of offices. Two lines of research can then be envisioned. The first questions the role and conditions for the emergence of these two workspace appropriation strategies. Specifically, can they be considered substitution or compensation strategies in an environment (flex-offices) that makes individual workspace appropriation behaviors impossible? The second point concerns the precise nature of the links between certain workspace appropriation strategies and associated psychosocial dimensions. Indeed, while Laurence, Fried, and Slowik (2013) demonstrated that workspace personalization correlates with a lesser negative impact in terms of perceived promiscuity and lack of privacy, our own results lead us to observe that physical and psychological proximity with the team could promote a sense of workspace appropriation. Can we then hypothesize a bidirectional effect between these different dimensions?

These results open the door to future studies to confirm the aforementioned antecedents of workspace appropriation through enriched study protocols (e.g., mixed methods), examine the predictive power of each dimension on effective appropriation of different office types, and analyze the variety of consequences at different levels (individual, collective, organizational) of these processes.

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AN EMPIRICAL STUDY ON THE INTEGRATED MODEL OF FOLLOWERSHIP AND LEADERSHIP STYLES IN JAPAN

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Abstract

This study explores an integrated model of followership and leadership styles that functions optimally. Utilizing Kelley's (1992) model of followership and Hersey and Blanchard's (1982) situational leadership theory, Bjugstad et al. (2006) proposed a theoretical framework linking these constructs. However, empirical exploration remains limited in the literature. The analysis focused on variables such as demographic factors, affective commitment, followership, and leadership. Affective commitment was measured as a reflection of follower productivity, given its known impact on job performance. All proposed hypotheses were rejected, indicating that exemplary and conformist followership styles are associated with higher productivity, independent of leadership styles. Active followership enhances affective commitment among followers. Post-hoc analyses revealed that followership (active) and leadership (task behavior) positively influence affective commitment, while their combination with leadership (relationship behavior) yields negative effects. These findings highlight the complex dynamics between followership and leadership in promoting affective commitment within organizations.

Keywords: *Integrated model, followership, leadership, affective commitment*.

1. Introduction

This study aims to investigate an integrated model of followership and leadership styles that functions optimally. Using Kelley's (1992) followership model and Hersey and Blanchard's (1982) situational leadership theory, Bjugstad et al. (2006) proposed a combined framework for understanding these concepts. However, an empirical examination of this integrated model has yet to be conducted. Clarifying this model through empirical research could lead to significant practical advancements, such as enhancing the efficiency of recruitment, assignment, and training within human resource management. Additionally, this study contributes to the literature on the role-based approach to followership and leadership processes. Since leadership is inherently a relational process, we explored the impacts of this integrated model of followership and leadership styles.

2. Theory and hypotheses

2.1. Kelley's followership theory

Kelley (1992) categorized follower types along two dimensions; Independent, critical thinking, and Active. Followers who exhibit independent, critical thinking consider the implications of their actions, demonstrate a willingness to be creative and innovative, and may offer constructive criticism. Conversely, followers who are dependent and uncritical tend to comply with the directives of their leaders. The second dimension, active, is used to determine the level of ownership that the follower demonstrates (Bjugstad et al., 2006). Kelley employed these two dimensions to classify them into five distinct follower types: Conformist, Passive, Alienated, Exemplary, and Pragmatic. Bjugstad et al. (2006) proposed an integrated model using four of these five follower types, excluding the pragmatic one.

2.2. Hersey and Blanchard's situational leadership theory

Situational leadership theory is a popular theory based on task behavior, the relationship behavior of a leader, and a follower's maturity (Johansen,1990). The leader is directed to adopt one of four styles based on the degree of relationship- and task-oriented behavior required by the situation (Bjugstad et al., 2006). These four leadership styles include Telling, Selling, Participating, and Delegating.

2.3. An integrated model of followership and leadership styles

Bjugstad et al. propose a concept that integrates Kelley's followership style with Hersey and Blanchard's leadership style, aiming to enhance follower productivity in practical settings. Figure 1 outlines the recommended behaviors for both leaders and followers in each quadrant of the integrated model of followership and leadership styles put forward by Bjugstad et al. (2006). Based on the integrated model of followership and leadership, we set up the following four hypotheses:

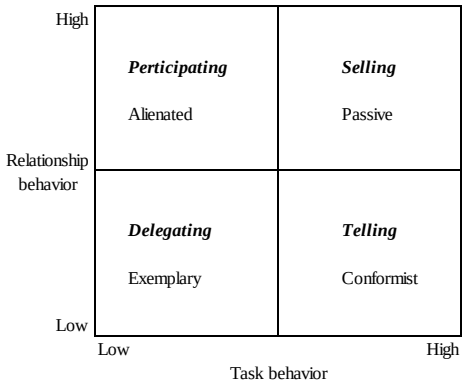
Hypothesis 1: When a leader has a participative style, the affective commitment of followers with an alienating style is statistically higher than that of followers of other styles.

Hypothesis 2: When a leader has a selling style, the affective commitment of followers with a passive style is statistically higher than that of followers of other styles.

Hypothesis 3: When a leader has a delegating style, the affective commitment of followers with an exemplary style is statistically higher than that of followers of other styles.

Hypothesis 4: When a leader has a telling style, the affective commitment of followers with a conformist style is statistically higher than that of followers with other styles.

Figure 1. Integrated model of followership and leadership styles.



3. Study

3.1. Participants

We surveyed 524 full-time employees of a Japanese trading company (Mage= 38.59, SD = 9.54, female; 31.3%) who completed the study, yielding a response rate of 69.22%. The survey was conducted from August 22 to 31, 2014. The web survey screen provided explanations of ethical considerations and guarantees of anonymity, and consent for participation in the survey was confirmed.

3.2. Measures

We measured all variables using a 5-point scale (from 0: never to 4: always). Respondents were requested to answer the questions honestly. As expected, we conducted confirmatory factor analysis to confirm that the dimensions of followership and leadership captured the concepts we wanted to measure. Second, exploratory factor analysis was conducted on the job satisfaction scales used in this study. Third, a one-way ANOVA and Tukey's multiple comparisons were conducted to test the hypotheses. Finally, a post-hoc analysis was conducted using hierarchical multiple regression analysis to determine which followership behaviors, leadership behaviors, and their interactions affected followers' productivity.

Followership. We measured followership using eight items adapted from Nishinobo and Furuta's (2013) measurement scale. This scale has 30 items however the research partner company requested a reduction in the number of items. We selected questions with high factor loadings from Nishinobo and Furuta's (2013) scale. Finally, the items of followership included four items of followership (active) and four items of followership (independent, critical thinking). For each dimension, Kelley's (1992) followership measurement scale was used for one out of four items, and three items were from Nishinobo and Furuta's (2013) measurement scale.

Leadership. We measured leadership using eight items adapted from Takahara and Yamashita's (2004) scale. This scale was developed using four items for leadership (task behavior) and leadership (relationship behavior), using the LBDQ-XII. This scale achieved reliable results for a major pharmaceutical company in Japan. Therefore, we used the leadership scale in this study.

Affective commitment. Affective commitment was measured following Kitai (2014). Bjugstad et al. (2006) showed that a combination of followership and leadership styles can increase followers' productivity. According to Robbins (2005), organizational commitment positively affects job

productivity. Several researchers have also demonstrated a positive relationship between organizational commitment and productivity (e.g. Katz & Kahn, 1966; Randall, 1987; Mathieu & Zajac, 1990).

4. Results

The average age of the participants was 38.59 years (SD = 9.5). There are nine departments in this company, the rest being indirect departments such as human resources and accounting. In terms of gender, there were 360 men (68.7%) and 164 women (31.3%), years of service are 115 (21.9%) with 0 to 4 years of service, 154 (29.4%) with 5 to 9 years, 86 (16.4%) with 10 to 14 years, 64 (12.2%) with 15 to 19 years, 67 (12.8%) with 20 to 24 years, 33 (6.3%) with 25 to 29 years, and 5 (1.0%) with 30 years or more. Then, we conducted a series of confirmatory factor analyses to ensure a distinct factor structure of leadership and followership. A two-factor leadership model was $\chi2(13) = 38.320$, p<.000, CFI = .990, GFI = .979, AGFI = .955, RMSEA = .061, and a two-factor followership model was $\chi2(26) = 71.138$, p<.000, CFI = .974, GFI = .973, AGFI = .952, RMSEA = .058. A two-factor model of leadership and followership provided a good fit for the data. Therefore, we adopt a two-factor structure of leadership and followership. Table 1 presents the means, standard deviations, correlations, and reliability coefficients for each variable used in this research. Consistent with previous research (Nishinobo, 2014; Nishinobo, 2021), affective commitment was positively correlated with followership and leadership variables.

Table 1. Descriptive Statistics and Bivariate Correlations.

Variables	*M*	*SD*	1	2	3	4	5
1 Followership: active	2.81	0.56	(.80)				
2 Followership: independent, critical thinking	2.07	0.72	.386**	(.84)			
3 Leadership: task behavior	2.83	0.82	.420**	.052	(.87)		
4 Leadership: relationship behavior	2.68	0.87	.485**	.160**	.701**	(.91)	
5 Affective commitment	2.96	0.66	.496**	.214**	.354**	.376**	(.91)

Note: N = 524. Cronbach Alphas appear in parentheses within the diagonal.
**p < .05.

4.1. Procedures and experimental design

Kelley (1992) classifies scores above midpoint 2 of a 5-point Likert scale as a high group and below midpoint 2 as a low group of each followership dimension. Hersey and Blanchard's (1982) situational leadership theory is the same. However, the data obtained in this study showed a large bias in the number of combinations of followership and leadership styles. Therefore, we subtracted the median from the values for each dimension of followership and leadership, and divided the participants into high and low groups.

Table 2. Result of one-way ANOVA [Dependent Variable: Affective commitment].

Leadership Style	Followership Style	Frequency	Mean	SD	F value	Tukey's multiple comparison
Telling	Conformist[★]	9	2.78	0.57	9.66***	Exemplary > Alienated
	Exemplary	23	3.27	0.44		Exemplary > Passive
	Alienated	10	2.66	0.63		
	Passive	18	2.36	0.63		
Selling	Conformist	46	3.21	0.55	7.52***	Confromist > Passive
	Exemplary	141	3.27	0.57		Exemplary > Alienated
	Alienated	26	2.90	0.41		Exemplary > Passive
	Passive[★]	37	2.85	0.56		
Participating	Conformist	13	3.18	0.44	1.27	
	Exemplary	23	2.90	0.88		
	Alienated[★]	14	2.70	0.80		
	Passive	9	2.64	0.69		
Delegating	Conformist	12	3.03	0.42	8.66***	Exemplary > Alienated
	Exemplary[★]	35	3.13	0.69		Exemplary > Passive
	Alienated	53	2.57	0.64		
	Passive	55	2.56	0.54		
All	Conformist	80	3.13	0.53	34.03***	Confromist > Alienated
	Exemplary	222	3.21	0.63		Confromist > Passive
	Alienated	103	2.68	0.62		Exemplary > Alienated
	Passive	119	2.63	0.59		Exemplary > Passive

Note:[★] indicates the followership style best fits against each leadership style, as assumed by the previous study.
***p < .001

4.2. Test of the integrated model of followership and leadership

To test Hypotheses 1 to 4, we performed one-way ANOVA (see Table 2). The analysis results showed that none of the hypotheses were supported. This result confirms that exemplary and conformist

followership styles tend to be more productive, regardless of the leadership style. In other words, followership (active) might increase affective commitment. Therefore, we conducted a post-hoc analysis of the effects of followership and leadership behaviors and their interactions on affective commitment rather than on followership and leadership styles. First, we conducted a Z-transformation to avoid multicollinearity owing to correlations between the main effects and interactions (Aiken & West, 1991).

However, the post-hoc analysis also suggested the main effects of followership (active) on affective commitment (β=.33, p<.001) and leadership (task behavior) (β=.13, p<.05). Next, the interaction between followership (active) and leadership (task behavior) positively affected affective commitment (β=.16, p<.05). In contrast, the interaction between followership (active) and leadership (relationship behavior) had a negative effect on affective commitment (β=-.15, p<.05) (Table 3). The results partially supported those of Blanchard, Welbourne, Gilmore, & Bullock (2009). The results of our multiple regression analysis confirmed that the interaction between followership (active) and leadership (task behavior) had a significant positive effect on affective commitment, and the interaction term between followership (active) and leadership (relationship behavior) had a significant negative effect on affective commitment.

Table 3. Hierarchical multiple regression analysis to affective commitment [A post-hoc analysis].

Variable	Affective commitment		
	Model1	Model2	Model3
Gender（0： Male, 1： Female）	-0.16***	-0.12**	-0.13**
Division（1: 1st Div, 2: 2nd div, 3: 3rd Div, 4: 4th Div, 5: 5th Div, 6: 6th Div, 7: 7th Div, 8: 8th Div, 9: Others）	-0.01	0.03	0.03
Followership (active)		0.38***	0.39***
Followership (independent, critical thinking)		0.03	0.03
Leadership (task behavior)		0.12*	0.13*
Leadership (relationship behavior)		0.10	0.08
Followership (active) × Leadership (task behavior)			0.15*
Followership (active) × Leadership (relationship behavior)			-0.15*
Followership (independent, critical thinking) × Leadership (task behavior)			0.05
Followership (independent, critical thinking) × Leadership (relationship behavior)			-0.05
Adjust R^2	0.02**	0.29***	0.29*
F value	7.32***	35.90***	22.77***

Notes: ***p <0.001, **p <0.01, *p <0.05; VIF<3.02

5. Discussion

While the interaction between followership and leadership is widely acknowledged, there remains a significant gap in research regarding the impact of this interaction on follower productivity. This model illustrates how the fields of followership and leadership can be synthesized for practical applications aimed at enhancing follower productivity. Building on Bjugstad et al.'s (2006) integrative model, we hypothesized four combinations of followership and leadership styles that relate to follower productivity and conducted statistical analyses to test these hypotheses. Our findings indicate that the integrated followership and leadership style model proposed by Bjugstad et al. (2006) is not the most effective approach for improving follower productivity.

There are two reasons why these hypotheses were not supported. First, Hersey and Blanchard's (1982) situational leadership theory have faced significant criticism regarding its theoretical foundations. Furthermore, Hersey & Blanchard (1969a; 1969b), who explored the origins of the theory, lack empirical support. Future research should investigate various leadership and followership theories. There is an ongoing discuss about the integration of followership with different leadership theories (Küpers & Weibler, 2008). For example, combining servant leadership with followership may enhance productivity, including among followers exhibiting alienated and passive styles of followership (independent, critical thinking). Second, this study utilized affective commitment as a variable to measure follower productivity. However, Blanchard et al. (2009) found that follower active engagement among followers is closely linked to affective commitment. In the future, it will be essential to measure follower productivity using variables such as work output. On the other hand, the post-hoc analysis revealed that followership (active), leadership (task behavior), and the interaction of followership (active) and leadership (task behavior) had a positive effect on affective commitment positively influenced affective commitment. Furthermore, the interaction between followership (active) and leadership (relationship behavior) had a negative effect on affective commitment. Therefore, further research is needed to explore the impact of followership behaviors and styles, as well as the combination of various leadership theories, on followers' productivity.

5.1. Theoretical contributions

This study makes a significant contribution to the existing literature. First, we demonstrated that an integrated model of followership and leadership styles aimed at enhancing follower productivity was not empirically supported. However, the post-hoc analysis suggests that specific followership and leadership behaviors, as well as their interactions, may influence followers' productivity. This finding aligns with previous studies and contributes to the role-based approach to followership. Second, this paper contributes to the understanding of the leadership process by empirically demonstrating the mutual influence between followers and leaders. The leadership process refers to the dynamic interaction between leaders and followers. However, previous research has primarily examined leader behavior as an independent variable (Hamada & Shoji, 2015). This study adopted an approach that emphasizes the reciprocal influence between followership and leadership. Our analysis revealed that the interaction between followership (active) and leadership (task behavior) had a positive effect on followers' productivity, while the interaction between active followership (active) and leadership negatively impacted productivity.

5.2. Limitations and future directions

This study has several limitations. The limitations of this study and future research, are outlined in four points. First, collecting and analyzing data will be essential in the future, not only for Japanese companies but also for various countries and industries. Second, this study analyzed the results of followers' responses. Future research should examine followers' behaviors as perceived by their leaders. Third, as mentioned above, we must consider various combinations of leadership and followership, such as the impact of combining servant leadership with followership on follower productivity. Furthermore, it is important to identify the variables to be used when analyzing productivity. Fourth, Kelley (1992) classified followership types using the midpoint of a five-point scale; however, in this study, the classification of followership types was significantly biased. Therefore, the following types were classified using the median. Consequently, future research should aim to collect data from more than 10,000 valid respondents.

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BEING HIGHLY SENSITIVE AT WORK AND EXPERIENCING FLOW: RISK FACTOR OR RESOURCE AGAINST STRESS AND WORKAHOLISM?

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Abstract

Workaholism (Oates, 1971) is characterized by a compulsive tendency to work, sometimes to the detriment of health, personal relationships and other aspects of life (Burke, 2001). It is often associated with work-related stress (Spence & Robbins, 1992). Stress corresponds to a relationship between an individual and the work environment that is perceived as challenging or overwhelming personal resources, thus posing a threat to well-being (Lazarus & Folkman, 1984). In the workplace, high sensitivity is generally considered a risk factor for stress (Veleanovici et al., 2023) or burnout (Bordarie & Mourtialon, 2023). When faced with overly intense stimuli, highly sensitive people may tend to isolate themselves or invest in activities that they enjoy. At work, this investment can sometimes lead to a state of flow, where a person is so engrossed in an activity that they forget their surroundings (Csikszentmihalyi, 1997). In this study, we focus on the effects of HSPS and flow on stress and workaholism. Our hypotheses are (1) all variables will be positively correlated, (2) HSPS will positively influence stress and workaholism, (3) workaholism will play a mediating role between HSPS and stress and (4) flow will positively influence the relationship between HSPS and other variables. The sample included 231 working adults, of whom 82.7% were women and 17.3% men. They were divided into 5 age groups: 33.3% between 18 and 24, 19.9% between 25 and 34, 16.5% between 35 and 44, 22.1% between 45 and 54 and 8.2% between 55 and 64. They anonymously completed an online questionnaire assessing sensitivity (HSPS-FR, 27 items, Bordarie et al., 2022), flow (FaW, 13 items, Crone et al., unpublished) and stress (PSS4, 4 items, Dupret & Bocéréan, 2013) and workaholism (WART, 25 items, Ravoux et al., 2018). Statistical analyses, including correlations, linear regressions and mediation models, were performed using JASP (version 0.18.3) and Jamovi (version 2.6.17.0). The results highlighted that the variables were positively correlated (p<.01), with the exception of flow, which was not correlated with HSPS, and perceived stress. HSPS had a positive effect on perceived stress (β=.301; p<.001) and workaholism (β=.461; p<.001). WART also had a positive effect on stress (β=.260; p<.001), playing a mediating role between HSPS and stress. Flow did not play a moderating role. We will discuss the results in relation to our hypotheses and in the light of the literature. We will point out the limitations of the study and suggest concrete ways in which organizations can optimize their working environments for the specific characteristics of employees.

Keywords: *Sensory processing sensitivity, workaholism, flow, stress, mediation.*

1. Introduction

Workaholism, first defined by Oates in the early 1970s, is characterized by a compulsive tendency to work, sometimes to the detriment of health, personal relationships and other aspects of life (Burke, 2001). Workaholics do not fit well into a work team, which can lead to conflicts with colleagues (Taghavi, 2012), and disruptions in family relationships or friendships can contribute to the development of a potential work addiction as a way of escaping problems (Scheen, 2013). In addition, organizational and societal cultures can create pressures that lead to workaholism and damage employees' mental health which is significantly associated with stress (Scheen, 2013). Jobs that require contact with the public or positions of responsibility and risk can encourage workaholism, and women are less affected by this phenomenon, being two to three times less likely to have a high-risk job (Scheen, 2013).

Workaholism can be induced by personality traits such as perfectionism, low self-esteem and negative affect, which are risk factors (Kun et al., 2021). In the workplace, high sensitivity is generally considered a risk factor for stress (Veleanovici et al., 2023) or burnout (Bordarie & Mourtialon, 2023). However, approximately 30% of the population can be considered highly sensitive (Lionetti et al., 2018),

which represents a high proportion of the population. High sensory processing sensitivity (HSPS) (Aron & Aron, 1997) is a personality trait that results in more intense and complex cognitive processing with increased emotional reactivity compared to their peers (Gere et al., 2009). People with high sensory processing sensitivity (HSPS) tend to perceive stress more strongly and report more frequent symptoms of illness (Benham, 2006).

When faced with overly intense stimuli, highly sensitive people may tend to isolate themselves or invest in activities that they enjoy. At work, this investment can sometimes lead to a state of flow, where a person is so engrossed in an activity that they forget their surroundings (Csikszentmihalyi, 1997). Flow' was first defined by Csikszentmihalyi (1975) as an intrinsically gratifying or "autotelic" experience. This term, derived from the Greek, combines 'auto' (self) and 'telos' (objective). Autotelicism, which refers to the tendency to engage in activities for the pleasure they bring, without expecting any external reward, is closely related to flow (Heutte, 2019).

2. Objectives and hypotheses

In this study, we focus on the impact of HSPS and flow on stress and workaholism. Our hypotheses are:

- Hypothesis 1: all variables will be positively correlated
- Hypothesis 2: HSPS will positively influence stress and workaholism
- Hypothesis 3: workaholism will play a mediating role between HSPS and stress.
- Hypothesis 4: flow will positively influence the relationship between HSPS and other variables.

3. Methods

3.1. Participants

The study involved 231 adults in employment. The sample consisted of 82.7% women and 17.3% men. They were divided into 5 age groups: 33.3% between 18 and 24, 19.9% between 25 and 34, 16.5% between 35 and 44, 22.1% between 45 and 54 and 8.2% between 55 and 64.

3.2. Procedure and recruitment

The study and research protocol were first validated by the Ethics Committee for Research Involving Human Subjects of the Universities of Tours and Poitiers (CER-TP) (number 2024-11-09). Participants were invited to answer a questionnaire hosted online on the Sphinx platform and were informed that their answers were anonymous and confidential. Before completing the questionnaire, participants were informed of the aims of the study and were explicitly asked for their consent.

3.3. Measures

The questionnaire consisted of questions on socio-demographic characteristics (e.g. gender, age categories) and four validated scales. The French version of the Highly Sensitive Person Scale (HSPS-FR) (Bordarie, Aguerre & Bolteau, 2022; adapted from Aron & Aron, 1997) was used to assess sensitivity (27 items). Stress was assessed with the French version of the Perceived Stress Scale (PSS4) (Lesage, Berjot & Deschamps, 2012; adapted from Cohen, Kamarck & Mermelstein, 1983) (4 items). Flow was measured using the Flow at Work (FaW) (Crone, Brune & Auzoult-Chagnault, 2019; adapted from Baker, 2008) (13 items). The French version of the Work Addiction Risk Test (WART) was also used (Taghavi, 2012; adapted from Robinson, 1999) (25 items). We can assume that a score between 25 and 54 indicates no workaholism, a score between 55 and 69 indicates low workaholism and a score between 70 and 100 indicates high workaholism.

The data were analyzed using JASP (version 0.19.3) and JAMOVI (version 2.6.25.0). The internal reliability of the scales was measured using Cronbach's alpha [HSPS-FR: α=.89; FaW: α=.89; PSS4: α=.79, WART: α=.89]. Descriptive analyses, correlations, Chi-2 tests, student tests, ANOVA and linear regressions were performed. Mediation and moderation analyses were also conducted.

4. Results

4.1. Descriptive results

According to the classification of Lionetti et al. (2018), 33.8% of participants (n=78) had low sensory processing sensitivity (SPS) scores (below 113), 36.8% (n=85) had moderate SPS scores (between 113 and 137) and 29.4% (n=68) had high SPS scores (above 137). Regarding work addiction, 29% (n=67) had no work addiction, 43.29% (n=100) had a low risk and 27.71% (n=64) had a high risk of work addiction. The Chi-2 test revealed an overrepresentation of individuals with a high risk of work addiction within the high sensory processing sensitivity group ($X2(4)=41.5$; $p<.001$).

Scale scores are shown in Table 1. In terms of socio-demographic characteristics, gender only influenced HSPS scores (t=-3.60; *p*<.001), as did age categories (F(4;226)=2.56; *p*=.039). However, with regard to age, the Bonferroni test showed only a difference between the youngest (18-24 years) and the 35-44 years group. The variables are positively correlated, with the exception of flow, which is not correlated with HSPS, and perceived stress (Table 2).

Table 1. Descriptive Statistics.

HSPS	VARIABLES	MEAN	STD. DEVIATION
Low		12.372	1.504
Medium	STRESS	12.882	1.636
High		13.441	1.470
Low		56.038	11.247
Medium	WART	61.541	10.513
High		68.574	10.852
Low		55.115	13.732
Medium	FLOW	52.176	14.353
High		53.632	13.729

Table 2. Matrix of correlation.

	HSPS	WART	STRESS	FLOW
HSPS	—	—	—	—
WART	.461***	—	—	—
STRESS	.301***	.260***	—	—
FLOW	-.053	.179**	.114	—

Note. * *p*<.05, ** *p*<.01, *** *p*<.001

High sensory processing sensitivity positively influences perceived stress (β=.301; *p*<.001), explaining about 9% of the variance (r2=.091; F(1;229)=22.847; *p*<.001). HSPS also has a positive effect on workaholism (β=.461; *p*<.001), explaining about 21% of the variance (r2=.209; F(1;229)=61.841; *p*<.001). WART also has a positive effect on perceived stress (β=.260; *p*<.001), explaining about 7% of the variance (r2=.068; F(1;229)=16.652; *p*<.001). Conversely, flow experience is not influenced by either HSPS or WART, nor does it influence perceived stress.

In summary, the overall model (Table 3) (Figure 1) shows that both high sensory processing sensitivity and work addiction increase stress (*p*<.001). Workaholism is a mediator of the relationship between high sensory processing sensitivity and perceived stress. Flow is not a moderator of the relationship between high sensory processing sensitivity and other variables.

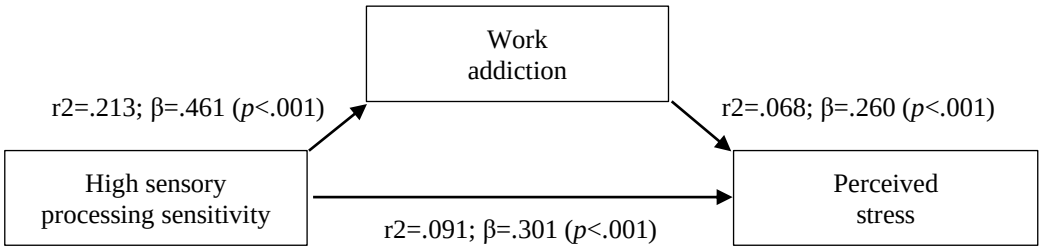
Table 3. Mediation estimates and path estimates.

			Mediation estimates			
Effect		**Estimate**	**SE**	**z**	***p***	**% mediation**
Indirect		.005	.002	2.12	.034	23.6
Direct		.016	.005	3.29	.001	76.4
Total		.020	.004	4.80	<.001	100.0
			Path estimates			
			Estimate	**SE**	**z**	***p***
HSPS	→	WART	0.233	0.030	7.90	<.001
WART	→	STRESS	0.021	0.009	2.20	.027
HSPS	→	STRESS	0.016	0.005	3.29	.001

5. Discussion

The aim of this study was to examine the relationship between sensory processing sensitivity, perceived stress, alcoholism at work and fluency. Four hypotheses were formulated. The first three hypotheses were mainly confirmed by our results. There is a positive correlation between these different concepts (confirming hypothesis 1), with the exception of fluency, which is only correlated with alcoholism at work. Gender and age influence HSPS scores. Women reported higher sensory processing sensitivity scores, which is consistent with the literature (e.g., Takahashi, 2016), although these findings are debated (e.g., Machingura et al., 2019). In terms of age, the difference was only observed between the youngest group (18-24 years) and the 35-44 years group.

Figure 1. Mediation model of the relationship between high sensory processing sensitivity and perceived stress through work addiction.



On the one hand, the results showed that the higher a person's sensitivity, the higher their level of stress and workaholism (confirming hypothesis 2). Our results are therefore in line with previous studies which have shown that highly sensitive people are more stressed (Benham, 2006; Veleanovici et al., 2023). In other words, the higher the sensory processing sensitivity, the more it tends to increase perceived stress. Conversely, the relationship between HSPS and addiction is less clear. Some studies show an association with substance addiction (Aghajani & Ghazani, 2021; Keyvanlo et al., 2023) or with behavioural addictions such as internet addiction (Ershova et al., 2020). Others find no association (Mary-Krause et al., 2022). In this study, HSPS increased work addiction, which played a mediating role between HSPS and perceived stress (confirming hypothesis 3). This opens up avenues for research into the effects of HSPS in the workplace. On the other hand, the higher their experience of flow, the higher their workaholism. However, flow did not play a moderating role between HSPS and the other variables (rejecting hypothesis 4).

There are some limitations to consider. In our sample, the proportion of men was quite low compared to women, which makes it difficult to generalize the conclusions of this study. In addition, we focused on the overall results on each scale, without considering the interrelationships between the components. The components of the HSPS have different, sometimes opposing effects, especially if we look at the aesthetic component, which is regularly confirmed in the literature to have a protective effect, particularly in the workplace, for example against burnout (Bordarie & Mourtialon, 2023).

In terms of perspectives, we could suggest that the same study be carried out under more favorable conditions in order to obtain a larger sample with more men. It would be interesting to carry out analyses on a categorical basis. This study opens up new avenues on the relationship between HSPS and workaholism and its consequences for the quality of life and specific working conditions of highly sensitive individuals. Future studies could also focus on the interconnexion with big five personality dimensions and investigate the link with these variables.

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BULLIES BESIDE EMPLOYERS: EXPLORATORY ANALYSES OF THE WORST BULLIES IN SOUTH KOREAN WORKPLACES

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Abstract

This study examines the characteristics of the worst bullies in South Korean workplaces to understand the nature and dynamic of workplace bullying. Analyzing the qualitative data collected from 377 participants between 2007 and 2023, the study found that, regardless of the time periods, "worst bullies" were typically senior management (60–70%) and male (60–80%), and aged 50 or older (over 60%). 70-80% had strong ties to business owners and were usually protected by the employers even when reported. Due to the employers' attitudes, only 7% of victims reported the bullying, with no cases resulting in appropriate resolution. Findings underscore power dynamics that protect worst bullies, perpetuating workplace bullying. Effective intervention requires employers' heightened awareness and active engagement in prevention.

Keywords: *Workplace bullying, worst bully, strategic bully, emotional bully, bully-employer relations.*

1. Introduction

Eliminating bullying requires understanding its root causes. Research has examined individual traits (e.g., Coyne et al., 2003), organizational culture (e.g., Benard et al., 2017; Rayner et al., 2002), and social factors (e.g., Neuman & Baron, 2011). While recent studies focus on organizational and societal influences, Zapf and Einarsen (2011) caution against neglecting individual factors. In South Korea, studies on workplace predators are limited and focus on their ranks and gender only (e.g., Seo & Kim, 2023). Outside Korea, related studies often fail to differentiate severity levels (e.g., Seigne et al., 2007), leading to minimal distinctions between bullies and non-involved individuals (e.g., Glaso et al., 2009). Workplace bullying exists on a spectrum. Distinguishing extreme bullies should provide deeper insights into its mechanisms.

The term "worst bullies" has been mentioned in school bullying context (e.g., Williams & Winslade, 2008) without an established definition. Extreme bullying is associated with high frequency, severe victim harm (e.g., psychological trauma, suicidal ideation), and sustained aggression (e.g., Graham, 2020; Thomas, 2019). In this paper, worst bullies are provisionally defined as as "perpetrators who engage in the highest frequency of bullying or inflict the most severe harm within an organization". In South Korea, research highlights prevailing bullying by senior members (e.g., Seo & Kim, 2023). Since frequent bullying requires access to multiple oportunities, high-ranking executives and those in authority are likely to fit this profile. Blackwood and Jenkins (2021) refined perpetrator classifications through a comprehensive review, categorizing bullies into six types: *t*he bad egg, the mob, the good colleague turned bad, the abrasive performance manager, the depersonalized bully, and the cyberbully. Some findings challenge traditional views of bullies as impulsive and uncontrolled. Salin (2003) proposed that some perpetrators act strategically rather than emotionally. This perspective classifies perpetrators into two types: emotional bullies, who are unstable and lack self-control, and strategic bullies, who are rational and calculated. Prior research supports this classification (see Table 1).

Table 1. Characteristics of Perpetrators.

Perpetrator Characteristics			References
Emotional	Strategic	Common Traits	
Low/unstable self-esteem, Lack of social competence, Unstable self-control, psychosis	High self-esteem Strategic social competence, office politics Rational and calculated tendencies Bullying as means of control Controlling tendency	Strong desire for power High Aggression Jealousy, selfishness, dogmatism, egocentrism, strong competitiveness, goal-oriented behavior, lack of ethical awareness, strong narcissism	Baumeister et al. (1996), Coyne et al. (2003), Fernandez-del-Rio et al. (2021), Glaso et al. (2009), Hidzir et al. (2017), Kemp (2014), Kernis et al. (1993), Lamia (2017), Linton & Power (2013), Lutgen-Sandvik & McDermott (2011), Matthiesen & Einarsen (2007), Pilch & Turska (2015), Rutter & Hine (2005), Seigne (1998), Seigne et al. (2007), Sutton et al. (1999), Zapf & Einarsen (2011).

1.1. Hypotheses

While previous research has categorized general perpetrators, empirical evidence distinguishing them from worst bullies remains limited. However, given the higher frequency of bullying behaviors among worst bullies, their characteristics may be more pronounced. Based on this reasoning, the following hypothesis is proposed: H1) The proportion of senior management and individuals with significant power would be higher among the worst bullies; H2) Worst bullies, due to their power-seeking tendency, would have close ties with the employers or someone with power.

2. Methods

One-on-one interviews were conducted with Korean victims and witnesses between July 2007~July 2023 using convenience sampling. Witnesses were included to address concerns that victim-only accounts might overemphasize negative traits. Semi-structured interviews combined structured questions on perpetrators' characteristics with follow-ups for additional insights. A total of 377 individuals participated (227 victims, 150 witnesses). Since data collection extended to four years beyond Korea's Workplace Bullying Prevention Act (2019), the dataset was divided into four-year intervals to account for possible shifts in perpetrator characteristics pre- and post-law. Respondent details for each period are summarized in Table 2, with Period A (2019–2023) representing the latest data and Period D (2007–2011) the earliest. Although this study is based on qualitative data, the large dataset allowed for a structured analytical approach. Thematic analysis was first applied to the qualitative data, followed by coding and quantification.

Table 2. Characteristics of Respondents included in the Analysis (Unit: Persons/%).

Data Collection Period		Total	Gender		Age Group				Relationship to the worst bullies	
			F	M	20s	30s	40s	50s	Victims	Witnesses
A	'19.7~'23.6	82	49	33	16	46	17	3	53	29
		(100.0)	(59.8)	(40.2)	(19.5)	(56.1)	(12.9)	(2.3)	(64.6)	(35.4)
B	'15.7~'19.6	78	50	28	24	38	13	3	52	26
		(100.0)	(64.1)	(35.9)	(30.8)	(48.7)	(11.0)	(2.5)	(66.7)	(33.3)
C	'11.7~'15.6	91	61	30	21	68	2	-	47	44
		(100.0)	(67.0)	(33.0)	(23.1)	(74.7)	(2.2)		(51.6)	(48.4)
D	'07.7~'11.6	126	78	48	43	69	11	3	75	51
		(100.0)	(61.9)	(38.1)	(34.1)	(54.8)	(5.9)	(1.6)	(59.5)	(40.5)
Total		377	238	139	104	221	43	9	227	150
		(100.0)	(63.1)	(36.9)	(27.6)	(58.6)	(11.4)	(2.4)	(60.2)	(39.8)

3. Results

3.1. Factors and definition of worst bullies from the perspective of workers

Based on a literature review, this study defines a worst bully as a perpetrator who engages in the highest frequency of bullying or inflicts the most severe harm. However, due to the lack of formal definitions, this study reassessed the concept from workers' perspectives. Respondents were first presented with the study's initial criteria and then asked what factors they considered in identifying a worst bully. While minor differences emerged between victims and witnesses, their responses shared fundamental

similarities (see Table 3). Key factors for classifying a worst bully included: 1) Consensus among colleagues that the individual was the worst bully; 2) A friendly public image but selective targeting of weaker individuals; 3) Bullying of most vulnerable employees or the largest number of people; 4) Methods that caused severe distress and 5) Justification of bullying as necessary for the organization.

Table 3. Respondents' reasons to identify someone as 'worst bully' (Unit: Persons/%).

Reasons	1	2	3	4	5	6	7	8	9	10
Victims	157	145	128	184	111	99	58	49	5	23
	(69.2)	(63.9)	(56.4)	(81.1)	(48.9)	(43.6)	(25.6)	(21.6)	(2.2)	(10.1)
Witnesses	133	59	56	50	36	34	23	9	3	9
	(88.7)	(39.3)	(37.3)	(33.3)	(24.0)	(22.7)	(15.3)	(6.0)	(2.0)	(6.0)

1. Majority of colleagues agreed this was the worst bully, 2. The perpetrator pretended to be kind in front of others while bullying weaker individuals, 3. The perpetrator bullied the most people (those in vulnerable position, in particular), 4. The perpetrator caused severe suffering to the victim(s) , 5. The perpetrator Justified bullying as means to satisfy the employer, 6. The perpetrator Skillfully hid bullying behavior , 7. The perpetrator Acted like a victim while making others suffer, 8. The perpetrator Continued bullying even after victim left , 9. The perpetrator Habitually threatened multiple people with reports of bullying, 10. Others

Beyond the high frequency of bullying and victim distress—initial criteria in this study— additional factors emerged: agreement among multiple colleagues, concealment or justification of bullying. The latter aligns with rational and calculated traits identified in prior research (Kemp, 2014; Sutton et al., 1999). This suggests that many worst bullies may exhibit characteristics of strategic perpetrators. Based on these results, a worst bully is defined as 'a perpetrator who inflicts severe harm on multiple victims, leading to widespread agreement among colleagues that they are malicious'. This definition incorporates three key elements: multiple victims, severe harm, and collective agreement. While the ability to conceal or justify bullying aligns with strategic tendencies, elements specific to strategic perpetrators were excluded to maintain a broader definition.

3.2. Power dynamics of worst bullies

To test the first hypothesis, an analysis examined the gender, age group, and hierarchical position of worst bullies. Since these factors are objective, responses from victims and witnesses were combined. A consistent pattern emerged: over 60–70% of worst bullies held senior managerial positions or higher (see Table 4). To compare with general perpetrators, these findings were contrasted with workplace survey data from the same periods. The difference was stark: while only 20–30% of general perpetrators were in senior management, this figure more than doubled (60–70%) for worst bullies. Even accounting for differences in data collection, the disparity remains significant, supporting the hypothesis that worst bullies are disproportionately concentrated in higher-ranking positions.

Table 4. Comparion of Job Positions Between Worst Bullies and General Bullies by Time Period (Unit: %).

Data Collection Period	Insider			Outsider (e.g., Customers, etc.)
	Entry-Level Employee	Middle Manager	Senior Manager+	
A	9.8	14.6	75.6	-
Seo·Kim(2023)	28.2	23.7	38.2	9.9
B	1.3	35.9	62.8	-
Seo·Lee(2016)	20.1	26.1	27.4	26.4

*For periods **C** and **D**, no survey data available for comparison.

Another notable characteristic of worst bullies is that men and individuals aged 50 and above accounted for 60–80% of cases. Given that older age groups typically occupy higher organizational positions and that workplace power dynamics in South Korea are often influenced by age hierarchy, this finding further reinforces the correlation between power and the prevalence of worst bullies.

Table 5. Gender and Age-group of worst bullies (Unit: %).

Data Collection Period	Gender		Age Group			
	F	M	20s	30s	40s	50s
A	34.1	65.9	2.4	6.1	28.0	63.4
B	20.5	79.5	0.0	2.6	30.8	66.7
C	15.4	84.6	0.0	1.1	29.7	69.2
D	19.0	81.0	0.0	0.0	36.5	62.5

Another significant finding regarding the power dynamics of worst bullies is their close ties to employers. Specifically, 70–80% of worst bullies maintained a strong relationship with the employer, highlighting their substantial influence within the workplace. These results reinforce the likelihood that worst bullies wield considerable organizational power, further supporting this study's hypothesis. Moreover, the consistency between victim and witness data suggests that this connection is not merely a subjective victim perception but an observable reality within workplace dynamics.

Table 6. Worst bullies' relation to their employers (Unit: Persons/%).

Data Collection Period	Employer or the Family		Employer's Regional or Academic Ties		Employer's Associate Without Blood, Regional, or Academic Ties		Relative of an External Power Figure or Wealthy Individual		No Relation	
	Victims	Witnesses	Victims	Witnesses	Victims	Witnesses	Victims	Witnesses	Victims	Witnesses
Total (A~D)	20	14	37	28	118	75	11	2	41	31
	(8.8)	(9.3)	(16.3)	(18.7)	(52.0)	(50.0)	(4.8)	(1.3)	(18.1)	(20.7)

A notable finding is that the largest proportion of worst bullies comprised close associates of the employer who lacked direct blood, regional, or academic ties, as well as associates of these close associates. While objectively assessing the closeness of their relationship with the employer is challenging, respondents identified these individuals as part of the employer's inner circle based on several key observations.

- 79.3%: Took care of the Employer's Personal Matters
- 76.7%: Often Dined with the Employer
- 76.2%: Earned the Employer's Complete Trust
- 75.6%: Frequently Accompanied the Employer to Golf Gatherings
- 61.7%: Exerted Significant Influence Over Company Operations
- 34.7%: Other

The majority of victims were unable to report their experiences, and even when they did, companies rarely took appropriate action, further underscoring the power held by worst bullies. Overall, only 7% of victims voiced their complaints and none of the reported bullies were disciplined. The employer either did not acknowledge the complaint or protected the bullies. The primary reasons victims refrained from reporting their experiences included:

- 90.1%: Fear of retaliation from the perpetrator.
- 87.7%: Concern that the employer would side with the perpetrator.
- 85.8%: Fear of being blamed for reporting.
- 83.9%: Belief that reporting would not improve the situation.
- 57.8%: Fear of secondary victimization by third parties
- 15.2%: Worst bully was the employer or their family
- 2.4%: The perpetrator claimed themselves to be the victims
- 10.4%: Other

4. Discussion

This study examined the characteristics of worst bullies by testing two hypotheses: H1) Compared to general perpetrators, the proportion of senior management and individuals with significant power would be higher among the worst bullies; H2) Worst bullies, due to their power-seeking tendency, would maintain close ties with the employers or someone with power.

An analysis of qualitative data from 2007 to 2023 supported both hypotheses. Worst bullies were overwhelmingly male, aged 50 and above, and held senior managerial positions in 60–80% of cases—compared to just 20–30% among general bullies (Seo & Kim, 2023). H2 was also confirmed, as 70–80% of worst bullies had direct ties to employers, either as associates or members of their inner circle. These individuals actively sought power, reinforcing research on dominance-seeking behaviors (Lutgen-Sandvik & McDermott, 2011). Additionally, 93% of victims did not report their experiences. Even among those who did, most complaints were ignored or dismissed by employers. The strong link between worst bullies' high-ranking positions and their close ties to employers explains their ability to act with impunity. Only 7% of victims formally reported their experiences, highlighting the limitations of workplace policies that rely on victim reporting. Although legal provisions require employers to address workplace bullying, fear of retaliation (90.1%) was the primary reason victims refrained from reporting. Given worst bullies' power and repeated offenses, victims distrusted their organizations, fearing that reporting would worsen their situation.

This study quantified qualitative data collected over years. While the sample size (377 cases) is relatively small, the consistent patterns across different periods reinforce the conclusion that worst bullies occupy powerful positions and frequently engage in severe bullying. Their immunity from consequences perpetuates workplace bullying, as victims sometimes retaliate against weaker individuals, continuing the cycle (Benard et al., 2017). Employers play a critical role in shaping workplace culture (Rayner et al., 2002). While South Korea's workplace harassment law require employers to manage bullying, enforcement remains weak. Despite mandatory workplace harassment training, employer awareness and accountability have not significantly improved. To address this, training programs should focus on impartiality in handling cases, particularly those involving high-ranking perpetrators. Strengthening employer accountability is essential, as organizational culture is most effectively reformed from the top down. Leadership commitment is crucial for driving meaningful change in workplace bullying prevention.

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NURTURING COEXISTENCE: ALGERIAN CHILDREN'S VISUAL NARRATIVES ON REFUGEE COMMUNITIES FROM EDUCATIONAL AND SOCIAL PSYCHOLOGY PERSPECTIVES

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Abstract

This paper explores how Algerian children perceive and experience their co-existence with refugee populations within their communities, drawing on social and educational psychology frameworks. Motivated by a need for more child-centred insight into refugee-host dynamics, particularly in developing contexts, this study illuminates the voices of young individuals often excluded from policy and academic debate. Employing participatory, arts-based methodology, we engaged 60 children (ages 5–7, 8–10 & 11+) in drawing, collaging, and focus group discussions. These methods offered a multifaceted window into how different age groups conceptualize co-existence. Younger participants emphasised gestures of friendship, shared religious identity, and inclusive play as catalysts for harmonious relationships. Older children and adolescents showed heightened sociopolitical awareness, referencing Algeria's colonial history, conflicts with neighbouring countries, and broader global solidarity. Both positive attitudes, grounded in empathy and hospitality and, persistent challenges, shaped by prejudices and misinformation emerged, reflecting the complex interplay of moral, cultural, and developmental factors. Findings underscore that co-existence is perceived as both a moral obligation, often grounded in religious and cultural norms, and a practical opportunity for community enrichment. Yet significant barriers persist, including social exclusion and unaddressed anxieties about health and safety. By highlighting how children's perspectives evolve with age and context, this study underscores the potential of educational initiatives rooted in educational psychology to foster tolerance, empathy, and inclusive attitudes at an early stage. The research also demonstrates how arts-based, child-focused approaches can yield nuanced understandings of co-existence in settings hosting large refugee populations. These insights are vital for educators, policymakers, and psychologists seeking to promote community cohesion and to design interventions that resonate with children's lived experiences and developmental needs.

Keywords: *Coexistence, refugees, host communities, social psychology, arts-based methods.*

1. Introduction and rationale

Algeria's colonial history and sociopolitical landscape have made it home to diverse refugee populations, including those from the Sub-Sahara, Western Sahara, Palestine and other Arab countries (Venturini & Fargues, 2015; Boukhari, 2022). While existing research has explored Algeria's refugee policies (Fiddian-Qasmiyeh, 2016; Van Soest, 2019), little attention has been given to how host-community children perceive and experience cohabitation with refugees. These interactions can be shaped by historical migration patterns, regional conflicts, and Algeria's evolving approach to displacement.

This research adopts a child-centred, arts-based approach to explore how young Algerians conceptualise coexistence through social and educational lenses. Doing this, this study offers a fresh lens on how young people interpret complex social realities, laying the groundwork for policies that recognize their active role in peacebuilding, social cohesion and ultimately, societal citizenship (Bush & Saltarelli, 2000; Farini, 2023). Understanding children's perspectives is essential for developing interventions that foster emotional wellbeing (Howard & McInnes, 2013), tolerance (Killen et al., 2011) and social cohesion, particularly in diverse and historically charged settings such as Algeria. This study examines how Algerian children through their early years to adolescence, perceive and experience co-existence with refugee communities in their everyday environments. It explores how children's conceptualisations evolve with age, as well as in the context of historical, cultural, and national discourses on attitudes toward displaced populations.

2. Theoretical and conceptual framework

The present study utilises Socio-Cultural Perspectives and Social-Cognitive Developmental Theory (SCDT) to capture the multifaceted processes through which children form and negotiate attitudes toward refugees. From an educational psychology standpoint, constructivist learning theory (Vygotsky, 1978) asserts that children actively construct knowledge within socially mediated environments. Schools, family settings, and broader cultural contexts become crucial sites where intergroup attitudes are either reinforced or challenged. Vygotsky's emphasis on guided interaction and scaffolding sheds light on how play, peer collaboration, and cultural exposure can support or undermine inclusive values (Bernard, 2024). In this study, arts-based methodologies exemplify the socio-cultural principle that children learn and express evolving attitudes through creative, interactive mediums (Hickey-Moody et al., 2021).

Social-Cognitive Developmental Theory (SCDT), articulated by Frances Aboud (1988, 2008) and expanded by Rutland & Killen (2015), provides a developmental lens on how children's intergroup attitudes evolve in tandem with their cognitive capacities. Early in childhood, children rely on perceptual markers such as skin colour (Renno & Shutts, 2015; Barrett, 2007), dress and language (Kinzler et al., 2009; Heiphetz et al., 2013), to form basic in-group and out-group distinctions, leading to simplistic notions of fairness, kindness, or exclusion. As they mature, they integrate broader social, cultural, and historical narratives, gradually moving toward complex moral rationales grounded in religious or national identities. This developmental arc underscores the interplay between moral awareness and the child's capacity to handle more abstract social information.

3. Methodology and research design

This study employed an exploratory, qualitative design using a participatory, arts-based methodology (Leavy, 2020) to capture children's perspectives on refugee-host coexistence. The sample included 60 children (5–7, n=20; 8–10, n=20; 11+, n=20) from schools in Eastern Algeria, where a growing Sub-Saharan refugee population shares public spaces. The region's proximity to Tunisia and the Mediterranean migration routes, make it a significant site for refugee movement (Fargues, 2009). While not necessarily representative of all Algerian host communities, the participating schools provided a real-world setting where children were likely to encounter displaced populations.

Age groups were structured according to school systems and accessibility gender balance was maintained, and ethical protocols followed: older children provided informed consent, while younger children gave assent alongside parental consent. Children were regularly reminded of their right to withdraw, even if they wished to engage in activities without being part of the study (Harcourt & Sargeant, 2012). The study also followed Swansea University Board of Ethics approval, ensuring confidentiality and child safeguarding. This research contributes to a larger project on children's perceptions of coexistence across different cultural contexts.

3.1. Data collection, analysis, and ethical considerations

Workshops, lasting up to two hours, involved drawing and collaging to visually capture perceptions of coexistence were followed by focus group discussions where children elaborated on their artwork. Discussions (30-45 minutes) were audio-recorded and guided by open-ended questions, with extensive field notes made documenting nonverbal cues, group dynamics, and informal remarks. A thematic analysis (Braun & Clark, 2023) was conducted after data transcription, alongside children's verbal artwork interpretations. Recurring themes emerged inductively, grounded in children's own words rather than imposed categories. Triangulation, comparing verbal insights associated with visual outputs, and field notes, provided a comprehensive understanding of how age and sociocultural influences shaped children's views on refugee integration (Heale and Forbes, 2013; Corwin & Clemens, 2020).

4. Findings

The analysis revealed a diverse range of perspectives on co-existence, spanning inclusive attitudes grounded in religious or moral teachings as well as instances of prejudice and social tension. The following thematic clusters reflect how children across the three age groups conceptualised refugee integration, highlighting a developmental trajectory that moves from direct, action-oriented approaches to more complex considerations of identity, religion, and socio-political contexts.

4.1. Playful compassion: Emerging moral foundations (ages 5–7)

Children in the youngest cohort often depicted straightforward acts of inclusion, such as inviting newcomers to play group games or join in everyday activities. Their artwork frequently highlighted shared

interactions, for instance, drawing football matches where “sad-looking” peers were encouraged to participate. Several children recalled teacher-led messages discouraging bullying, indicating that moral directives in the school setting had become part of their conceptual repertoire. Nonetheless, a few younger participants expressed unease about differences in physical appearance (e.g., skin colour or clothing), suggesting that emergent awareness of “otherness” could complicate these otherwise simple, prosocial notions.

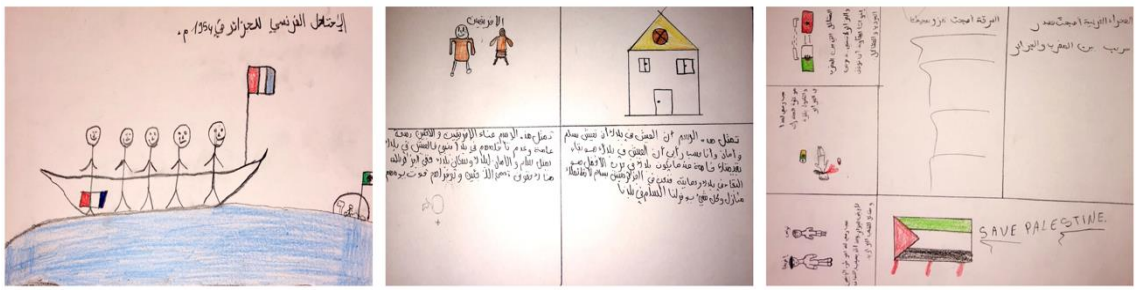
Figure 1. Children’s perspectives on co-existence: Age group (5-7).



4.2. Growing complexity: Evolving perspectives (ages 8-10)

Middle childhood emerged as a pivotal stage, where competing narratives, including empathy, national loyalty, and social anxieties, began to influence children’s perceptions of refugees in more explicit ways. While some participants cited Algeria’s colonial past as justification for solidarity, others argued that displaced individuals had a duty to remain and fight for their countries. Discussions of regional instability, particularly in relation to Tunisia, Morocco, and the Palestinian people’s lifelong history with conflict, reinforced the perception that migration is rooted in broader political struggles rather than purely humanitarian concerns. At this stage, children also expressed a growing awareness of linguistic and behavioural differences, with some viewing them as barriers to integration while others identified them as features of a diverse community.

Figure 2. Children’s perspectives on co-existence: Age group (8-10).



4.3. Critical consciousness and aspirations of solidarity: Adolescent insights

Adolescents exhibited the most sophisticated perspectives, expanding their discussions beyond cultural and religious identity to include systemic inequalities affecting refugees. They frequently referenced structural barriers, such as the inaccessibility of education, transportation, and public services, as obstacles to meaningful co-existence. Many critiqued the disconnect between Islamic teachings on hospitality and their practical application in the Algerian society, highlighting contradictions between religious ideals and institutional realities. Additionally, this age group introduced new dimensions of co-existence, including ecological responsibility and disability inclusion, suggesting an evolving conceptualisation of solidarity that extended beyond human-to-human interactions. Despite a strong emphasis on aspirational unity, symbolised by phrases like *Khawa Khawa* ("brothers, brothers"), many acknowledged that real-world exclusions persisted, revealing a tension between idealised notions of belonging and the structural barriers that shape everyday experiences.

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Figure 3. Children's perspectives on co-existence: Age group (11+).



5. Discussion

5.1. Developmental progression and the moral tensions of co-existence

The data illustrate a developmental shift in how children perceive and articulate co-existence with refugees, echoing Social-Cognitive Developmental Theory (SCDT), which posits that attitudes toward social groups evolve in tandem with cognitive growth (Aboud, 2008; Rutland & Killen, 2015). Younger children predominantly relied on concrete actions, such as inviting refugees to join play, reflecting simpler moral schemas and a reliance on perceptual categorisation (e.g., "different colours," "sad-looking"). Their frequent invocation of Islamic teachings on equality underscores the straightforward moral logic typically seen in early childhood, where any differences are noted but not deeply scrutinised. However, the concern that "differences might cause problems" foreshadows the emergent anxieties that can become more pronounced as children's reasoning develops.

By contrast, older cohorts incorporate socio-political and historical contexts, suggesting that their capacity for abstract thinking expands as they age, a key proposition within SCDT. Their awareness of regional conflicts (e.g., tensions with Morocco or Tunisia) and historical memory (Algeria's colonial legacies) indicates a growing ability to integrate cultural narratives into moral judgments. This evolution, which aligns with the theory's emphasis on the interplay between individual cognition and societal cues, explains why some adolescents oscillate between xenophobic fears (valuing group loyalty and stability) and hospitality imperatives (grounded in religious duty or patriotic solidarity). Although these findings also resonate with Social Identity Theory (Tajfel et al., 1979), SCDT's lens clarifies how cognitive maturity and exposure to social narratives shape whether such moral tensions lead toward empathy or exclusion.

5.2. Limitations and future directions

This study's focus on schools in eastern Algeria limits the generalisability of its findings, given regional variations in refugee influx and cultural discourses. Ongoing geopolitical instabilities across North Africa may produce distinct attitudes in other communities, warranting comparative research. Longitudinal studies would further illuminate how intergroup attitudes shift from early childhood through adolescence, showing whether targeted interventions rooted in SCDT and constructivist approaches can alter long-term outcomes. Additionally, including refugee children's perspectives would complete the coexistence narrative, revealing how host and refugee youth perceive one another's needs and identities. Such expansions could deepen our grasp of how moral, cultural, and cognitive dimensions intersect within diverse educational and community settings.

6. Conclusion

In summary, this study reveals how Algerian children at different developmental stages perceive and negotiate co-existence with refugee communities, demonstrating that younger children rely on concrete moral imperatives while older children integrate historical, political, and religious discourses into their views. Findings emphasise that moral tensions around hospitality, xenophobia, and national pride intensify as children absorb broader socio-political narratives. They also underscore the pivotal role of schools, which, although not currently hosting refugees, remain essential spaces for shaping inclusive attitudes. Without coordinated support from families, policymakers, and community organizations, entrenched prejudices cannot be dismantled effectively, making it critical to align public discourse, religious teachings, and tangible policy measures to transform ideals of solidarity into concrete, everyday practice. Future

research could broaden the geographic scope, adopt longitudinal designs, and incorporate refugee children's own voices, thereby refining our understanding of coexistence and promoting child-centred, participatory methods that foster empathy and meaningful inclusion in settings affected by ongoing migration.

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SELF-ESTEEM IN ADOLESCENTS: MEDIATOR OF THE RELATIONSHIP BETWEEN SENSORY PROCESSING SENSITIVITY AND AFFECTIVE DEPENDENCE

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Abstract

High Sensory Processing Sensitivity (HSPS) (Aron & Aron, 1997) is an innate personality trait that affects approximately 30% of the population (Lionetti et al., 2018). It is characterized by more intense, complex and rapid cognitive processing of stimuli and heightened emotional reactivity than their peers (Gere et al., 2009). Highly sensitive adolescents are more reactive to stressful events (Burgard et al., 2022) and report lower socio-emotional well-being when faced with negative life events (Iimura, 2021). HSPS negatively predicts well-being, which is positively predicted by self-esteem (Orth & Robins, 2014). Self-esteem varies throughout an individual's life according to their positive or negative life experiences. In addition, individuals who are sensitive to sensory stimuli in general may be dependent in their peer relationships (Jerome & Liss, 2005). This study aims to investigate the influence of HSPS on self-esteem and affective dependence in adolescents, a critical developmental period characterized by significant physical, psychological, emotional and social changes. Our main hypotheses were (1) HSPS will negatively influence self-esteem and positively influence affective dependence; and (2) self-esteem will mediate the relationship between HSPS and affective dependence. The sample (n=100) consisted of 53% females and 47% males aged between 15 and 20 years. The mean age was 16.16 years old (SD=1.22) and 16% are in middle school and 87% in high school. They anonymously completed an online questionnaire assessing high sensory processing sensitivity (HSPS-FR), self-esteem (RSE) and affective dependence (ADS-9). Correlations, linear regressions and a mediation analysis were performed using JASP (version 0.19.3). Results showed that HSPS negatively influenced self-esteem (p<.001) and positively influenced affective dependence (p<.001). Self-esteem negatively influenced affective dependence (p<.001). The mediation analysis revealed the mediating role of self-esteem between HSPS and affective dependence, explaining the negative influence of HSPS. HSPS appears to be a vulnerability factor in the development of both self-esteem (Liss et al., 2005) and affective dependence (Jerome & Liss, 2005). However, self-esteem was a protective factor against affective dependence. Therefore, it would be interesting to investigate how highly sensitive people could increase their self-esteem. Limitations of the study (such as sample size and appropriateness of instruments for adolescents) are discussed. Suggestions and avenues for future research are also suggested.

Keywords: *High sensory processing sensitivity, self-esteem, affective dependence, adolescents, mediation.*

1. Introduction

Adolescence is a sensitive and non-homogeneous developmental period (De La Torre-Luque et al., 2019) between childhood and adulthood (Arnett, 2007), from approximately 14 to 21 years of age (Cunningam, 2005). Adolescence implies a certain distance from the family and a rapprochement with peers (Laursen, 1996), leading to the construction of the adolescent's identity. This construction of identity is generally associated with self-esteem (James, 1890), which can be defined as the "overall evaluation of your worth as a person, high or low, based on all the positive and negative self-perceptions that make up your self-concept" (Sigelman, 1999). Self-esteem is a predictor of well-being and success in work, health and relationships (Orth & Robins, 2014). These relationships may take a particular form, particularly if they involve some form of dependence. Scantamburlo et al. (2013, p. 340) describe affective dependence as "characterized by emotional distress (insecure attachment) and dependence on another person with low self-esteem and a need for reassurance". People with affective dependence show negative moods and

feelings when they are away from their partner (Pugliese et al., 2023). Some authors (e.g. Versaevel, 2011) argue that affective dependence and self-esteem stem from the same cause and share the same manifestations, while others (e.g. Crépel, 2022) state that low self-esteem is a trigger for entering into affective dependence.

This dependence on peers may be due to certain personality traits. For example, individuals who are highly sensitive to sensory stimuli in general may be dependent in their peer relationships (Jerome & Liss, 2005). High sensory processing sensitivity (HSPS) (Aron & Aron, 1997) is considered an innate temperamental trait (Dunn, 2001) that enables some individuals to cope with environmental stressors. This trait is thought to affect 30% of the population (Lionetti et al., 2018). Although HSPS is not a pathology, it is often considered a vulnerability factor. In general, highly sensitive adolescents are more responsive to environmental stimuli, leading them to report lower socio-emotional well-being when faced with negative life events than less sensitive adolescents (Iimura, 2021). HSPS in adolescents is particularly associated with internalized problems (Aron et al., 2005; Liss et al., 2005, 2008). The problems most commonly reported by highly sensitive individuals include overstimulation, strong emotional reactions, but also low self-esteem (Aron, 2020). In fact, self-esteem is significantly correlated with HSPS (Baryła-Matejczuk et al., 2021), especially among highly sensitive adolescents and young adults (Kibe et al., 2020). Crépel (2022) highlights the importance of self-esteem for highly sensitive children and adolescents, who have high expectations of their relationships with others and can easily become dependent on the gaze of others.

2. Objectives and hypotheses

In this study we seek to understand the relationship between sensory processing sensitivity, self-esteem and affective dependence. We are also interested in the relationships between the different components of these constructs. We have the following hypotheses:

- Hypothesis 1: sensory processing sensitivity and self-esteem will correlate with affective dependence.
- Hypothesis 2: Gender will influence the scales scores.
- Hypothesis 3: Romantic relationship experience will influence affective dependence scores.
- Hypothesis 4: Self-esteem will mediate the relationship between sensory processing sensitivity and affective dependence.

3. Method

3.1. Participants

The study involved 100 adolescents and young adults. The sample was 53% female and 47% male; 16% were in junior high school and 87% were in high school. The mean age was 16.16 years old (SD=1.22) and ranged from 15 to 20 years. In terms of their relationship experience, 59% had already been in a relationship (of which 18% were currently in a relationship) and 41% had never been in a relationship.

3.2. Procedure and recruitment

The study protocol was approved by the Ethics Committee for Research Involving the Human Person of the Universities of Tours and Poitiers (CER-TP) (approval number 2023-12-05). Participants were invited to complete an anonymous and confidential online questionnaire via the Sphinx platform. They were first informed of the aims of the study and gave their explicit consent. The estimated time to complete the questionnaire was 20 minutes. The questionnaire was open from 5 February to 31 March 2024, and the link was shared through social media discussion groups, secondary schools with administrative consent, and word of mouth.

3.3. Measures

The questionnaire consisted of three validated scales, three questions on socio-demographic characteristics (gender, age, educational level) and two additional questions to sort the participants according to two criteria: whether they were currently in a relationship or had at least been in one in the past. The questions were as follows: 1- “Have you ever been in a relationship?” [yes/no]; 2- “Are you currently in a relationship?” [yes/no], followed by instructions. If participants answered “no” to these two questions, they were asked to complete the scale by answering how they would feel if they were in a hypothetical romantic relationship. As the questions focus very much on the couple’s relationship, it was important to be able to distinguish the answers according to these criteria.

The French version of the Highly Sensitive Person Scale (HSPS-FR) (Bordarie, Aguerre & Bolteau, 2022; adapted from Aron & Aron, 1997) was used to assess sensitivity (27 items). The French version of the Rosenberg Self-Esteem Scale (RSES; 10 items) was used (Vallières and Vallerand, 1990;

adapted from Rosenberg, 1965). Affective dependence was measured with the Affective Dependence Scale (ADS-9; 9 items) (Sirvent-Ruiz et al., 2022). As the ADS-9 was only available in Spanish, we used a translation and back-translation procedure as described by Vallerand (1989).

The data were analyzed using JASP version 0.18.3. The internal reliability of the scales was measured using Cronbach's alpha [HSPS-FR: α=.91; RSES: α=.89; ADS-9: α=.87]. The Shapiro-Wilk analyses indicated that the data for RSES, ADS-9 did not follow a normal distribution. Nonparametric tests were therefore used such as Mann-Whitney tests, Kruskal-Wallis tests and Spearman's correlations. Linear regressions and a mediation analysis were also performed.

4. Results

Regarding the influence of socio-demographic characteristics, gender influenced the scores of both HSPS (p<.001) and RSES (p=.003) and some of their components. Previous experience of being in a relationship influenced the affective dependence score (p=.028).

The results show positive correlations between the total scores of the HSPS-FR and those of the ADS-9 (r=.390; p<.001), and negative correlations between the HSPS-FR and the RSES (r=-.485; p<.001) and between the RSES and the ADS-9 (r=-.395; p<.001). All components of the HSPS were positively correlated with each other (p<.005). The components of the RSES were positively correlated with each other (p<.001), as are the components of the ADS-9 (p<.001). The components of the different constructs were also correlated with each other, except for the AES component, which was not correlated with any of the components of affective dependence, nor with the self-competence component of self-esteem, which was not correlated with the CHA component.

Sensory processing sensitivity positively influenced affective dependence. The model was significant, explaining about 14% of the variance (r2=.143; F(1;98)=16.336; p<.001). Conversely, sensory processing sensitivity negatively influenced self-esteem. The model was significant and explained approximately 25% of the variance (r2=.254; F(1;98)=33.390; p<.001). Self-esteem negatively influenced affective dependence. The model was significant, explaining about 15% of the variance (r2=.145; F(1;98)=16.667; p<.001).

In summary, the overall model (Figure 1) showed that both sensory processing sensitivity and self-esteem influenced affective dependence (p<.001). Sensory processing sensitivity had a positive influence on affective dependence, but a negative influence on self-esteem, which in turn had a negative influence on affective dependence.

Figure 1. Mediation model of the relationship between high sensory processing sensitivity and affective dependence through self-esteem.



5. Discussion, limitations and perspectives

The aim of this study was to investigate the relationship between sensory processing sensitivity and affective dependence through self-esteem. We formulated four hypotheses, which were confirmed by our results. There was indeed a correlation between these three different constructs (confirming hypothesis 1). And some socio-demographic characteristics influenced the scores, such as gender and romantic relationship experience. Indeed, women reported higher sensory processing sensitivity scores and lower self-esteem scores than men (confirming hypothesis 2). Previous or current relationship experience negatively influenced affective dependence scores (confirming hypothesis 3).

Affective dependence was found to be positively correlated with sensory processing sensitivity and negatively correlated with self-esteem. On the one hand, the results showed that the higher a person's sensitivity, the higher their level of affective dependence. On the other hand, the higher their self-esteem, the lower their degree of affective dependence. Our results are therefore in line with previous studies which have shown that highly sensitive people are more dependent within their couple (Jerome & Liss, 2005). In other words, the higher the sensory processing sensitivity, the more it tends to increase affective

dependence. This process seems to be partly explained by the negative mediating influence of HSPS on self-esteem, which in turn has a negative influence on emotional dependence (confirming hypothesis 4).

Certain limitations need to be considered, in particular that of the ADS-9 scale, where the responses of participants who have never been in a relationship need to be treated with great caution. A person who has never been in a couple and who bases his or her answers on a hypothetical romantic relationship may be influenced by certain beliefs and representations of the couple. Out of a sample of 100 participants, 41 had never been in a relationship. This number should not be overlooked as it is significant. Our findings cannot be generalized. However, given the small size of the sample, we decided to retain this characteristic for the statistical analysis, which we can see has influenced the results, although we are aware that using a hypothetical relationship to infer the existence of a dependence introduces a significant bias.

In terms of perspectives, we could suggest that the same study be carried out under more favorable conditions in order to obtain a larger sample. It would be interesting to use a different scale to measure affective dependence and eventually analyze sensitivity on a categorical basis. Furthermore, on the one hand, Paiva et al. (2022) have confirmed the influence of attachment style on affective dependence and have shown that insecure attachment is a factor in the development of affective dependence. On the other hand, sensory processing sensitivity is correlated with affective dependence (excluding romantic relationships) due to marked parental overprotection (Liss et al., 2005). This raises a new hypothesis about the causes and consequences of HSPS that would be interesting to test. It would also be interesting to ask, using a qualitative methodology such as interviews, how individuals perceive their sensitivity and its consequences.

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UNRAVELLING THE ROLE OF SOCIO-PROFESSIONAL AND ORGANIZATIONAL CHARACTERISTICS IN SHAPING IDENTIFICATION WITH THE FRENCH CIVIL SERVICE

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Abstract

For several decades, public sector employees in France have faced profound reforms driven by the emergence of New Public Management (i.e., NPM), in the 1980s across Western countries, and the paradigms it introduced (Bezes & Musselin, 2015; Pollitt et al., 2007; Reiter & Klenk, 2019). The implementation of these managerial doctrines and practices has been linked in the literature to various negative effects on employees' health, attitudes, and behaviors (e.g., Abord de Chatillon & Desmarais, 2012; Rivière et al., 2019) and raises questions about a loss of bearings and meaning at work (Dussuet et al., 2017; Emery & Giauque, 2012). Specifically, according to some authors, the dichotomy between these market-inspired practices and values and the traditional ethos of public servants has led to a hybridization of institutional culture (Emery & Giauque, 2014). This transformation raises questions about the identity positioning of public sector employees. While identification has already been studied in the public sector, particularly through the lens of identification with work groups or organizations, no research has to date specifically examined identification with the public service as an institution. Yet, its broader scope, compared to organizational focus, calls for an additional specific quantification of this form of identification in a context as vast and complex as the French civil service. Moreover, the French civil service presents a distinct work context, shaped by a unique system of representations and values (Hondeghem & Vandenabeele, 2005; Rouban, 2009). Despite this distinctiveness, the relationship that public servants maintain with the institution (i.e., French public service) remains largely underexplored. Therefore, this study aims to explore this relationship between public servants and the French public service by examining the socio-professional and organizational characteristics likely to influence these connections in differentiated ways. Data were collected from a sample of 676 public servants from various French public contexts. Descriptive, correlational, and mean comparison analyses were conducted. The results demonstrate that several of these determinants are significantly associated with the level of identification with the public service, suggesting differentiated levels of identification based on employee typologies. This research contributes to a deeper understanding of the relationships that French public servants maintain with their institution, while also highlighting differences that may exist between various categories of employees and public organizations.

Keywords: *French public service, identification, socio-professional determinants, organizational characteristics, public servants.*

1. Introduction

In the field of organizational studies, interest in identity-related concepts is particularly pronounced (Alvesson et al., 2008; Miscenko & Day, 2016). Research on identity has indeed led to significant theoretical and practical advancements in understanding organizational phenomena (Haslam & Reicher, 2007). The professional environment plays a crucial role in individuals' lives, as they often construct and express their identities through the organizations to which they belong (Elsbach, 1999; Lee et al., 2015).

The organizational identification's construct has emerged from these studies to describe the tendency of individuals to internalize the characteristics of their organization and embody them as part of their own identity (Albert et al., 2000). Organizational identification refers to an individual's sense of unity with their organization and their tendency to define themselves based on its perceived attributes (Ashforth, 2016; Ashforth & Mael, 1989). This construct is foundational as it serves as a basis for shaping individual attitudes and behaviors (Albert et al., 2000; Lee et al., 2015).

Despite the significance of this construct, the scientific literature highlights a lack of studies on identification in the public sector (Rho et al., 2015). Yet, this professional context represents a promising area of research, particularly in the French public sector. First, because the French civil service is characterized by a distinctive system of values and representations, which shapes its unique work context (Hondeghem & Vandenabeele, 2005; Rouban, 2009). Second, while several studies on identification have been conducted in public organizations, few have accounted for the specificities of this professional sector in their analyses. Identification has primarily been studied through the lens of individual organizations, and, to date, no research has specifically examined identification with the civil service as an institution. Finally, and perhaps most importantly, the public sector has been subjected to continuous transformations that are likely to have profoundly influenced the identity structure of public servants (Buffat, 2014; Emery & Martin, 2008).

Over the past few decades, in most Western systems, various major public management paradigms have progressively replaced the traditional Weberian model (Klenk & Reiter, 2019). Among these paradigms, NMP, a doctrine inspired by neoliberal ideology, emerged in the 1980s, promoting the adoption of private-sector management practices within public administrations (Bezes & Musselin, 2015; Karataş, 2019). Subsequently, counter-programs grouped under the umbrella term "post-NPM" arose to mitigate the negative effects of NPM (Karataş, 2019). According to many scholars, the implementation of these new models has profoundly transformed public administrations by challenging foundational principles of traditional organizational culture and the ethos of public servants (Diefenbach, 2009). In particular, these reforms, often implemented in fragmented and heterogeneous ways, have fostered the hybridization of public organizations, combining managerial logics and values that are sometimes incompatible or discordant (Klenk & Reiter, 2019).

This process of hybridization has given rise to organizational tensions, where conflicting and sometimes antagonistic demands and normative frameworks coexist (Pupion, 2021). These paradoxes can undermine ethical frameworks, generate value conflicts, and call into question the relationship between public servants and their institution (Emery & Martin, 2008). Some scholars even argue that organizational hybridity has contributed to a hybridization of public servants' identities, marked by the proliferation of diverse identity profiles, the blurring of normative frameworks, and a sense of identity ambiguity experienced by the agents (Buffat, 2014).

In this context, the present study aims to explore variations in the level of identification of public servants with the civil service. It seeks to gain a deeper understanding of the identity profiles emerging within this hybrid institutional landscape. More specifically, the study seeks to examine the extent to which the socio-professional characteristics of public servants, along with the specificities of the organizations that employ them, influence their identification with the institution.

2. Methods

2.1. Participants

The sample was drawn from several public organizations, allowing for a broad diversity of organizational and socio-professional characteristics (e.g., workforce size, job roles). The study sample comprised 676 French public servants, including 458 females (67.75%), 215 males (31.80%), and 3 non-binary individuals (<0.01%). The average age of the participants was 46.09 years (SD = 9.60), and their average tenure in the public service was 18.63 years (SD = 10.60). Among the participants, 274 (40.53%) worked in the territorial civil service, 183 (27.07%) in the state civil service, 219 (32.40%) in the hospital civil service, representing the three branches of the French civil service. Additionally, 235 (34.76%) held managerial positions, while 441 (65.24%) were non-managerial employees.

2.2. Measures

The *civil service identification* was assessed using an adaptation of the Organizational Identification Graphic Scale (Shamir & Kark, 2004). Seven figures were composed of two circles, one white and the other black, representing the participant and the civil service, respectively, with varying degrees of overlap. The individual was asked to indicate the option that best represented how they identified with the civil service.

The socio-professional characteristics, included gender, age, educational level, tenure in the civil service, employment status (i.e., permanent civil servant, contract with indefinite duration, or other), category of the employee (i.e., category A, B, or C; specific to the French population), hierarchical role (i.e., manager or non-manager), working hours (i.e., full-time or part-time), percentage of working hours of part-time employees, number of teleworking days and functional area (6 domains). The organizational characteristics included branches of the French civil service and workforce size (e.g., 11 to 24, 25 to 49).

2.3. Procedure

The questionnaire was administered online via self-completion over a period of approximately two months. Several organizations from the three branches of the civil service were contacted to distribute the questionnaire to their employees. Additionally, a panel was utilized to provide supplementary responses. These two channels yielded 469 (69.38%) responses from the civil service organizations and 207 (30.62%) responses from the panel. Participants were informed that their involvement in the study was voluntary, and that their responses would remain anonymous.

3. Analysis and results

To examine differences in levels of identification with the civil service based on socio-professional and organizational characteristics, several analyses were conducted using SPSS software (version 30). Skewness and kurtosis coefficients indicated that the distributions approximated normality.

Pearson correlation analyses revealed significant positive relationships between identification with the civil service and age (r = .142 ; p < .001) as well as civil service tenure (r = .163 ; p < .001). In contrast, there were no significant relationships with the number of teleworking days (r =.000 ; p = .993) or the percentage of working hours for part-time employees (r = -.035 ; p = .369). A regression analysis showed that seniority explained a small but significant additional proportion of variance in identification beyond that explained by age (ΔR^2 *adjusted* = .008 ; p = .021).

Mean comparison analyses revealed several significant differences based on the branch of the civil service (i.e., $F(2, 673) = 10{,}055$; p < .001 ; η^2 = .029), employment status ($F(2, 673) = 4{,}382$; p = .013 ; η^2 = .013), hierarchical position (i.e., $t(674) = 3{,}264$; p = .001 ; Cohen's d = .029) and functional aera ($F(5, 459) = 4{,}163$; p = .001 ; η^2 = .043). However, no significant differences were found based on gender (i.e., $t(671) = -.123$; p = .902), level of education ($F(4, 671) = .365$; p = .834), employment category (i.e., $F(2, 673) = 1{,}043$; p = .353), working hours (i.e., $t(674) = .927$; p = .354) or workforce size (i.e., $F(8, 667) = .868$; p = .543). To assess the explanatory power of categorial variables significantly associated with identification, chi-square tests were performed. Results showed that the branch of the civil service was weakly but significantly associated with hierarchical position ($\chi^2(2) = 13{,}153$, p < .001, *Kramer's V* = .139), moderately associated with employment status ($\chi^2(4) = 83{,}162$, p < .001, V = .248) and strongly associated with functional aera ($\chi^2(10) = 535{,}870$, p < .001, V = .759). Employment status had a weak but significant association with functional aera ($\chi^2(10) = 36{,}578$, p < .001, V = .198) and no significant relationship with hierarchical position ($\chi^2(2) = .683$, p = .711, V = .032). Finally, hierarchical position was moderately and significantly related to functional aera ($\chi^2(5) = 24{,}062$, p < .001, V = .227). More precisely, several factors were associated with stronger identification with the civil service. These included being older, having longer tenure, belonging to the hospital branch of the civil service, holding permanent status, occupying a managerial role, or working in the medical or paramedical fields.

4. Discussion, limitations and future research directions

This study addresses two critical gaps in the existing literature. First, it offers a new perspective on identification by assessing it it within the broader framework of the French civil service, rather than at the organizational level. This systemic approach provides a more holistic understanding of the public servant's relationships with their professional environment. Second, it examines a diverse range of socio-professional and organizational characteristics to identify factors that influence -or not- identification with the civil service. These findings enhance our understanding of employee identification dynamics in modern, hybridized and complex public administration contexts.

Moreover, these results suggest that some mechanisms underpinning identification with the civil service may overlap with those driving organizational identification. Indeed, both significant and non-significant relationships between these characteristics and civil service identification echo patterns previously observed in studies of organizational identification (e.g., age, job tenure, gender, workforce size, education, and hierarchical function; Kreiner & Ashforth, 2004; Riketta, 2005). Nevertheless, while employment category does not appear to significantly impact civil service identification, other civil service-specific characteristics (e.g., employment status, branch of the civil service) seem to play a meaningful role in variations in identification levels. These findings are consistent with research highlighting that characteristics specific to local organizations foster identification at the local level, whereas global characteristics are more strongly associated with global identification (Greco et al., 2021; Reade, 2001). Overall, these results underscore the importance of considering socio-professional and organizational dynamics when developing policies aimed at strengthening identification among civil servants.

Organizational identity research suggests that central, distinctive, and enduring attributes differentiate organizations and shape individual identification. These attributes foster a cognitive connection, supporting self-enhancement, differentiation, and value expression (Weisman et al., 2023). Regarding socio-professional characteristics, few studies have examined their role in shaping identification. However, self-coherence and self-continuity motives may explain why employees perceived as more representative of the civil service (e.g., senior staff, managers) reinforce their identification to maintain internal consistency (Ashforth, 2001).

However, this study has several limitations. First, its cross-sectional design precludes causal inferences and cannot capture the evolving identity dynamics in the public organizations. Second, although the sample is diverse, its size and the number of variables may not fully represent all civil service populations. Third, this study used an adapted version of Shamir & Kark's (2004) graphic scale, as no validated tool for civil service identification currently exists. Finally, as an exploratory study, its preliminary findings need to be validated through future research. Nonetheless, this study raises heuristic questions for future research. The exploratory statistical approach adopted here could be enhanced with advanced models such as latent profile analysis, to better understand individual variations in identification, as recommended by Ashforth et al. (2008). Then, in line with recommendations by Weisman et al. (2023), longitudinal and qualitative methods may track in identification over time and provide deeper insights into the underlying processes of identification. Lastly, the development of a validated tool for civil service identification would equip both researchers and practitioners with a reliable instrument to enhance understanding of this phenomenon.

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INDIVIDUAL AND ORGANISATIONAL RESILIENCE: EFFECTS OF PSYCHOLOGICAL CAPITAL AND PERCEIVED ORGANISATIONAL SUPPORT

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Abstract

Organizational resilience (OR) refers to an organization's ability to anticipate, prepare for, respond to and adapt to sudden changes or shocks (Bernard and Bhamra, 2011). It is the result of strategic and operational logic (Ismail et al., 2011) and resources. Among individual resources, psychological capital (PsyCap) corresponds to an individual's state of positive psychological development. It is characterized by: (1) the perceived ability and the necessary effort to succeed in difficult tasks (self-efficacy); (2) a positive attitude towards success (optimism); (3) persistence and the ability to redirect strategies towards success (hope); and (4) the ability to overcome difficulties and problems in order to succeed (resilience) (Luthans et al., 2007). Among organizational resources, we are interested in perceived organizational support (POS) which is defined as employees' perceptions of the importance that the organization attaches to the well-being of its employees and the recognition of their contributions (Eisenberger et al., 1986). In this study, we focus on the impact of these individual (PsyCap) and organizational (POS) resources on job satisfaction (Locke, 1976). Our hypotheses are (1) that all variables will be positively correlated, (2) that PsyCap and POS will positively influence satisfaction and (3) that PsyCap will play a mediating role between POS and satisfaction. The study included 252 working adults, 192 of whom were military trainee pilots from the Air Force and Space Force. Of the 252, 33% (n=82) were aged 18-24, 57% (n=143) were aged 25-34 and 10% were aged 35 and over. They anonymously completed an online questionnaire assessing PsyCap (French Psychological Capital Questionnaire, 24 items, Choisay et al., 2021), POS (9 items, Tungisa and Pohl, 2020) and job satisfaction (1 item, Tavani et al., 2014). Correlations, linear regressions and a mediation analysis will be performed using JASP (version 0.18.3). Results showed that both POS and PsyCap positively influenced job satisfaction (p<.001). The mediation analysis revealed the mediating role of PsyCap between POS and job satisfaction. We will discuss the results in the light of the literature. We will set out the limitations of the study and propose concrete courses of action for organizations to enable them to optimize their organizational resilience.

Keywords: *Organizational resilience, psychological capital, perceived organizational support, job satisfaction, mediation model.*

1. Introduction

Organizational resilience can be defined as the ability of an organization to absorb shocks, renew itself and learn from crises to become stronger (Bégin and Chabaud, 2010). It refers to the ability to anticipate, prepare for, respond to and adapt to sudden changes or shocks (Bernard and Bhamra, 2011). It is the result of a strategic and operational rationale (Ismail et al., 2011) based on a balance between defensive strategies (limiting losses) and offensive strategies (seizing new opportunities), underpinned by collective governance and a continuous learning process (Bégin and Chabaud, 2010). In general, organizational resilience is based on resources, which can be individual or organizational. Among the individual resources, psychological capital (PsyCap) corresponds to an individual's state of positive psychological development. It is characterized by: (1) perceptions of the ability and effort required to succeed at difficult tasks (self-efficacy); (2) a positive attitude towards success (optimism); (3) persistence and the ability to redirect strategies towards success (hope); and (4) the ability to overcome difficulties and problems in order to succeed (resilience) (Luthans et al., 2007).

Among organizational resources, perceived organizational support (POS) appears to be a crucial issue. It is defined as employees' perceptions of the importance the organization attaches to the well-being

of its employees and the recognition of their contributions. POS is defined as employees' perceptions of the extent to which the organization values their contributions and cares about their well-being (Eisenberger et al., 1986). The dimensions on which this assessment is made are most often fairness, recognition and the development prospects offered to them (Eisenberger and Stinglhamber, 2011). This perception is linked to employees' socio-emotional needs and strengthens their commitment to the organization. Employees' commitment is influenced by their perceptions of their relationship with their organization and, in particular, concepts such as justice and recognition (Coyle-Shapiro et al., 2004). Employees who perceive a high level of POS are more emotionally involved with their organization thanks to affective commitment and prosocial behaviors, which translate into mutual aid, citizenship and team spirit, as well as increased loyalty to their organization, known as organizational citizenship behaviors (Tungisa Kapela and Pohl, 2020). Previous studies have also shown that job involvement influence job satisfaction (e.g., Yandi and Havidz, 2022). Work engagement can be defined as the extent to which employees identify with their work, actively participate in their work, and perceive their work performance as more important for their own well-being.

Employees who are more engaged in their work experience greater job satisfaction (Fung et al., 2014). In organizational research, job satisfaction can be described as "a pleasant or positive emotional state resulting from the evaluation of one's work or work experiences" (Locke, 1976, p. 1304). POS also enables the three basic psychological needs of autonomy, social belongingness and competence to be met (Gillet et al., 2016). The employee's performance for the organization will then be proportional to his perception of how his organization contributes to his quality of life at work by providing him with resources that he values (Safy-Godineau et al., 2020).

2. Objectives and hypotheses

In this study, we focus on the impact of these resources, both individual (PsyCap) and organizational (POS) on job satisfaction (Locke, 1976). Our hypotheses are:

- Hypothesis 1: all variables will be positively correlated,
- Hypothesis 2: PsyCap and POS will positively influence satisfaction
- Hypothesis 3: PsyCap will play a mediating role between POS and satisfaction.

3. Methods

3.1. Participants

The study included 252 working adults, 192 of whom were military personnel. Of the 252, 33% (n=82) were aged 18-24, 57% (n=143) were aged 25-34 and 10% were aged 35 and over.

3.2. Procedure and recruitment

The study and research protocol were approved by the Ethics Committee for Research Involving Human Subjects of the Universities of Tours and Poitiers (CER-TP) (number 2024-11-11). Participants were invited to answer a questionnaire hosted online on the Sphinx platform and were informed that their answers would remain anonymous and confidential. Before completing the questionnaire, participants were informed about the aims of the study and were explicitly asked for their consent to continue.

3.3. Measures

The questionnaire was composed of sociodemographic questions (such as age categories, duration within the organization, etc.) and four French versions of validated scales.

We used the one item job satisfaction (Tavani et al., 2014), the psychological capital questionnaire (PsyCap; Choisay et al., 2021) (24 items) and the perceived organizational support scale (POS; Tungisa Kapela & Pohl, 2020) (9 items).

The data were analyzed using JAMOVI version 2.6.25. The internal reliability of the scales was measured using Cronbach's alpha [PsyCap: α=.85; POS: α=.89]. Descriptive analyses, Pearsons’s correlations and linear regressions were carried out. A mediation analysis was also carried out.

4. Results

4.1. Descriptive results

In the sample, the minimum job satisfaction score was 2, and the maximum was 7, with a mean score of 5.30 (SD=1.14). The minimum and maximum scores for PsyCap were 54 and 130, respectively, with a mean score of 102 (SD=12.5). The minimum and maximum scores for POS were 10 and 45,

respectively, with a mean score of 28 (SD=6.75). The analysis showed positive correlations between PsyCap, POS and job satisfaction (p<.001) (Table 1).

Table 1. Matrix of correlations.

		PSYCAP	POS	SATISFACTION
PSYCAP	**Coefficient**	—		
	***p*-value**	—		
POS	**Coefficient**	0.278***	—	
	***p*-value**	<.001	—	
SATISFACTION	**Coefficient**	0.515***	0.454***	—
	***p*-value**	<.001	<.001	—

PsyCap positively influenced job satisfaction. The model was significant, explaining about 27% of the variance (r2=.266; F(1;250)=90.4; p<.001). POS also positively influenced job satisfaction. The model was significant, explaining about 21% of the variance (r2=.206; F(1;250)=64.9; p<.001) (Table 2).

Table 2. Linear regression predicting job satisfaction.

Variables	Estimates	Standard Error	t	*p*
Intercept	0.496	0.509	0.97	0.331
PsyCap	0.047	0.005	9.51	<.001
Intercept	3.149	0.274	11.48	<.001
POS	0.077	0.009	8.06	<.001

PsyCap positively influenced POS. The model was significant, explaining about 8% of the variance (r2=.077; F(1;250)=20.9; p<.001) (Table 3). A mediation analysis showed POS plays a mediating role between PsyCap and job satisfaction (Table 4) (Figure 1).

Table 3. Linear regression predicting PsyCap.

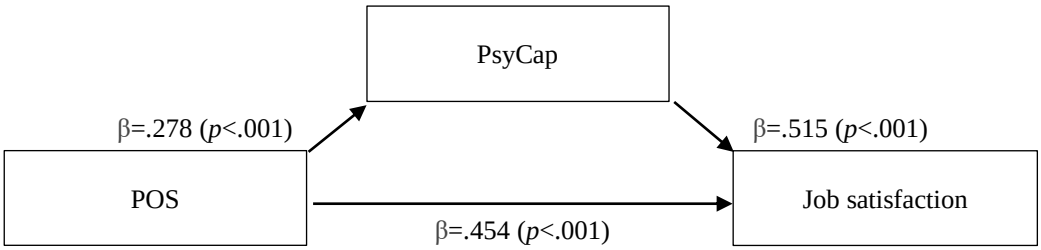
Variables	Estimates	Standard Error	t	*p*
Intercept	87.400	3.230	27.06	<.001
POS	0.512	0.112	4.57	<.001

Table 4. Mediation estimates and path estimates.

Mediation estimates					
Effect	**Estimate**	**SE**	**z**	***p***	**% mediation**
Indirect	.020	.005	3.99	<.001	25.8
Direct	.057	.009	6.47	<.001	74.2
Total	.077	.010	8.09	<.001	100.0

Path estimates						
			Estimate	**SE**	**z**	***p***
POS	→	PSYCAP	0.513	0.112	4.59	<.001
PSYCAP	→	SATISFACTION	0.039	0.005	8.10	<.001
POS	→	SATISFACTION	0.057	0.009	6.47	<.001

Figure 1. Mediation model of the relationship between perceived organizational support and job satisfaction through psychological capital.



5. Discussion, limitations and perspectives

The aim of this study was to investigate the relationship between organizational resources (such as perceived organizational support), individual resources (such as psychological capital) and job satisfaction. This study confirms our three hypotheses. There were indeed positive correlations between these three different constructs (confirming hypothesis 1).

Job satisfaction is influenced by both perceived organizational support and psychological capital (confirming hypothesis 2). Our results are therefore in line with previous studies. On the one hand, we can say that the higher the perceived organizational support, the higher the job satisfaction (Irfan and Al Hakim, 2022). On the other hand, the higher the psychological capital, the higher the job satisfaction (Paliga et al., 2022). This process seems to be partly explained by the mediating influence of psychological capital between perceived organizational support and job satisfaction (confirming hypothesis 3). Indeed, the overall model (Figure 1) shows this mediating relationship. In other words, we can say that the influence of perceived organizational support on job satisfaction can be explained by individual resources, especially those related to psychological capital. These findings support the literature that has already highlighted the mediating role of psychological capital between perceived organizational support and specific outcomes such as well-being at work (Roemer and Harris, 2018). Further analysis will allow us to understand which components (hope, optimism, resilience and self-efficacy) are most likely to play a role in this relationship.

These resources are crucial to the development of organizational resilience, enabling organizations to deal with particularly critical situations such as those we experienced during the COVID-19 crisis and which are likely to recur; IPBES (2020) warns that “future pandemics will be more frequent, spread more rapidly, cause greater economic damage and kill more people”.

Certain limitations must be considered, in particular the importance of military personnel in the sample. In this context, it seems impossible to generalize our results. It would be advisable to obtain more responses from general employees and possibly compare them with those of military personnel, which would make it possible, for example, to identify any specificities relating to the latter population. This is an avenue that is currently being explored, with additional data being collected from civilian employees. Further analysis is also needed to understand the impact of the different components of the PsyCap or POS on job satisfaction. Other important variables may also come into play. Leadership style, type of organization and other personal characteristics such as sensory sensitivity could influence the results obtained. The latter is known to influence job satisfaction (Bordarie and Gentilhomme 2024) or the risk of burnout (Bordarie and Mourtialon, 2023).

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AGE DISCRIMINATION AND FEAR OF BEING LEFT BEHIND AT WORK

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Abstract

It is widely known that ageism causes numerous negative effects. It leads to discrimination of employees expressed as unequal treatment, isolation, rejection and related forms of negative behavior at work, based on their age. Fear of missing out (FoMO) at work is defined as a persistent fear that an employee will miss out on important business opportunities compared to others. We wanted to explore whether age discrimination affects the FoMO at work and is there a role (moderator/mediator) of resiliency in that relationship. Results are based on an online survey of 211 employees from Montenegro, from private and public sectors. Survey included Workplace Age Discrimination Scale (WADS, 9 items, 5-point frequency scale, Cronbach's alpha 0.93), Workplace FoMO Scale (10 items, 5-point Likert scale, Cronbach's alpha 0,95), Employee Resilience Scale (9 items, 5-point frequency scale, Cronbach's 0.95) and set of questions about the employee and organization. It was found that younger employees (age group 18-25 years) felt being more discriminated against than their older colleagues did ($F(3, 207) = 7.010$, $p < .001$). In addition, less experienced employees were more discriminated against than those with more experience at work were ($r = -.22$, $p < .001$). There were no differences in discrimination based on gender and income. Employees' experience of being discriminated against at work was related to their fear of missing out ($r = .198$, $p < .004$). Resilience at work was unrelated both with discrimination and with fear of missing out at work. Main finding about the relationship of discrimination and fear of being left behind at work highlights a key negative effect of ageism and age discrimination. Finding that younger people feel more discriminated at work could be explained by the fact that Montenegro is a high-power distance country (based on Hofstede's research), where the social status and respect are gained by age. Research indicates cross-cultural validity of the workplace FoMO.

Keywords: *Ageism, fear of missing out at work, Montenegro.*

1. Introduction

Age discrimination is one of the forms of discrimination that occurs at the workplace. However, unlike other types of discrimination, age discrimination is not recognized as a "serious problem" (at least not as much as racial, gender and sexual discrimination) despite the consequences in the domain of wellbeing and productivity (Duncan & Loretto, 2004). In fact, it is observed that the "younger" employees (those under 25 years of age) and the "older" employees (over 45 years) are the most frequent victims of age discrimination. Those from the "younger" category report lower level of salary and fewer non material benefits, while those from the "older" category report fewer opportunities for employment, advancement and training opportunities. Age discrimination is defined as unequal "treatment", deprivation, exclusion and rejection of employees based on their age (Posthuma et al., 2012).

Increasingly "mediated lives" (Groenestein et al., 2024) and continuous connectivity gave rise to the widely known as Fear of Missing Out (FoMO) that was first conceptualized and operationalized by Przybylski et al. (2013). Their seminal paper paved the way to understanding FoMO as worries and anxiety induced by the idea of missing out on activities. This feeling leads to higher social media engagement, but it is also associated with lower general mood and satisfaction with life. Based on the extant literature since Przybylski and colleagues paper, we can see that FoMO is characterized as a unpleasant, distressing emotional state stemming from missing social experiences, based on continuous comparison, that make people strongly want to stay connected (Groenestein et al., 2024). Authors that first operationalized Workplace Fear of Missing Out defined it "as pervasive apprehension that, relative to other employees, one might miss valuable career opportunities when away or disconnected from work" (Budnick et al. 2020, p. 112). Budnick and colleagues operationalized workplace FoMO as fear stemming from informational and social exclusion. Informational FoMO deals with task related information that could make employees

feel more/less competent at work. Social exclusion as a factor of FoMO is linked with social networking and acquaintances that could be the basis for important business opportunities.

Although work-related FoMO is a topic that can frequently be noticed in online media, unlike digital FoMO, it is not yet well researched (Hayran et al., 2020). Unlike digital FoMO which is based on the fear of missing out the pleasurable and rewarding experiences, mainly on social media, workplace FoMO should be explored outside the limits of technology using behavior at work (Budnick et al. 2020). Budnick et al. research on the FoMO at work found that it was clearly a separate construct from general, digital FoMO. It was related to burnout and more frequent work-related technology use (i.e., checking messages and mail). The good and the bad news for organizations so far are that although FoMO at work increases employees' involvement with messages relevant for carrying out one's job, at the same time it impairs employees' health.

The main goal of the research was to explore the relationship between experienced age discrimination and the FoMO at work. In addition, we wanted to explore if those with stronger resilience report lower levels of workplace FoMO. Resilience was examined as a potential moderator of the relationship between age discrimination and the FoMO at work. We also included control variables such as: gender, income level, duration of overall work experience and experience at the current organization.

2. Method

The data was collected from a sample of 211 respondents from all three regions of Montenegro (the south, the central region and the north), both from private and public sectors. Participants were recruited using a "snowball" technique.

Online questionnaire included:

1. Workplace Age Discrimination Scale (WADS, Marchiondo et al., 2016): nine items, 5-point frequency scale from never to always, sample item: *I have been passed over for a work role/task due to my age*, Cronbach's alpha 0.93;

2. Workplace FoMO Scale (Budnick et al., 2020): ten items, 5-point Likert scale from strongly disagree to strongly agree, Cronbach's alpha 0,95. There are two subscales: Informational exclusion, sample item: *I worry that I might miss important work-related information*, and Social exclusion, sample item: *I worry that I will miss out on networking opportunities that my coworkers will have;*

3. Employee Resilience Scale (Näswall et al., 2019): nine items, 5-point frequency scale from never to always, sample item: *I collaborate effectively with others due dealing with business challenges*, Cronbach's 0.95, and

4. Set of questions about the employee and organization.

In line with Brislin's recommendations, the scales were translated using committee technique with three bilingual psychologists in three iterations (Brislin et al., 1973). All the translations were checked for the back translation. Data were analyzed using IBM SPSS – version 25.

3. Results

We found that experience of age discrimination was more pronounced among younger employees. One way ANOVA revealed that there was a statistically significant difference in the experienced age discrimination, F (3,207) = 7.010, $p < .001$. The "youngest" (category between 18 and 25 years of age) reported on average slightly higher experienced age discrimination compared to the three older age groups. There was a statistically significant negative, weak correlation between age and age discrimination ($r = -.22$, $p < .001$). Also, in line with the negative correlation of age with experiencing age discrimination, there was a weak negative, but statistically significant correlation between the overall duration of work experience and age discrimination ($r = -.22$, $p < .001$), and weak, negative correlation between work experience in the present work organization and age discrimination ($r = -.15$, $p = .034$).

Exploring further, the relationship between FoMO at work and employees' age, the scores on the Social exclusion FoMO subscale correlated significantly with age ($r = - .164$, $p = 0.017$), indicating that older respondents reported less feelings of being left out of events involving social interactions and networking at work. In addition, there was a statistically significant correlation between FoMO at work and years of work experience ($r = -.186$, $p = .007$). Social exclusion correlates negatively with age as we probably develop more social networking mechanisms on one side, and become more resilient if being excluded, on the other.

For the main research question - the relationship of age discrimination and work FoMO, there was a statistically significant correlation ($r = .198$, $p = .004$), meaning that employees that experience stronger age discrimination also report greater fear of missing out at work. That is a sort of a "new" face of age discrimination. It makes employees feel left out at work. At the level of factors of FoMO, age discrimination

correlated significantly with Social exclusion (r = .257, p = .000), whereas there was no significant correlation with Informational FoMO.

Lastly, there was no statistically significant correlation between resilience and age discrimination (r = -0.11, p = 0.109), nor between resilience and work FoMO (r = 0.02, p = 0.83), thus resilience did not play a role in the relationship between age discrimination and work FoMO.

4. Discussion

In this research, the main hypothesis about the correlation between experienced age discrimination and the FoMO at work was confirmed. Also, statistically significant results were found when it comes to the connection between age of respondents and age discrimination, years of work experience and age discrimination. There was a difference between the “youngest” age category of employees compared to other “older” categories. This can partly be explained by the fact that Montenegro is a high-power distance collectivist culture (Hofstede, 2001). Traditionally, young people in Montenegro grow up with the sentences as “What do you know about life, you’ve just started living” and “Whatever elders are, respect them”, sending them the message that age determines value and respect.

FoMO at work correlated with age, more precisely, there was a weak negative correlation between social exclusion and age. The older the employees are, the less concerned they are with the social aspects of the FoMO at work. Young people are generally the ones who, in the stage of identity creation, need validation from their peers in order to be sure that they are "on the right path" of development (Berndt & Murphy, 2002). On the other hand, it is clear that the elderly do not need that type of validation as they have permanent, established relationships that they nurture and maintain over time, without fear of missing out on something or someone new, mainly because the majority of the elderly have achieved their professional aspirations.

Initial insight into the cross-cultural validation of workplace FoMo is probably the strongest contribution of this research. On the other hand, among limitations of this research, besides the nature and the size of the sample, we must stress cross-sectional design of the study as it limits developing causal models. However, as there are still not too many studies on workplace FoMO, cross-sectional design is still the “natural first step”. Longitudinal design would also enable exploring organizational interventions.

This research has important practical implications on the organizational and wider social levels because it indicates an important problem faced by employees from the youngest age category (from 18 to 25 years old). Findings support the concept of job design from the lifespan perspective (Truxillo et al. 2012). There is a need to develop strategies that would support strengthening the notion of equal rights for employees of all ages. It is important to point out the fact that age discrimination does not have to be explicit and extreme in order to affect employees. First step would be to raise awareness about age discrimination, especially about the existence of subtle, hidden manifestations of age discrimination, particularly those disguised in cultural norms.

5. Conclusion

Although it is a matter of reporting on the low presence of the fear of missing out in the age category from 18 to 25, it must be taken into consideration that it is a negative phenomenon, and that the aspirations of every democratic, healthy and developed society should be minimization of unequal treatment and the feeling of vulnerability of any age group. The presence of age discrimination, even in the smallest degree, is a sign for employees, organizations, society and the state to develop integrated strategies in order to protect and empower those who feel discriminated against. Likewise, realizing that a negative phenomenon is never isolated (if there is one, there are others as well), but leaves a mark on mental and physical health, it is clear that while fighting against age discrimination, we will win a double battle. FoMO at work is an important relatively novel concept that needs to be thoroughly explored. Presented research also provides an indication of its cross-cultural validity. As an emerging concept and scale it gave valid and meaningful results in another culture, quite different from the USA as an originating culture (on the social, economic, political, cultural levels).

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VIOLENCE IN HEALTHCARE SETTINGS: EXPLORING HEALTHCARE WORKERS' EXPERIENCES AND STRATEGIES FOR PREVENTION

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Abstract

Violence in healthcare settings is a serious issue that has been on the rise globally in recent years. Violence and hostility against healthcare workers are common, which can cause physical and mental health problems for those who are impacted. Additionally, such incidents seriously affect patients and may lower the quality of care and treatment, deteriorating the working environment. Examining the experiences of healthcare professionals is crucial to creating effective policies to stop violence and handle it when it occurs. For this purpose, the current study explored the aggression and violence against healthcare workers in healthcare settings and their prevention strategies. Semi-structured interviews with eight healthcare workers aged 26 to 44 years were conducted. The collected data was analyzed using the thematic analysis method via the MAXQDA software program. Three themes were identified: the scars of violence**,** combating violence and seeking security and support in healthcare, along with their subthemes. The findings highlighted that healthcare workers were seriously impacted following incidents of violence. Although they normalize that type of incident, generally, they are psychologically traumatized and tend to resign from their job or migrate to Western countries. Also, they demand legal support and preventative measures while working in the hospital. Thus, to prevent violence and mitigate its effects, it is necessary to enhance security measures, implement psychological support programs, organize awareness training, improve the white code system for reporting violence, and enforce legal regulations more effectively.

Keywords: *Healthcare workers, preventive measures, security, violence.*

1. Introduction

Violence against healthcare workers emerges as a global problem today and causes various negative consequences at the individual, institutional, and social levels. According to the World Health Organization (WHO) report, the rate of healthcare workers being exposed to physical, verbal, or psychological violence throughout their professional lives is relatively high. For example, a study conducted by Sağlık-Sen (2022) reported that the type of violence experienced by the victims was recorded as 99.3% verbal, 64.5% physical, and 64.2% both verbal and physical violence. Specifically, a total of 249 violent incidents occurred, and 422 healthcare workers were victims in Turkey (Sağlık-Sen, 2022). Another recent study claimed that 457 violence cases in healthcare were detected between January 1 and December 20, 2023, in Turkey (Imdat Association, 2023). 43.3% of these cases were experienced by nurses, 40.9% by physicians, and 15.8% by other healthcare personnel. 75.3% of the violence occurred both verbally and physically. 60.4% of violent incidents were committed by patients' relatives, and 75.3% of the violence occurred both verbally and physically.

Research on the causes of violence against healthcare workers and the measures taken to prevent this problem disclose that this challenge faced by the healthcare sector is multi-dimensional. Violence against healthcare professionals is generally committed by patients or their relatives, and it is seen that social, cultural, economic, and psychological factors are effective in the emergence of this violence (Pagnucci et al., 2022). Further, a significant portion of violent incidents are committed by patients and their relatives' lack of communication, stressful situations, or distrust of the healthcare system (Babiarczyk et al., 2019; Yang et al., 2018). Also, systemic problems such as long waiting times, non-compliance with hospital rules, heavy workloads, and lack of personnel are among the main factors that increase cases of violence. Additionally, the media's negative attitudes toward healthcare professionals can also fuel violence.

Violence in healthcare creates adverse effects not only on individuals but also on the entire healthcare system. Healthcare workers who are victims of violence often experience psychological

disorders, professional burnout, and serious decreases in work motivation (Caruso et al., 2022; Duan et al., 2019). In addition, cases resulting in physical injuries and, in rare cases, death show how serious the violence to which healthcare workers are exposed can be. In the study of Tokgöz (2019), it is emphasized that violent incidents negatively affect the professional performance of healthcare professionals and their general quality of life. Additionally, these events reduce the quality of patient care and decrease patient satisfaction. Treatment processes disrupted due to violence also undermine patients' trust in the healthcare system and its employees.

Although measures are taken to prevent violence (e.g., increasing the number of security personnel, using X-ray devices at the entrances, and subjecting healthcare professionals to regular training programs), all these measures cannot prevent violence against healthcare personnel (Eyler et al., 2022; Ferracuti et al., 2022). Therefore, examining violence against healthcare workers is of great importance in terms of contributing to the understanding and solution of this problem at both individual and systemic levels. The psychological and physical effects of violent incidents on healthcare workers do not remain only at the individual level; They also negatively affect the quality of health services and patient satisfaction. This study aims to understand the victimization of healthcare professionals in Turkey and their strategies for preventing these serious healthcare problems.

2. Method

2.1. Research design

This study employed a qualitative research design utilizing a semi-structured interview protocol for data collection, processing, and analysis, which allows in-depth exploration of the participants' experiences.

2.2. Participants

The inclusion criteria for the participants were (1) being over 18 years old, (2) witnessing violence in the healthcare setting, and (3) currently working as a healthcare worker. Eight healthcare workers (three physicians, four nurses, and one medical secretary) were conducted. Participants were four male and 4four female and ranged in age from 26 to 44 years (M = 33.87, SD = 2.35), residing in Turkey.

2.3. Data collection

The data was collected through socio-demographic information forms and face-to-face semi-structured interviews lasting about 40 minutes.

2.4. Data analysis

The interviews were conducted, transcribed, and analyzed by the authors. The gathered data was examined using thematic analysis, followed by a methodical procedure that included data collection, data preparation, theme identification, data coding, theme analysis, and findings reporting (Braun & Clarke, 2006). The interviews were conducted, transcribed, and analyzed by the authors.

3. Results

The thematic analysis identified three main themes with primary sub-themes (see Table 1).

Table 1. Themes and Subthemes in the Study of Violence in Healthcare Settings.

Main Themes	Sub-Themes
1. The Scars of Violence	1.1. Normalization of Violence
	1.2. From White Coats to Migration Routes
	1.3. Invisible Wounds: Psychological and Physical Traumas
	1.4. Last Resort: Resignation
2. Combating Violence	2.1. Strengthening Penal Sanctions
	2.2. Security Guarantees for Healthcare Workers
	2.3. Reform in Patient Admission Systems
3. Seeking Security and Support in Healthcare	3.1. Psychological Resilience
	3.2. Legal Support
	3.3. Training and Awareness

3.1. The scars of violence

Many participants reported that the violence profoundly impacts them. Despite the fact that participants finally came to accept this circumstance, some of them were mentally disturbed; some thought about quitting their jobs and even immigrating from the country. For example, one participant stated, *"Violence against healthcare workers is often normalized, and people think doctors must have deserved it."* Perpetrators' attitudes like these encourage more acts of violence. Some participants said they were looking for better circumstances. As a result, they favor moving to nations with better social security and higher wages. As one participant noted, *"In recent years, the migration of our healthcare workers to other countries has increased, especially to places like Germany, where there is a shortage of nurses and doctors."* Additionally, violence causes invisible wounds, such as physical injuries and long-lasting psychological stress, that affect employees' lives and productivity at work. Some participants also reported that resigning from their jobs was the only way to prevent enduring violence. For example, a participant working as a family nurse shared, "I'm planning to leave the healthcare sector entirely and find a different career path... *This is not a profession one can do for a long time."*

3.2. Combating violence

All participants in this study reported the urgent need to combat violence in hospital settings through structural changes such as legal reforms, penal sanctions, and enhanced security measures. Also, many participants indicated that it is critical to ensure accountability, promote a feeling of justice, and establish deterrent punishments for violent crimes against healthcare personnel. Participants regularly discussed effective security measures, such as establishing surveillance cameras in key hospital locations and hiring more skilled security guards. For instance, one participant suggested, "*Hospitals should have more security staff, white code protocols should be more effective, and police officers should receive appropriate training."* Furthermore, all participants emphasized the importance of changing patient admission procedures to prevent conflicts and lessen overcrowding; to relieve the strain on emergency rooms, participants proposed a tiered healthcare system in which primary care facilities, including family health clinics, handle non-urgent situations. One healthcare professional stated, *"Patients who could be seen in outpatient clinics often come to emergency rooms. We need to fully activate the primary care system to reduce this pressure"*. The ultimate goal of these treatments is to create a safer and more effective environment for patients and healthcare providers.

3.3. Seeking security and support in healthcare

Another important finding of this study was seeking security and support in healthcare. Participants stated the urgent need to take action for the safety and well-being of healthcare workers. Participants reported the importance of psychological support in enabling workers to recover from the emotional aftermath of violent incidents and continue their professional lives. For example, one participant noted, *"We are not only physically but also psychologically affected. Measures should be taken, and psychiatric therapy support should be provided when needed because some colleagues experience post-traumatic stress disorder. Support is crucial to overcoming this."* Participants stressed that legal protections were also key to halting violence; in some cases, they suggested creative approaches. One proposed, "*For instance, a temporary lack of access to non-urgent health services for violent offenders, or that they would have to pay for consultations and treatments…. Even issuing monetary penalties might deter a number of them."* Moreover, participants emphasized the need for training and awareness initiatives to improve the capacity of healthcare staff to identify, prevent, and react to violence appropriately. Such programs would also emphasize better communication and empathy skills, enabling workers to build rapport with patients and their families. These strategies (psychological support, legal protections, and educational initiatives, for instance) work together to provide a comprehensive framework for a more secure and supportive healthcare environment.

4. Discussion

This study aimed to investigate the experience of violence in healthcare settings among healthcare workers. The findings shed light on the frequency, effects, and possible interventions needed to combat violence in the health sector. The three main themes, 1) The Scars of Violence, 2) Combating Violence, and 3) Seeking Security and Support in Healthcare, emphasize crucial aspects of the issue.

This study found that violence had psychological and physical effects on medical personnel. Violence can inflict psychological and physical trauma that may result in long-term problems like burnout, anxiety, or depression. In corroboration of literature on the effect of occupational violence on

mental health (Keser-Özcan & Bilgin, 2011; Pagnucci et al., 2022). Furthermore, many healthcare workers were desensitized as a result of the constant violence, and they considered violent behaviors as a part of their lives. There is a worrying pattern of normalizing violence, which risks paralyzing a proper response. The other impact of violence was that violence in healthcare may even drive workers to leave the profession or seek employment opportunities outside the sector. The findings align with prior studies that have shown a high rate of attrition among healthcare workers due to workplace violence (Hämmig, 2023).

Another important finding indicated strategies that could be implemented to address violence in healthcare settings. Participants in this study stressed the need for stronger penal sanctions and more security guarantees for healthcare workers to deter violent behaviors. This is consistent with previous research, which found that clear legal consequences for violent actions can reduce the frequency of violence (Caruso et al., 2022; Ferracuti et al., 2022). Additionally, participants highlighted that changes in how patients are admitted and monitored might help prevent violent outbreaks. It suggests that a more thorough screening and assessment process during patient intake can help identify potential risks early on, aligning with recommendations from healthcare management literature on risk assessment (Keser-Özcan & Bilgin, 2011).

This study also outlined healthcare workers' expectations regarding improved support mechanisms for dealing with workplace violence. For example, psychological resilience programs for healthcare workers to help them learn to endure emotional hardships and stress related to their jobs were a common theme among participants. This finding adds to the mounting evidence that emotional resilience may help diminish burnout and improve overall healthcare providers' well-being (Duan et al., 2019). Participants also emphasized the need for legal help. For instance, they wanted stricter rules and stronger legal protection for healthcare workers as deterrents against the perpetrators. This corresponds with other studies reporting that healthcare workers do not "feel safe" without clear legal support (Eyler et al., 2022; Keser-Özcan & Bilgin, 2011). Lastly, participants suggested training and awareness programs. They emphasized the need for training of healthcare professionals and citizens about the penalties of violence and how to handle potentially violent situations, which is vital in creating a safer environment at hospitals.

These results suggest that healthcare settings need to implement comprehensive initiatives to combat violence. Stricter security, regulatory regulations, and psychological support networks for medical personnel are part of this. More rigorous training programs are also required in order to empower healthcare workers to handle violent situations better and promote resilience in the face of stress and trauma.

5. Conclusion

In conclusion, the present study explored the experience of healthcare workers regarding the victimization of violence in Turkey and their suggestions for preventing these serious healthcare problems. Primary findings showed that violence in healthcare settings has profound impacts on professionals, which lowers the quality of healthcare service and leads professionals to leave their jobs. Violence is a public health problem and should be prevented by legal reforms and support in the healthcare system.

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BEING TRAUMA INFORMED AND CONSIDERED WHEN RESPONDING TO VICTIMS OF VIOLENT CRIME AND DISASTERS

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Abstract

Since 2020, New South Wales, Australia came out of an eight-year drought and experienced the worst summer bushfires in 2019/20. This was quickly followed by the worldwide pandemic with international and national border closures and restrictions throughout 2020 and 2021. Then in 2022, devastating floods and storms made international headlines. Throughout this period, countless bio-security disasters affected agriculture as well as land and water farming included. The public and private sectors along with the not-for profit organisations were pushed beyond the capabilities to support victims of these disasters. Mental health was continuously front and centre and yet policy and response did not adequately meet the needs and expectations. Policy and response delivered what was thought was needed by the community and the community were not being listened to what they wanted. Working in each of these disasters, there were several considerations that were continually not being factored in planning: a) How to respond to disasters wholistically as opposed to individually. b) How to effectively engage with the communities, businesses, and leaders to actively listen to their needs, wants and expectations. c) How to prepare the communities for the next disaster so that their mental health as well as their properties are resilient. d) Communities who had been resilient who were now at survival stage, providing the right level of support. e) What individual circumstances need to further be factored when responding to disaster trauma, for example, domestic and family violence, sexual assault, homelessness and socio-economic considerations, mental illness, and cognitive impairments as well as disabilities. Looking at the practical application of policy, programs and initiatives and key lessons from each of these disasters, the session will present how being trauma informed is not one dimensional. For example, during COVID-19 border closures and restrictions, victims of domestic and family violence were impeded from escaping. While the 2022 floods affected communities that are significantly disadvantaged socio-economically, hence the reason many bought within floodplains became homeless and the recovery program purchased remaining homes that were shown to place people at significant risk contributing greater to the home shortage and homelessness issue. This session will take a broader look at trauma, considering its multi-dimensional impacts not only from violence, but as an added factor to disaster trauma, emergency management planning, policy and initiatives.

Keywords: *Trauma informed, disasters, violence, policy.*

1. Introduction – a New South Wales, Australia context

No matter where you are in the world, each country faces emergencies and disasters. As our climate changes, environmental or 'natural' disasters are becoming more frequent and their impact more devasting.

Bushfires, floods, drought, and a worldwide pandemic has swept through many countries in recent years. In Australia, and particularly New South Wales (NSW), all of these have been experienced in the past five to 10 years. Additionally, there have been several bio-security hazards that have affected agriculture, flora, and fauna. Other nations have experienced devasting snowstorms and blizzards, tsunamis, earthquakes, tornados, and hurricanes.

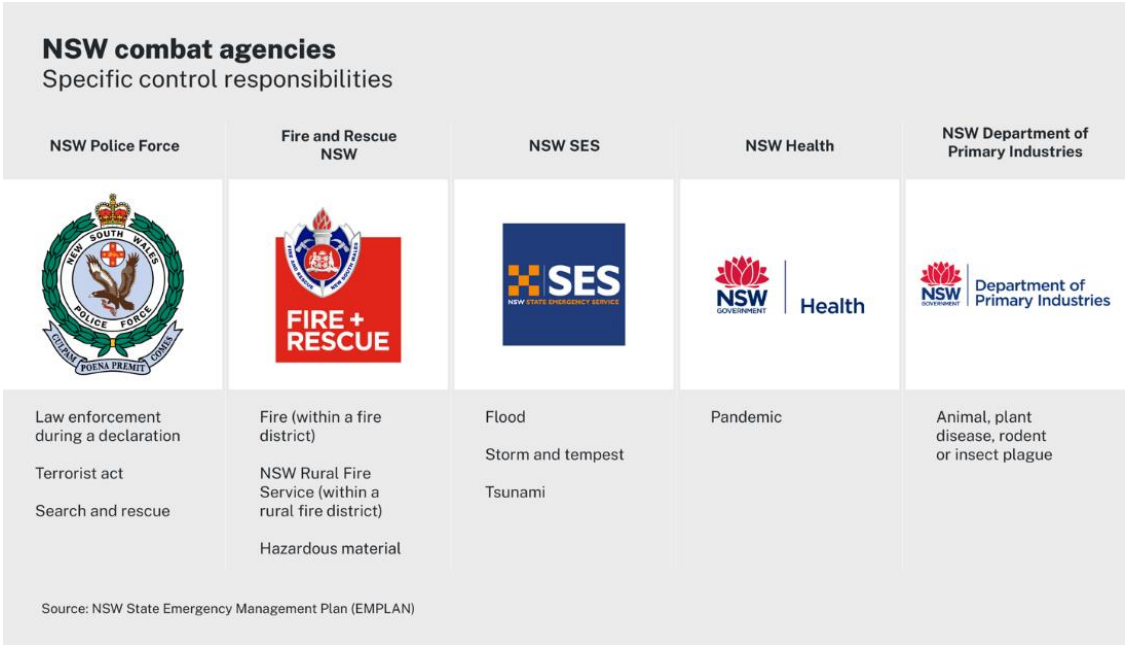
Governments and the non-government sector play a significant role in the response and recovery of these disasters. Our emergency services take a leading role with our defence forces often supporting due to the high demand to manage such disasters. Hospitals and shelters become overwhelmed, agencies race time to ensure essential services are restored and governments will be criticised for their failures to prepare communities, providing services and support fairly and equitably and not building communities to be resilient to withstand the impacts of disasters.

While these disasters are becoming more frequent, there are locations that are subject to greater frequency. For example:

- Brisbane, Queensland and the Northern Rivers of NSW, Australia have a higher risk of flood
- California, United States of America has the highest risk of earthquakes
- Japan location makes it vulnerable to tsunamis after earthquakes
- Puerto Rico, the Virgin Islands and Hawaii are at the greatest risk of hurricanes
- Over the past 5 years, Africa, South America, Australia, Asia, Europe and United States have all experienced drought
- In the past 10 years, Australia, Russia, Canada, United States, Greece, and Africa have experienced devasting wildfires or bushfires.

Disaster planning (using an Australian lens of approach) considers who the key combat agencies are. In NSW, legislation – the State Emergency and Rescue Management Act (SERM Act) 1989, outlines which agency will lead recovery efforts as well as the role and responsibilities of supporting agency's when responding to disasters.

Figure 1. NSW Combat Agencies.



Complementing the SERM Act is the EMPLAN, being the State Emergency Management Plan, providing a coordinated and comprehensive approach to emergency management. The Plan outlines actions, roles and activities across combat and supporting agencies, across jurisdictions, not-for-profit partners and the three levels of government (local, state, and federal). Within emergency management, the PPRR model is adopted universally within Australia.

Figure 2. Emergency Management Cycle.



2. Case study – the Northern Rivers floods

While planning for disaster response is comprehensive, it is the stages of the cycle that follow, recovery, preparedness, and prevention where government policy and community expectations may not align. In considering the Northern Rivers of NSW as a case study, several towns experienced flooding in 2011, 2017 and 2022, with each flood being more devastating than the prior flood. The 2022 flood and storm event saw water levels rise above 14 metres, leaving many residents stranded on their rooftops awaiting rescue. The event was described as a 1 in 100-year flood, with some landowners also experiencing landslides.

The devastation left people with homes that were either destroyed or beyond repair. Many people buy in the floodplains due to its affordability. However, due to the frequency and the damage from each flooding event, insurance prices increased, leaving many to have no insurance by the time the 2022 floods. Those who had no choice but to return to their homes were faced with mould and tried to make their homes liveable despite the health risks.

The State and Federal Government announced as their recovery package the most adaptive program to be delivered in Australia. Extensive flood mapping provided insight into locations throughout the region that presented the greatest risk to life or risk to property in the event of a 1 in 20-year flood.

The program introduced prioritised buying homeowners' homes in locations identified as risk to life at pre-flood value with the intention to enable homeowners to purchase no homes in towns and regions that are not at risk of flood. For homes where the risk to property was greater than the risk to life, the program provided for home-raisings or home-retrofitting enabling the homes to be more resistant to the next flood.

However, as the program was being delivered, several key considerations emerged. To enable a pathway for homeowners to appeal flood mapping and eligibility criteria and outline their personal circumstances, a new policy and process was introduced with regards to individual and exceptional circumstances. Exceptional circumstances were limited and defined as:

- homeowner experiencing domestic and/or family abuse
- homeowner has been diagnosed with a serious psychiatric condition or terminal illness
- Homeowner is at serious risk of homelessness because of the flood event and exhausted other reasonable available assistance
- Homeowner is suffering from serious financial hardship because of the flood event
- Adjustments were made to or planned for the home due to physical or intellectual disabilities prior to the flood event which may affect their eligibility (for example, a house raising may not be suitable for a person with accessibility constraints).

Individual circumstances factored the homeowners age, disability or medical condition affecting their physical or cognitive abilities, being a refugee or asylum seeker and the impact of added trauma, homeowner being First Nations (Aboriginal) affecting ‘sense of place’ and cultural identity and disadvantaged associated with the homeowner's socio-economic status.

The benefit of these circumstances being factored allowed homeowners to demonstrate how they may be at risk to life despite their home being mapped as risk to property. There were examples of homeowners who due to their physical or cognitive impediments being unable to evacuate, placing them at greater risk. Appeals were upheld where domestic violence risk factors enabling victims and families to escape a violent home or the abuser who remained in the same town.

Importantly, the program was able to maintain integrity and transparency while being balanced with empathy. While the program may have continued to be faced with political, media and community scrutiny, the consideration and implementation of such a policy and process showed the need for trauma informed policy in disaster planning, in each stage of the emergency management cycle.

3. Trauma informed emergency management

In policy development and planning, we tend to base our expectations on past incidents, thinking the next major event will be like the last. Past experiences, while useful, may set a misleading expectation. While previous experiences can invoke meaningful change in the future, they should be relied on more as templates than as set paths.

Similarly, being trauma informed needs a template in each stage of emergency management. Further, expansion of being trauma informed is necessary to ensure that emergency management is person-centred. One critique many governments face is they are city focused in their policies. In NSW, government is often criticised for being ‘Sydney-centric’ and considering regional, rural, remote and border communities after the fact. This was particularly noted in the government's response to the COVID-19 pandemic. The state of NSW shares its border with four jurisdictions; Queensland, Victoria, South

Australia, and the Australian Capital Territory. Residents of 29 local government areas in NSW regularly cross a border into adjacent states or territories and have strong social and economic ties with these communities.

Border closures and restrictions throughout 2020/21 impeded many people from accessing work, health care, education and essential goods and services. As a response 'critical worker' permits and 'border-bubbles' were established enabling people to move around without incurring penalties and minimising risk. Considerations for domestic violence were only factored after a victim attempting to escape her abuser in Victoria was stopped by law enforcement from entering NSW several times until police questioned her reason for crossing the border without a permit.

However, the lessons learnt from the response highlighted the importance of being community informed. The impact of policies, legislation and regulations throughout the pandemic emphasised how individuals, communities and businesses are impacted and respond to disasters and how circumstances need to be factored.

Trauma is just one type of vulnerability experienced by individuals and communities. Yet trauma is multi-faceted. Individuals and communities experience trauma from the disaster or emergency they have faced, be it flood, drought, bushfire or any other form. There is trauma from personal experiences outside of the disaster. Further, these traumas could be multi-faceted themselves and can create a situation of higher vulnerability, such as disability, domestic violence, asylum seeker or refugees and victims of crime.

When considering the preparedness stage of the emergency management cycle, vulnerability considerations mean taking steps to ensure safety before, during and after a disaster or emergency. This can include ensuring emerging communities who have escaped war and torture understand the role of combat agencies or the military in disasters and emergencies, that adaptive recovery solutions lead to further social impact, for example contributing to homelessness when housing stock and a housing crisis is already being experienced or people with a disability have access to information and have adequate planning and live simulated evacuation processes.

In Malibu, United States, the city coordinates social preparedness programs for the businesses and the community, providing skills and understanding of disasters to enhance adherence to evacuation warnings, strengthen social cohesion in responding to a disaster, and ensuring an informed community increasing capacity to prevent, prepare, recover and be more resilient by understanding the psychology of the disaster and the operations of emergency services.

The United Nations Sendai Framework for Disaster Risk Reduction 2015 –2030, outlines how enhancing disaster preparedness for effective response is a key priority. Reducing risk, exposure and vulnerability because of a disaster is captured within this priority. It captures the principal that the trauma of a disaster creates vulnerability. Therefore, a people centred approach ensures that those in our communities who already have vulnerabilities, including women, children, youth, persons with disabilities and mental health/illnesses, socio-economically challenged, migrants, indigenous, elderly, regional and remote geographically are included in the consultation and design of polices, plans and emergency management.

To successfully achieve this, a whole-of-society approach is critical in emergency preparedness to enable recovery. This approach therefore requires engagement and collaboration among government agencies at each level, the private and not-for-profit sector as well as community organisations.

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CAUSALITY AND ONTOLOGICAL HIERARCHY IN THOMAS AQUINAS: FROM DIVINE DEPENDENCE TO HUMAN AUTONOMY

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Abstract

This article explores Thomas Aquinas' concept of causality, as well as his rejection of Democritus' materialist view — which proposes a linear and mechanical chain of events. Aquinas' proposal of a hierarchical causality, where all secondary causes depend on the First Cause or God, is also exposed. For Aquinas, causality is not a blind sequence of events, but a dynamic network of ordered interactions. Each being acts within an ontological hierarchy, where there is a first cause that continually sustains the order and existence of the universe. Aquinas distinguishes various degrees of causal autonomy among beings. A stone, with purely passive causality, responds to external forces according to the laws of physics, while an animal, such as a cat, exhibits greater autonomy, guided by its soul that gives it a center of action. The cat's behavior is more unpredictable than that of the stone, since it is determined by its intrinsic nature. At the top of this hierarchy is the human being. Endowed with reason and will, the human being represents the highest expression of causal autonomy among composite beings. Humans do not act solely by instinct, but have the capacity to deliberate on good and evil and shape their lives based on freely chosen values. This freedom is not absolute, since the human, as a secondary cause, also acts under the design of the First Cause and consciously collaborates with the divine purpose. Causality in Thomas Aquinas is therefore more than a natural explanation of events; it is an ontological relationship that unites all beings with the divine order, with God as the First Cause and source of all being and movement. Humans uniquely integrate matter and spirit in the cosmos and possess a rational and moral capacity that distinguishes them from other living beings. This autonomy allows them to consciously participate in the divine plan and transcend material causality, a view that can be enriched by quantum superposition, which suggests that a being's potential (or capacity to be) is actualized by form, analogous to the actualization process that occurs in the universe according to divine order. Finally, Thomistic philosophy differs from pantheism in asserting that the universe, although unified, does not have an intrinsic self-sufficient purpose, since it depends on the creative will of God. There is an ontological distinction between Creator and creation.

Keywords: *Causality, Aquinas, autonomy, finality, superposition.*

1. Hierarchical causality and substantial autonomy

For Thomas Aquinas, causality transcends the linear, mechanical perspective of materialists like Democritus, who argued that atoms move in a blind, deterministic chain of events. Aquinas presents a hierarchical view of causality, where secondary causes are subordinate to a First Cause or God. Plants, animals and, especially, human beings are intrinsic units with their own centers of action, intimately linked to a formal principle that organizes matter toward its natural end. Causality is not just a feature of physical reality, but reflects a broader ontological order that includes a final cause and, therefore, transcends what can be measured.

Although empirical observation provides insights into physical interactions, it is insufficient to understand the deeper principles that govern reality (such as formal and final causes). Causality is rooted in reality itself; cannot be reduced to empirical and quantitative elements without losing the essence that defines real and complex units — those that have quantitative and qualitative dimensions. For Aristotle and Aquinas, qualities are intrinsic properties of substances — do not depend on the subject's perception to exist. These units are not mere products of subjective impositions, as might be suggested by certain idealist

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structures such as those of Immanuel Kant. If Husserl's phenomenology investigates how phenomena present themselves to consciousness, Aquinas claims that reality exists independently of human cognition.

Reality is grounded in the metaphysical act of existence (esse), the foundation that actualizes form and matter by giving them concrete reality; transcends both sense experience and human conceptualization — Aquinas's ontology rejects structures that reduce the intelligibility of being to subjective or a priori structures of thought, and emphasizes the primacy of being as the source of intelligibility. His philosophy recognizes varying degrees of causal autonomy among beings. A rock, for example, exhibits passive causality, which corresponds to interactions governed by physical laws (modern science would describe its behavior as predictable within specific limits). On the other hand, a cat, endowed with a sensitive soul, demonstrates spontaneity and a degree of unpredictability (even if evaluated through advanced probabilistic models).

The human being represents the maximum expression of autonomy. Because he possesses reason and will (intellectual soul), he can choose and act according to objectives that transcend immediate instincts. Freedom, in this context, is not merely circumstantial — as in deterministic material processes -- but is essential; reflects the integration of efficient and final causes by aligning human action with divine order. This autonomy allows human beings to contemplate God, the ultimate end of existence and the source of their freedom. As Norris Clarke states:

> A higher form can incorporate the operations and properties of lower types of forms. Yet, to preserve the unity of nature, it is necessary to integrate them into a single synthetic unity, in a unified structure where the subordinate lower elements lose their complete autonomy of being and operation" (Clarke, 2001: 96).

2. Intrinsic and extrinsic units: The hierarchy of substantiality and autonomy in natural beings. Artifacts

Things are intelligible insofar as they have an intelligible form that our intellect can grasp. Forms manifest themselves in natural clusters, as they reflect the expression of Aristotelian forms. Clusters evidence the inherent order and teleology of nature — forms correspond to the intrinsic principles that define and direct beings. Qualities are related to teleology, essences and metaphysics. They have purpose and intelligibility that guide actions and interactions. The substantial unity, in living beings, reveals the profound interrelationship of form and matter, and reality is ultimately grounded in the metaphysical structure of being. Each entity embodies a union of act and potency, reflecting an ordered cosmos.

The stone, being an intrinsic unit, differs from things like an artifact, which is an extrinsic unit — its purpose is assigned by external agents. Both are dependent on God, but intrinsic units reflect divine action by possessing their own inherent meaning. Within intrinsic units, we also have a hierarchy. A cat has a stronger substantial unity than a stone, as its parts form an organic totality guided by the soul or substantial form. If we "divide" it, he loses its vital essence, something that does not happen with the stone.

This unity reaches its highest level in human being; it integrates body and soul, which orient it through rationality and will. Human autonomy enables one to choose, deliberate, and consciously participate in the divine plan.

2.1. Creativity and intelligence. Thomistic view of authentic creation

Tied to reason (abstraction, judgment and intuition), creativity reflects the capacity to transcend matter; is associated with an intellect understood as an immaterial faculty oriented toward the transcendent. If we think about what is commonly understood today as artificial intelligence (AI), despite being highly advanced, it results from operations limited by algorithms and deterministic or probabilistic processes. AI combines and even configures, in different ways, existing data and patterns, but it is devoid of intentionality or the human-like way of understanding in its creativity; does not grasp essences, nor does it transcend matter, and this is essential in Thomism to create something truly new. AI produces new combinations, and this may be a simulation of creativity, but it is an inauthentic "creativity"; it lacks a true form of understanding that includes the ability to assign a free and final purpose to what it creates. The innovative results are instrumental and limited and never express the depth of the human creative spirit. Intentionality, authentic creativity and freedom are attributes without which, according to a Thomistic view, there is no true creation.

2.2. *Esse*. Divine source

We can say, with Eudaldo Giralt, that «all existing beings — whether inert, vegetative, animal, human, spirits or angels, and God — are, according to Saint Thomas, placed on a scale ordered by the degree of intensity of their perfection or being», and that this «'being,' distinct from the Aristotelian being, is a universal metaphysical principle and, like the others, is not apprehensible by the senses»:

> Unlike the Aristotelians, the intellect cannot form any concept of it [being], because it is truly distinct from essences, from what things are. However, a certain knowledge is possible because, for every person, their own being is revealed in their intellectual consciousness, in an intellectual perception of their existence, whose object is indicated by the word "I." (Giralt: 153)

This notion of being revealed in the "I" through intellectual self-awareness possesses a depth that surpasses the classical phenomenological approach (which is focused on the rigorous description of phenomena). Here, being is not merely an object of intentional analysis, but something that manifests as a fundamental reality in the existential and ontological experience of the subject.[2] Aquinas distinguishes between *being* and essence, with *being* understood as the act of existing, directly revealed in the subject's intellectual experience. On the other hand, its proximity to existential phenomenology emerges from the emphasis on the immediate and lived experience of the "I," where being is not abstract but concretely present.

In short, it`s a vision that transcends mere conceptualization, linking the experience of being to existence itself and the subject's consciousness, enriched by a metaphysical (transcendent) and existential horizon. Being is granted by divine creation; it is not eternal as in Aristotle but is a free and continuous act of God. The act of existence (*esse*) is the absolute metaphysical foundation that enables any being to be, regardless of its essence or categories. Before defining ourselves as humans, we first exist. Existence allows us to be something concrete; without it, essence would remain a mere possibility or idea.[3]

In created beings, *esse* does not exist in isolation — it is always united with essence. The act of existence animates the essence, while the essence determines what this act of existence will be. Unlike created beings, in God, *esse* and essence are identical; God is *ipsum esse subsistens*, the very act of being itself. The *esse* of created beings is a participation in the fullness of existence that only God possesses in its entirety. This relationship underscores the dependence of all contingent beings on God. The *esse* is not self-sufficient, but rooted in the divine source, wich avoids any existentialist interpretation like Jean-Paul Sartre, as it points back to the ultimate ground of all being. Our existence is not an isolated fact but is intimately connected to God's order, signifying that He alone fulfills and perfects us, as the cause and ultimate end of all things.

3. Self-knowledge in Thomas Aquinas and the Cartesian Cogito

For Descartes, the "Cogito, Ergo Sum" is an indubitable intuition of the act of thinking, affirmed by the mind itself. The subject becomes the center of epistemological certainty. In contrast, Aquinas argues that we come to know our existence through experience of the sensible world and the intellect, which abstracts universal forms from these sensible impressions. Thought is not sovereign, as it is merely a tool for knowing the being that exists independently of the intellect. The intellect operates in unity with the sensitive faculties that allow it to know, although not in an absolute way, the essence of things as they exist in reality. Descartes' mind-body dualism places thought as independent of the body, while Thomas Aquinas sees the human being as a unity of body and soul. Self-knowledge is part of a universal order dependent on God as the First Cause and knowledge is a participation in the order of being. It is not isolated or subjective as is the case with Descartes' dualism.

The human spirit is an immaterial substance that is the form of the body; not an incarnate spirit. According to the Aristotelian hylomorphic conception of matter and form, reinforced by Thomas Aquinas,

> Every spirit is an immaterial substance, intelligible to itself, intellectual and volitional. The human spirit, unlike other spirits, is a spiritual substance and at the same time the form or soul of the body, according to the Aristotelian hylomorphic conception of matter and form. Therefore, the human being is not an incarnate spirit. He is a substance composed of spirit and body, united by the being of the first (Giralt, 155).

The Thomist and Cartesian cogitos differ in their sources and foundations of knowledge. For Descartes, the certainty of thought is a subjective intuition; For Thomas Aquinas, self-knowledge is an objective participation in reality, revealed through the intellect's apprehension of the essences of things. Unlike Descartes, who argues that the subject's thought is fundamental to knowledge, Thomas Aquinas argues that knowledge begins with the sensible world and proceeds to intellectual abstraction, in which the essence of things is grasped.

It is important to note a significant feature of Aquinas's account of research that distinguishes him from Aristotle. Although both Thomas Aquinas and Aristotle claim that inquiry aims at the knowledge of essences,

[2] This approach is close to what would later become Heidegger's existential phenomenology.

[3] In God, essence and existence coincide. Being beyond the confines of time, God does not first conceive for things to then exist; rather, everything occurs simultaneously. This implies, too, that by the very fact of our existence, we humans recognize a transcendent essence, manifesting through the metaphysical concepts of composite beings: act and potency, matter and form.

> Thomas Aquinas maintains that we never know essences directly except through their effects. The proper object of human knowledge is not the essence itself, but the quidditas of the particular existing thing, through which we come to understand, as far as possible, the essence of whatever it is (MacIntyre, 1990: 46).

4. Epistemology and perception

Descartes presents a radical doubt about sensible perceptions, considering that they are potentially illusory and even possibly created by an "evil genius". As a result, it places sense perceptions in an inferior epistemological position — fallible and often obstacles to certainty because they lack a direct connection to objective reality.

For Thomas Aquinas, sensitive perception is the starting point of knowledge and allows contact with the particular and material aspects of reality. Through sensitive images, the intellect abstracts forms or essences, in a movement that starts from the particular to a higher level of understanding. Although sense perception is corporeal and material, it serves the rational soul; guides it towards the apprehension of universal forms. When reflecting on sensitive data, the intellect not only judges the existence of things, but also comes to understand human existence and the Creator.

5. Universe as extrinsic unity

The universe is seen by Aquinas as a unity, but an extrinsic unity. Its purpose does not emanate from a self-sufficient internal order. Parts of the universe cannot exist outside of it, but human autonomy transcends some unifying center within the cosmos. The universe, in this sense, is not self-explanatory; does not find its purpose in itself, but depends on the creative will of God as the first and transcendent cause of all being.

The unity of the universe is not substantial; It is an ordered arrangement of distinct substances united by divine action. Unity is desired by God; It is a way for God to manifest his perfection, while at the same time being a reflection of the relationship between the contingency of the world and the need of the Creator. Although it is an extrinsic unity, the universe is still a unity; it is ordered to an ultimate end or Supreme Good. This understanding rejects any pantheistic view, preserves divine transcendence and defends the free will of the creator.

6. Aquinas against materialist Reductionism

Materialist and physicalist philosophies, which reduce reality to tangible or measurable quantities, ignore the substantial distinctions between beings, seen simply as aggregates of matter. The substantial change is reduced to a rearrangement of particles without any intrinsic qualitative transformation. For Thomas Aquinas, substantial change is not a mere rearrangement of parts, but is a qualitative substantial transformation, guided by a substantial form.

There is also a metaphysical shift closely related to qualitative flourishing. Classical mechanics regards time and space as neutral containers in which events occur, separate from their intrinsic relation to change. For Thomas Aquinas, time and space are continuous with change, since “time is the measure of what is before and after, in movement” (Aquinas, *STh*, I, q. 10, a. 2). Here, change involves the realization of a natural end, guided by a final cause and in an understanding that can only diverge from materialism.

In Thomistic philosophy, we can even speak of a "top-down" metaphysical causality, by which the substantial form of, for instance, a seed organizes and unifies the material elements that constitute it. This form subordinates the parts to the whole; endows them with function and purpose. The example of a tree, whose shape organizes its parts, illustrates this principle. It turns out that this teleological order does not imply retrocausality (where future states determine present ones); rather, it reflects an interdependence between the four causes—material, formal, efficient, and final—that together explain the realization of a substance as a whole.

Unlike "bottom-up" emergentist approaches, where the parts determine the whole, Thomistic philosophy asserts that the whole, as substance, governs the parts; integrates them with purpose. The atoms of a seed thus gain meaning as components of a teleologically oriented living substance. As Robert Koons observes, “parts of substances are metaphysically dependent on the whole.”

As regards its application to quantum mechanics (QM), the same principle can be observed. Quantum particles result in the nature and states of the bodies to which they belong, and not the other way around. As Koons argues, “these particles have only a virtual existence until they manifest themselves in interactions between substances” (Koons, 2021: 14). Ignacio Silva, discussing Werner Heisenberg and Thomas Aquinas on natural indeterminism, observes:

> Given the disturbance caused by observation, Heisenberg thinks that the potentiality of the system is actualized [...] This new form was in the potentiality of matter and is brought to the present by the interaction with the measuring device in observation" (Silva, 2013: 652).

These perspectives suggest that QM can accommodate a teleological interpretation without compromising causality with determinism, in a stance consistent with Thomistic philosophy. The Aristotelian "four causes" should be understood as "four whys" that describe the ontological modalities and interdependencies involved in any change. This framework rejects the reduction of reality to mere material mechanisms and reinforces the notion that each substance has intrinsic unity and purpose, organized by its substantial form.

Finally, it is essential to clarify that the Aristotelian concept of "purpose" does not imply the deliberation of inanimate nature, as if it acted as a rational agent. Rather, the realization of "for the sake of" (heneka tou) in nature arises from its intrinsic order and purpose. As Aristotle rightly observes in De Caelo (290a3), "nature leaves nothing to chance."

7. Freedom

Freedom is the ability to deliberate and act according to reason oriented towards the supreme good or God. It does not oppose the divine order because it is an integral part of it. By making free choices, human beings participate in the first cause. Human freedom cannot be absolute. We make conscious decisions subordinate to a divine purpose. Freedom is not the ability to act without cause or end, but to act rationally in accordance with the universal good; it is integrated into divine causality, without diminishing God's sovereignty over the universe. It is not a void that human beings fill alone, but a gift from God, which allows us to choose between good and evil, always within the divine plan. Divine grace cooperates, in this sense, with free will, by helping human beings to orient themselves towards the supreme good. Grace does not nullify freedom, but increases it; it is a help in choosing the greater good. Happiness is not in the freedom to do what one wants, but in the freedom to choose union with the ultimate end. It is not therefore an arbitrary freedom, but one directed towards moral and spiritual perfection.

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HUMAN INTELLECT VS. ARTIFICIAL INTELLIGENCE: A THOMISTIC PERSPECTIVE ON COGNITION, UNITY AND QUANTUM POTENTIALITY

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Abstract

In the Thomist view, human knowledge far surpasses the capacity of any machine. Unlike artificial intelligence (AI) and cameras, that merely capture and process data, the human intellect interprets, organizes, and assigns deep meaning to sensory experiences. Thomas Aquinas emphasizes two essential faculties in this process: the senses, which collect data, and the intellect, which transcends the physical to understand the essence of things. AI follows algorithms, but the human mind is capable of abstract reasoning and discovering metaphysical truths. Thomas Aquinas distinguishes intrinsic and extrinsic unity, in a philosophy that moves away from reductionism (understood as radical materialism). Intrinsic unity — essential to the identity of a being — exists within itself, while extrinsic unity depends on external relations. Thomas Aquinas criticizes Democritus' atomism and emphasizes that the essence of a being cannot be reduced to its material parts. Intrinsic unity is fundamental to the existence and function of a living being (particularly humans), who act as cohesive wholes — form and function are inextricably linked to their essence. Artificial objects do not have an intrinsic unity. Machines can record sensitive data such as colors and shapes, but they cannot discern the meaning and essence of things. True human cognition goes beyond data manipulation; interprets universals, categories and transcendental truths. For Aquinas, human intelligence, as an immaterial faculty, discerns deeper meanings such as beauty and existential meaning; transforms sensitive data into meaningful concepts — a process beyond the reach of machines. Even in its most advanced forms, AI cannot comprehend essences, reflect on universals, or experience self-awareness. AI can simulate intelligence, but it does not have the depth of human cognition, which, for Aquinas, is linked to divine reality. The Thomistic view challenges reductionist views of human intelligence; highlights the uniqueness and complexity of human consciousness. This distinction is relevant in psychology, which seeks to understand cognition, consciousness and being. Psychology benefits from philosophical reflection on human capacities, especially with regard to the role of the intellect and the soul in the perception of reality. In this context, quantum superposition can be interpreted as Aristotelian potentiality. In quantum mechanics (QM), superposition allows particles to exist in multiple states until they are observed. This recalls Aristotle's notion of potentiality as an unrealized capacity. The measurement cancels the superposition, and updates a state of many potentials. This interpretation unites modern physics with classical metaphysics and aligns quantum indeterminacy with Aristotelian principles.

Keywords: *Cognition, intelligence, consciousness, abstraction, metaphysics*.

1. The denial of substantial form and teleology in modern thought: Implications for the concept of intelligence

In modern philosophy, concepts such as substantial form and teleology have been rejected. The universe and human beings have been reduced to mere quantities. By eliminating any qualitative and teleological dimension of reality, this approach takes on an ideological character. In a (radical) materialistic view, there can be no fundamental difference between human intelligence and what we now call AI.

For Aquinas, human intelligence is spiritual. Contrary to the mechanistic view, we can grasp essences and have access to the reality created by God. Human intelligence participates in divine reason in a relative way.

2. Understanding beyond data and machine

Descartes' philosophy reinforces a rigid separation between *res cogitans* and *res extensa*. The mind is considered immaterial, but the separation between mind and body ends up, gradually, subordinating the

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immaterial to matter, which ultimately culminates in materialism. This view struggles to explain the human capacity to act, know, create, reflect and understand the world in a deep, spiritual, intuitive, intentional and subjective way. It is difficult to think of a machine/artifact that truly grasps the nuances or the depth and richness of a reality that, in the Thomist view, transcends both materiality and quantity.

2.1. Overcoming Reductionism: The soul as the formal principle of human unity

According to the Aristotelian-Thomistic view, the soul is not a substance separate from the body, but as the formal principle that unifies and gives purpose to the human being, and this also provides a better understanding of human agency itself.

3. Essence and existence. Intelligibility of modern physics

Essence and existence are inseparable. Writing this text is an expression of a divine essence realized in existence, in a dynamic that offers a compelling explanation of a world imbued with purpose and meaning. This perspective can provide intelligibility to some discoveries of modern physics, which, due to its lack of a metaphysical vision, struggles to address the philosophical problems they raise.

4. Discovery, not invention

G. K. Chesterton criticizes Descartes's world (made exclusively of formal and mathematical abstraction). He writes:

> The intellect is not purely creative in the sense of painting pictures on windows and then confusing them with the external landscape. Instead, it is active, and its activity consists in following, as far as the will desires, the external light that truly falls upon real landscapes. This is what gives an indefinitely vigorous and even adventurous quality to this way of viewing life, compared to the view that material influences impose themselves on an entirely inert mind, or that psychological activity creates and projects a fantastic world without foundation (Chesterton, 1958, pp. 248–49).

Mathematics is an instrument that reflects the rational order, but is not reality itself; reveals aspects of the underlying order without exhausting its full depth. In Cartesian dualism, the mind (separated from matter) is capable of imposing order on material reality through rational and abstract control; but is it true that human action transcends the natural order or alters essences? As determined by substantial form, essence is independent of human action. We cannot properly claim that we invent mathematical truths. We discover them, as they reflect a preexisting order in nature.

5. From the tree to "tree-ness"

John Searle wrote in 2004:

> The robot does not have intentional states at all; it simply moves as a result of its wiring and its program. Moreover, in instantiating the program, I do not have intentional states of the relevant kind. All I do is follow formal instructions on how to manipulate formal symbols (Searle, 2004, p. 243).

> In artifacts, we extend our own intentionality; our tools are extensions of our purposes, and for this reason, we naturally make metaphorical attributions of intentionality to them (Searle, 2004).

AI systems process data and identify patterns. It is algorithmically "learning", but this does not equate to understanding, intentionality, or genuine freedom. An AI that recognizes a tree in a dataset differs from a human recognizing the tree as part of a larger, meaningful, profound reality (the scientific revolution of the 17th century attempted to quantify without full success). Human knowledge transcends computational processes and embraces metaphysical richness. While algorithms operate in a mechanical and cold way, human knowledge is more than that: it means participating in deeper instances. This is why we can recognize universal moral principles, such as justice and kindness, that go beyond mere data processing and are rooted in a higher metaphysical understanding.

6. A Non-Reductionist view

Physics tends to reduce reality to the domain of quantity. Edward Feser writes that "the absence of a feature in the mathematical description of nature is not evidence of the absence of that feature in nature itself" (Feser, 2018: 36). We must differentiate between mathematics and nature — one cannot be reduced to the other. Wigner questioned "the irrational effectiveness of mathematics in the natural sciences" (Wigner, 1960) — as one reflects another, but this does not require us to mistake an instrument for reality; or necessity, contingency and teleology. Substantial form "is a physical principle of every material substance that makes the substance the kind of thing it is, by actualizing or determining the potentiality of

being a particular substance" (Dodds, 2012, p. 21). If science can measure phenomena without presupposing the existence of metaphysical essences, without this concept, skepticism finds it easier to impose itself. The same happens with the concept of metaphysical time related to real change, without which any conceptualization of time becomes more challenging.

Radical materialism, from Democritus to modern reductionism, ignores quality and reduces reality to the measurable. This leaves Immanuel Kant to recognize that we need the Metaphysical Idea of the World (also "God" and "soul") but Kant placed it only as a postulate, while at the same time emphasizing the transcendental subject and the intersubjective conditions of knowledge, such as space and time, as *a priori* forms, which compromise the human capacity to grasp reality. For Aquinas, time cannot exist without change — "it is the measure of what is before and after in motion" (Aquinas, STh, I, q. 10, a. 2) — and reality cannot be reduced to a "static" thing or *noumenon*— the universe is a dynamic interaction of contingent substances with potentiality and actuality, matter and form: intrinsic purposes.

7. The intellect as an immaterial principle

It is true that the intellect needs the senses in order for there to be knowledge, but in Aquinas' view, the intellect goes beyond this dependence, as it is the immaterial soul that includes the intellect, by allowing the knowledge of universal essences.

The well-known "Hard Problem of Consciousness", initially formulated by David Chalmers, emphasizes that the correlations that exist between sense data and neuronal activity, expressed quantitatively, do not theoretically exhaust the qualitative subjectivity experienced.

8. Thomas Aquinas vs. Locke and Descartes

Locke and Descartes reject the objectivity of secondary qualities, arguing that they exist only as qualities perceived by the mind. Aquinas sees them as having a place within an objective reality that does not arise by accident, and the act of perceiving is not simply an individual and subjective matter. As Wolfgang Smith notes, "if there is a competent observer who looks at a red body illuminated by white light, it is red — without exception!" (Smith, 2011: 36). Color, like essence, reflects an objective reality accessible to the human intellect.

We are part of a human essence that defines us. Essence does not belong to the measurable domain, but that does not mean it does not exist. The ultimate metaphysical foundation of reality is *Esse* (existence), which is not reducible to what is sensible to the human body — to what is perceived — but rather to what ontologically sustains what is perceived. *Esse* is more fundamental than the essence, as it updates the essence.

9. Quantum Mechanics and the Philosophy of Thomas Aquinas

Heisenberg has the following critical insight: "good science is being discarded because of bad philosophy" (Heisenberg, 1976: 5). He saw, in the probabilities that result from QM and the Schrödinger equation, an opportunity to discard what he considers to be bad philosophy, that of Descartes — who thinks of the material world as consisting of merely physical and mechanical entities — and revitalize Aristotle's thought. In fact, Heisenberg finds, in the probabilities of QM, echoes of the metaphysical concepts of potency and act:

> Perhaps it could be called a tendency or objective possibility, a potentia in the sense of Aristotelian philosophy. In fact, I believe that the language actually used by physicists when they speak of atomic events produces in their minds notions similar to the concept of power. [...] Language has already adjusted itself, at least to some extent, to this true situation (Heisenberg, 1958: 180).

He adds emphatically: "every interpretation of quantum phenomena that differs from mine seeks to 'return to the concept of reality in classical physics or, to use a more philosophical term, to the ontology of materialism'" (Heisenberg, 1958: 129). Not only is there a rejection of materialism, but also the realist assumption that, as Chesterton had already described, reality is never just what it already is, but also what it could become (Cf. Chesterton, 1958: 226).

An AT interpretation of QM cannot be idealist; it cannot place consciousness as a determinant in what is called the collapse of the wave function. Contrary to what Wigner suggested — in the well-known phrase that it is not possible "to formulate the laws of QM in a fully consistent form without reference to consciousness" (Wigner, 1967: 169), — a Thomistic interpretation cannot endorse this creative view. It is true that quantum phenomena are shaped by the methods we use to apprehend them, but this does not imply that reality itself is dependent on the human mind. Reality is objective, rooted in first causes and substantial forms.

If Heisenberg's engagement with wave-particle duality (and with results contingent on measurement methods) led him to recognize parallels with Kant (we do not access reality independently of our way of perceiving it), he also revitalized Aristotle, with a suggestion that we are talking about an ontological reality and not just epistemological. He did not commit himself to a teleology in a strong sense, but we can say that QM gives us clues to an ontology of potency and act. Heisenberg recognized the need for QM to adopt a new perspective to think about existence; he saw reality as a complex set of relationships and possibilities, where concepts such as potentiality and actualization play a crucial role in explaining nature.

9.1. Quantum actualization and the role of the measuring instrument: A Thomistic interpretation of potentiality and teleology

A metaphysical view in which the measuring instrument, as an extension of human intelligence, plays an essential role in quantum actualization, is more in line with a Thomistic philosophical view, especially because "the essences closer to matter would be those with less actuality and, therefore, greater potential" (Silva, 2013). A quark is more open to becoming something — it has more potential — than a measuring instrument, which has a more actualized reality.

These powers are more associated with teleology than with a collapse of the wave function that results from a random process. "There is an order of probabilities that defines the system as a physical reality" (Silva, 2013: 638). Spontaneity is "ontologically sterile," of little use for understanding the actualization of quantum potentialities (Kožnjak, 2020: 460). On the one hand, we keep talking about updating of quantum states, then we use the concept that is little associated with it: that of accidental cause.

For Kožnjak, the final cause, mediated by the formal cause, offers a richer — or less sterile — structure by allowing a relational understanding of quantum phenomena. The final act is seen as the full realization of potency, which can be understood as "guided" by the internal structure of the system itself, whose realization depends on this structure and contact with the measuring instrument. This quantum formalism "remains open to experience, through which it cannot deny the existence of a certain causal indeterminism which, as Heisenberg declared, is not reducible to the epistemological order, but is rooted in the ontological order of things, given mainly by the potential of matter" (Silva, 2013: 652).

The probabilistic structure of QM suggests a type of specific open. This interpretation allows quantum indeterminacy to be integrated into a philosophical vision in which causality is neither mechanical nor deterministic limitation, but rather an ordered actualization of potentialities according to broader metaphysical principles.

10. The relationship between per se causes, accidental causes and the collapse of the wave function: A Thomistic perspective

For Aristotle and Aquinas, an effect *per se* requires a cause with unity and formal determination, while an effect by accident results from a coincidence of independent causes, but without an order of intrinsic causes. When several independent causes act simultaneously, an accidental meeting of these causes may occur. A river with a strong current may knock down a nearby tree (natural cause) at the moment someone is passing by and is hit by the falling tree (another independent cause). The encounter between the fallen tree and the passerby is accidental, as there is no direct relationship between the two causes that explains the event by itself, it happens because chance, without a formal unity that links the causes in a logical or necessary chain. The event is contingent because the various independent causes are not coordinated or organized to produce this effect. Wave function collapse in QM cannot be merely accidental. The Schrödinger equation, which describes the deterministic evolution of wave function, implies a formal order and a set of structured conditions that govern the system.

Even though the deep mechanisms of this relationship are not yet fully understood by QM, my argument suggests that the collapse cannot occur by chance, since the Schrödinger equation already contains some degree of formalism. "The new form was in the potentiality of matter and is brought to actuality through interaction with the measuring instrument during the act of observation" (Silva, 2013: 652–53). Thus, the cause of the collapse appears to lie in an orderly interaction rather than mere chance. Neither the collapse nor what precedes it nor the concrete manifestation of the particle has to be necessarily accidental, but rather it can be interpreted as part of a teleological process (cf. Kožnjak, 2020). "Becoming is for the end, and actuality is the end, and it is for this reason that potentiality is acquired" (Arist. Met. 1050a7–10). AT philosophy integrates the notion of determinism based on form and reality, while recognizing the inherent potentiality of matter as the basis for contingent and open causality. By revealing the indeterminacy of reality at fundamental levels, QM offers fertile ground for dialogue with Thomistic metaphysics. Both address profound questions about what it means to exist, to be fulfilled, and to be fully realized. Although this dialogue requires caution, nothing currently limits this Thomistic approach. Schrödinger's equation not only describes the probabilities of a system, but a deeper reality where

potentiality is a fundamental principle, and reality results from something structured -- a dimension non-deterministic or mechanistic.

The notion of observer should not be understood as something solely linked to human consciousness. The collapse of the wave function occurs through the act of the measuring instrument, which acts as an extension of human intelligence. The instrument serves as a mediator between potency and act, analogous to the role of the agent in actualizing raw material in Aristotelian philosophy. The instrument is not the efficient cause in the traditional sense of generating or controlling the change, but is the means through which the potentiality of the particle is actualized, becoming manifest. Thus, the actuality of the instrument awakens the actuality of the potential matter, without falling into the implications of radical idealism, preserving the distinction between the real and the merely mental.

11. Quantum mechanics and teleology? Revisiting potency and act in light of contemporary science

QM is a field that suggests the presence of qualitative and not just quantitative potentialities, which is to say: intimately connected with forms and essences that refer to a world with teleology.

Only human beings are capable of understanding this qualitative and teleological (mataphysical) dimension. No machine, however sophisticated, can achieve this understanding, since its structure remains entirely confined to the domain of quantity and efficient causality. Far from confirming the mechanistic view of reality, contemporary science itself can provide evidence that human intelligence transcends any attempt to equate it with AI.

12. Mathematics and metaphysics in Aquinas: A reflection on Schrödinger's equation

Schrödinger's equation reflects not only mathematical relations but a formalism that reaches its full actuality through a teleological transition from potentiality to act. The teleology does not just describe a probability of states, but can be thought of as oriented towards carrying out a concrete act of measurement, in a similar way to form that directs matter towards an end.

The formalism of the equation already implies a destiny or a potentiality that is realized. Ultimate causality can never be reduced to purely mathematical or quantitative explanation. A metaphysical principle or first efficient cause, is what guides and accomplishes what mathematics describes in terms of possibility. The wave-particle duality brings a complexity that can be interpreted in ways that are not limited to the purely mathematical or probabilistic domain. By introducing probabilities in place of certainties, QM opens up an interesting space to reflect on the relationship between efficient causality, teleology and metaphysical action. At the fundamental level of reality, particles can behave in indeterminate ways, depending on the conditions of observation. This behavior cannot be fully described by deterministic and precise logic, which leads to a probabilistic interpretation of reality. This can be seen as a limitation of the purely materialist and mathematical explanation. Reality is composed not only of efficient causes but also of final causes. Indeterminacy is a space where divine action acts, orienting the phenomenon, guiding probabilities in a way that is beyond purely physical or mathematical explanation.

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MULTIDIMENSIONAL SCALE OF SUBJECTIVE WELL-BEING FOR EMPLOYED PERSONS: THEORETICAL MODEL AND STAGES OF DEVELOPMENT

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Abstract

The lack of theoretical models and comprehensive scientific tools to study employees' subjective well-being (SWB) has attracted much scientific attention. Therefore, there is a need for a multidimensional approach capable of measuring SWB at different levels in a reliable and standardized manner. This study aims to develop a theoretically valid and psychometrically tested Multidimensional Scale of Subjective Well-being for Employed Persons (MSWEP).
Methods: The MSWEP was developed based on the conceptual model frameworks of the Organization for Economic Co-operation and Development (OECD), the World Health Organization (WHO), and the Job Demands-Resources (JD-R) for well-being research. 4 organizations agreed to participate in the study: administration and services, healthcare, pharmaceutical, and energy sectors. 200 online surveys were sent to personalized emails provided by the organizations. Principal component analysis (PCA) with Varimax rotation was used to determine the factor structure. The Kaiser-Meyer-Olkin (KMO) indicator was used to determine the sample size. Bartlett's test of sphericity assessed the correlation between variables. To test the psychometric properties of the scale, internal consistency scores (Cronbach's alpha and MacDonald's omega coefficient), difficulty, and discrimination index were calculated.
Results: The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO = 0.908). Bartlett's test showed a strong and statistically significant correlation ($x^2 = 19479.18$, $p < 0.001$). The weight factor on the respective scale was $\geq |0.40|$. The eigenvalue threshold for including items in the model was >1. After the PCA with 48 items, three items that did not fit into any factor structure were excluded from MSWEP. The final MSWEP consists of 45 items, grouped based on PCA results into 10 MSWEP determinants: subjective well-being, inclusion, social support, psychosocial risk, work intensity, psychosomatics, career development, health risks, financial security, and autonomy. The total variance explained by all factors is 62.39%. Cronbach's alpha indicated high internal consistency in 7 scales (0.797–0.925) and insufficient internal consistency in 3 scales (0.624–0.691). The difficulty index showed high values on three scales (5.05–5.69) and low values on one scale (1.57–1.74). The discrimination index scores comply with accepted scientific norms.
Conclusions: This research led to the development of the MSWEP, a reliable and valid instrument for assessing the subjective well-being of employees. The final version consists of 45 items grouped into ten theoretically based factors, providing a comprehensive assessment of occupational well-being. However, insufficient internal consistency was found for some scales, such as psychosocial risk (0.691), psychosomatic (0.671), and financial security (0.624). At the same time, high difficulty index values were found for social support and job insecurity (5.40-5.69), while lower values were observed for psychosomatic health (1.57-1.74). These shortcomings point to the need to refine or delete individual items to improve the accuracy and internal consistency of the instrument. Further studies with larger samples are needed to fully validate the suitability of the MSWEP for different domains and cultures.

Keywords: *Subjective well-being, employed person, questionnaire, scale development, item analysis.*

1. Introduction

The progress of nations, societies, and organizations is closely tied to improving individual well-being, which extends beyond economic indicators like gross domestic product (GDP). While GDP has traditionally been regarded as a key indicator of societal well-being, researchers have highlighted its

limitations and suggested the use of additional tools for a more accurate assessment of growth and welfare (Stiglitz et al., 2009).

In today's business environment, employee well-being is becoming a critical factor in ensuring organizational performance and growth (Mishra & Venkatesan, 2023). Studies indicate that a decline in well-being, particularly in the healthcare sector, leads to burnout, job turnover, dissatisfaction, and reduced productivity (Lee & Cha, 2021). Conversely, organizations that prioritize well-being often achieve higher employee satisfaction, better performance, and reduced sick leave (Monteiro & Joseph, 2023). These trends highlight the need for a multidimensional approach to assessing employee well-being, moving beyond traditional indicators like GDP or happiness metrics (Ruggeri et al., 2020). Existing tools often focus on narrow factors, overlooking the complexity of modern work environments.

The aim of this study is to develop the multidimensional scale of subjective well-being for employed persons**:** a theoretically grounded tool, and to evaluate its psychometric properties.

2. MSWEP development stages

2.1. Literature review

A review of the scientific literature on well-being at work, its determinants, conceptual models, and existing research instruments was conducted as part of this study.

2.2. Data analysis

The information obtained from the scoping review was analyzed to identify the conceptual models under which well-being at work is studied. The scientific community's lack of research tools often leads to a focus on the study of specific well-being factors.

2.3. Identifying research needs and problems

The scoping review of SBW research we conducted confirmed that many previous studies have focused on specific aspects of well-being at work, such as job satisfaction (Dreer, 2024), work engagement and the negative impact of the work environment (Felstead et al., 2013). However, several scholars have demonstrated the multidimensionality of the concept of well-being (Iglesias et al., 2017; Prilleltensky et al., 2015). Given the increasing understanding of well-being as a multidimensional phenomenon that includes mental health, job satisfaction, social relationships, and work-life balance, there is a growing need for more accurate and comprehensive measurement tools to capture the multidimensionality of well-being (Choi et al., 2022; Ruggeri et al., 2020).

2.4. Conceptualization and operationalization of research variables

Based on the OECD, WHO, and JD-R conceptual models, the research findings allowed the translation of theoretical concepts into observable and measurable variables. The conceptualization phase identified and refined the theoretical concepts of the study, such as subjective well-being, inclusion, social support, psychosocial risk, work intensity, psychosomatics, career development, health risks, financial security, and autonomy. This phase involved the development of detailed questions and indicators for each concept to ensure their empirical measurement.

2.5. Survey project design

A detailed development plan for the MSWEP was drawn up, defining the following aspects: the purpose of the survey, objectives, research questions, research sample, sample size, and data collection method.

2.6. Formulation and development of the MSWEP questions

Questions were carefully worded to ensure clarity and precision, avoiding ambiguous or unclear wording. A Likert scale was used to ensure a wide range of responses reflecting respondents' experiences and opinions. A question-word checklist was used to develop the questions (Fowler Jr & Cosenza, 2009).

3. Methods

3.1. Participants

The sample of respondents was selected using convenience sampling and the questionnaire was distributed to 200 participants. Participants represented a variety of genders, ages, occupations, and industries, including administration, healthcare, pharmaceuticals, and energy.

3.2. Measures

Employees' subjective well-being was measured using the researcher-developed MSWEP, which is based on 10 factors: subjective well-being, inclusion, social support, psychosocial risks, intensity, psychosomatics, career development, health risks, financial security, and autonomy.

Demographic questions included gender, age, work experience, and industry.

3.3. Procedure

The study was approved by the Ethics Committee of Riga Stradiņš University (No. 2-PEK-4/495/2024). Prior to participation, each respondent received an informed consent form explaining the purpose of the study, guarantees of anonymity and confidentiality, and the voluntary nature of participation. The questionnaire was distributed electronically and in paper format to ensure wider accessibility. Reminder emails were sent every four days.

3.4. Data analysis

Principal component analysis using Kaiser's criterion (eigenvalue > 1) and varimax rotation was used to determine the factor structure. Variables with factor loadings >0.4 were considered significant. Cronbach's alpha and McDonald's omega analyses were used to assess the internal consistency of the MSWEP. Means and discrimination indices were calculated to assess adherence to psychometric norms.

4. Results

4.1. Characteristics of respondents

The participants were 187 workers (29.9%), 130 women (69.5%) and 1 participant (0.5%) who identified as other. Participants ranged in age from 23 to 68 years (M = 46.91, SD = 11.83) and in work experience from less than one year to 47 years (M = 13.79, SD = 11.71). Participants came from the pharmaceutical sector (23.0%), the energy sector (24.6%), healthcare (20.9%) and administration/support services (31.6%).

4.2. MSWEP factor analysis

Previous studies have shown that a sample size of at least 150 respondents is required to obtain accurate results from exploratory factor analysis (EFA) (Hinkin, 1995). The criterion for item selection was a coefficient loading ≥ |0.40|. The results showed that the sample size used for factor analysis (N=187) was adequate (KMO 0.908). Bartlett's tests pointed out to strong and statistically significant (x^2 = 19,479.18, $p < 0.001$). EFA revealed a 10-factor model structure: F1 – subjective well-being, F2 – inclusion, F3 – social support, F4 – psychosocial risk, F5 – intensity, F6 – psychosomatics, F7 – career development, F8 – health risks, F9. - financial security and F10 - autonomy. Factor loadings ranged from 0.437 to 0.870. All factors together explained 62.39% of the total variance. The eigenvalue threshold for retaining items in the model was >1 (Hair et al., 2013). These results confirm that the model effectively captures the main factors influencing well-being and provides a comprehensive and reliable framework for further analysis.

4.3. MSWEP reliability analysis

4.3.1. Difficulty index. The difficulty index measures the appropriateness of responses to Likert scale items, with accepted norms for a 6-point scale ranging from 2 to 5 (Kline, 2013). Difficulty index results indicate that subjective well-being, inclusion, professional growth, health risks, intensity, financial security, and autonomy were within the normative range. Elevated difficulty index scores were observed for Social Support (4.61-5.20), particularly for items related to trust in direct supervisors (5.17), matching skills to job responsibilities (5.20), and work that makes a positive contribution (5.05). Similarly, high scores were found on the Psychosocial Risk scale. In contrast, the Psychosomatics scale had lower difficulty index values (1.57-4.42), especially for items related to physical (1.57) and mental health (1.74).

4.3.2. Discrimination index. The discrimination indices for all scales fell within the scientifically accepted psychometric norms, ranging from 0.41 to 0.79. Overall, the survey questions demonstrate high accuracy and suitability for assessing various dimensions of well-being.

4.3.3. Internal consistency of the items. The reliability and internal consistency of the scale were assessed using Cronbach's alpha and McDonald's omega coefficients. As some of the MSWEP scales

contained only two items, McDonald's omega was also used for a more objective reliability assessment, as it is more appropriate for smaller scales (Kline, 2013). Cronbach's Alpha: high reliability for scales such as Subjective Well-Being (0.925), Inclusion (0.873), Social Support (0.813), Intensity (0.809), Health Risks (0.801) and Autonomy (0.800). Moderate reliability was observed for Professional Development (0.797). Lower scores were found for Psychosocial Risk (0.691), Psychosomatic (0.671), and Financial Security (0.624). McDonald's Omega: high reliability for the Subjective Well-Being (0.924), Inclusion (0.873) and Professional Development (0.800) scales. Acceptable reliability for the Social Support (0.774), Intensity (0.794) and Psychosomatics (0.705) scales. Lower values for the Psychosocial Risk scale (0.658), indicating a need to review or adjust the items. Omega coefficients could not be calculated for Health Risks, Financial Security, and Autonomy as these categories contained fewer than three items.

5. Discussion

This study developed and psychometrically validated MSWEP, which demonstrated high overall internal consistency. Dimensions such as Subjective Well-being (Cronbach's alpha = 0.925) and Inclusion (Cronbach's alpha = 0.873) showed strong reliability, further supported by McDonald's omega values (0.924 and 0.873, respectively). These findings align with previous research, such as (Magare et al., 2022) and (Linton et al., 2016), which reported similar reliability in assessing well-being and workplace support. However, lower Cronbach's alpha values were observed in the following scales: Psychosocial Risk (0.691), Psychosomatics (0.671), and Financial Security (0.624). These values highlight differences in respondents' experiences with workplace stressors, as noted by (Nielsen et al., 2015). McDonald's omega values for these dimensions also indicated lower reliability, suggesting a need to review the structure of these items. The lower scores for Financial Security likely stem from its subjective nature and influence by external factors.

Overall, the MSWEP has proven to be a reliable tool for assessing professional well-being, particularly in dimensions like Subjective Well-being and Inclusion. To enhance the instrument's precision, improvements are needed in the measures of Psychosocial Risk, Psychosomatics, and Financial Security.

6. Conclusion

MSWEP is a reliable and valid tool for assessing factors influencing employees' subjective well-being, comprising 45 items across 10 theoretically grounded factors. Despite careful development, some scales showed lower Cronbach's alpha values, such as Psychosocial Risk (0.691), Psychosomatics (0.671), and Financial Security (0.624), indicating the need for refinement. High difficulty index values were observed in Social Support and items related to trust in supervisors (5.17), skill alignment (5.20), and work contribution (5.05), while Psychosomatics exhibited low values for physical (1.57) and mental health (1.74). These scales and items require review or exclusion. Further validation with larger samples is needed to confirm MSWEP's suitability across industries and cultures.

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SELF-COMPASSION AND HEALTH-RELATED OUTCOMES: THE MEDIATING ROLE OF PERCEIVED STRESS

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Abstract

A growing body of research has suggested that self-compassion is associated with better mental health. Recently, it has been demonstrated to also be associated with health-related outcomes. The aim of the current study was to test the mediating role of perceived stress in the relationship between self-compassion and physical health. A total of 489 participants (49%; male, 51% female; M age=40.48, SD=11.95) completed an online composite questionnaire that included: Demographic information, self-compassion, perceived stress, physical symptoms, and self-rated health scales. The results showed that perceived stress fully mediated the relationship between self-compassion and physical symptoms. Furthermore, perceived stress partially mediated the relationship between self-compassion and self-rated health. The results further elaborate previous findings with regard to the predictive role of self-compassion on health-related outcomes via perceived stress. Given the predictive role of physical symptoms and self-rated health on future health outcomes and mortality, the current findings have important implications for establishing intervention as well as prevention programs.

Keywords: *Self-compassion, perceived stress, self-rated health, physical symptoms.*

1. Introduction

A growing body of research has suggested that self-compassion is associated with various indicators of positive psychological functioning and mental health (MacBeth & Gumley, 2012; Zessin et al., 2015) and, more recently, that self-compassion may predict physical health outcomes (Phillips & Hine, 2021). In contrast to the accumulating evidence regarding the key mediators in mental health psychosocial well-being, evidence regarding the potential mediators in physical health is limited. The current study looks to investigate the mediating role of percieved stress in the relationship between self-compassion and health-related outcomes.

Subjective measures of health-related oucomes have focused on two aspects of physical health: self-rated health (SRH) and physical symptoms. Studies examining SRH is an overall perception of ones' own health status (Jylhä, 2009). It is an active cognitive appraisal which combines subjective and objective aspects of health into the conceptual framework of the individual (Tissue, 1972).

Another aspect of physical health is physical symptoms. Physical symptoms refer to bodily sensations and the perception of physical distress in a specific area of the body (Jylhä, 2009). Both SRH and physical symptoms were associated with objective physical health status (Jylhä, 2009).

Self-compassion is defined as a positive self-attitude and refers to being open and tolerant toward oneself when experiencing suffering or pain. Neff (2023) placed self-compassion on a bipolar continuum ranging from compassionate self-responding to uncompassionate self-responding or self-coldness. She proposed three interacting elements of self-compassion: self-kindness (vs. self-judgment; SK-SJ), a sense of common humanity (vs. isolation; CH-I), and mindfulness (vs. overidentification with one's suffering; (M-OI). The positive association between self-compassion and psychosocial well-being has been well documented (Neff, 2023).

A growing body of research has indicated that self-compassion can have a positive influence on health-related outcomes. For example, self-compassion has been associated with good sleep quality (e.g., Rakhimov et al., 2023), with fewer physical symptoms (e.g., Dunne et al., 2018), with health-promoting behaviors (e.g., Li et al., 2020), and with medical adherence (e.g., Sirois & Hirsch, 2019). In general, research examining the association between self-compassion and physical health has focused on two facets of physical health: physical symptoms and SRH (Neff, 2023).

Recent studies have aimed to detect the mechanisms behind the association between self-compassion and physical health outcomes (e.g., Finlay-Jones et al., 2015; Sirois et al., 2019). Cha and colleagues' (2022) meta-analysis assessed different types of mediators and found consistent indirect effects of negative affect and perceived stress on the link between self-compassion and physical health. This association has been demonstrated in studies based on self-report measures (e.g., Finlay-Jones et al., 2015; Sirois, 2014, 2015b) and in intervention studies designed to increase self-compassion in order to decrease stress (e.g., Neff & Germer, 2013).

It has been well documented that stress is profoundly associated with health outcomes in both the short-term and long-term. Stress impacts multiple biological systems which interact with each other to generate an adaptive response to environmental challenges. These biological systems include the hypothalamus-pituitary-adrenal (HPA) axis regulation and cortisol dynamics, the autonomic nervous system (ANS), gene expression, and immunity (O'Connor et al., 2021). These biological processes are suggested as precursors to the development of various chronic diseases (McEwen, 2007).

The relationship between self-compassion, perceived stress, and physical health outcomes has been examined in several studies (e.g., Hu et al., 2018; Rakhimov et al., 2023). For example, Hall and colleagues (2013) found that the three subscales of self-compassion (SK-SJ, CH-I, M-OI) were associated with perceived stress while physical health (as measured by self-report symptoms) was associated with two out of the three subscales (SK-SJ, M-OI). Homan and Sirois (2017) found perceived stress to serve as a mediator of the relationship between self-compassion and physical health (as measured by self-reported physical symptoms, physical functioning, and general health). Higher levels of self-compassion contributed to lower levels of perceived stress which lead to better physical health. The current study examined the mediating role of percieved stress in the relationship between self-comapssion and the two distinctive aspects of physical health.

The current study explored the predictive role of psychological antescendent on health-related outcomes, using the two distinct constructs of SRH and physical symptoms. Given the important predictive role of SRH and physical symptoms on actual physical health, there is a need to deepen our understanding of the antecedents predicting health-related outcomes. Our main hypotheses are as follows:

H1: Self-compassion will have a significant indirect effect on SRH through reduced perceived stress;

H2: Self-compassion will have a significant indirect effect on physical symptoms through reduced perceived stress.

2. Design

2.1. Participants

Participants included 489 Israeli adults recruited online: 49%; male, 51% female; M age=40.48, SD=11.95). To be included, participants had to be 20–60 years old and speak the language in which the survey was administered (Hebrew or Arabic). No exclusion criteria were applied.

2.2. Procedure

The authors collected the data via a cross-sectional survey. Qualtrics (https://www.qualtrics.com) was used to create an anonymous questionnaire which was distributed online by iPanel (https://www.ipanel.co.il), a large Israeli panel service. The complete study protocol was approved by the College Institutional Review Board. Questionnaire completion was voluntary, and respondents were told they could stop their participation at any point.

2.3. Measures

2.3.1. Demographics. The demographic questionnaire included items on culture (Jew or Arab), parenthood, gender, age, residence, religion, and education**.**

2.3.2. Self-compassion. Self-compassion was assessed using the Self-Compassion Scale–Short Form (SCS–SF) (Raes et al., 2011). This 12-item questionnaire is comprised of six two-item subscales: self-kindness (e.g., “I try to be understanding and patient towards those aspects of my personality I don’t like”), common humanity (e.g., “I try to see my failings as part of the human condition”), mindfulness (e.g. “When something painful happens I try to take a balanced view of the situation”), self-judgment (e.g., “I’m intolerant and impatient towards those aspects of my personality I don’t like”), isolation (e.g., “ When I’m feeling down, I tend to feel like most other people are probably happier than I am”) and overidentification (e.g., “When I’m feeling down, I tend to obsess and fixate on everything”). Responses are ranked along a 5-point scale ranging from 1 (almost never) to 5 (almost always). To compute a

composite score, the negative items were reversed scored and the sum across all items was computed. Higher scores indicate greater self-compassion. Internal reliability (Cronbach's alpha) in the current study was 0.78. For the current study, the scale was translated, in two parallel processes, from English to Hebrew and back and from Hebrew to Arabic and back, by two professionals fluent in all three languages (Cha et al., 2007).

2.3.3. Perceived stress. Perceived stress was measured by the Perceived Stress Scale (PSS) (Cohen et al., 1983). This 14-item questionnaire measures the level to which situations that have occurred in the past month are appraised as stressful. Responses are ranked along a 5-point scale ranging from 1 (never) to 5 (very often). To compute a composite score, the negative items were reversed scored and the mean was computed. Higher scores indicate greater perceived stress. The PSS has demonstrated satisfactory reliability and validity (Cohen & Williamson, 1988). Internal reliability (Cronbach's alpha) in the current study was 0.85.

2.3.4. Physical symptoms. We used the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS) (Cohen & Hoberman, 1983) to assess physical symptoms. A list of 33 commonly experienced physical symptoms were rated on their presence over the previous two weeks on a 5- point scale ranging from 0 (not at all bothered) to 4 (extremely bothered). The final score was calculated as the average of the 32 item ratings. The CHIPS has demonstrated satisfying reliability and validity (Cohen & Hoberman, 1983). Internal reliability (Cronbach's alpha) in the current study was 0.95.

2.3.5. Self-rated health. SRH was measured by a single item question evaluating one's health status on 5-point scale ranging from 1 (poor) to 5 (excellent). Lower scores therefore represent poor SRH.

3. Results

In Hypothesis 1 we expected that perceived stress would mediate the relationship between self-compassion and SRH. To examine this hypothesis, we followed the four-step procedure to set up mediation effect (Baron & Kenny, 1986). Regression analysis revealed that in the first step self-compassion positively predicted SRH (see Model 1 of Table 1). In the second step, self-compassion negatively predicted perceived stress (see Model 2 of Table 1). In the third step, after controlled for self-compassion, perceived stress negatively predicted SRH (see Model 3 of Table 1). At last, after controlled for perceived stress, self-compassion positively predicted SRH. On the whole, partial mediation effect was found, thus supporting hypothesis 1.

Table 1. Testing the mediation effects of self-compassion on SRH.

Predictors	**Model 1**		**Model 2**		**Model 3**	
	β	***t***	***β***	***t***	***β***	***t***
Self-compassion	4.28	9.73***	-.73	-19.04***	1.91	3.42**
Perceived stress					-3.25	-6.48***
R^2	.17		.43		.23	
F	48.01***		185.44***		48.70***	

**$p < .01$, ***$p < .001$

Table 2. Testing the mediation effects of self-compassion on physical symptoms.

Predictors	**Model 1**		**Model 2**		**Model 3**	
	β	***t***	***β***	***t***	***β***	***t***
Self-compassion	-.69	-8.70***	-.73	-19.04***	-.18	-1.85
Perceived stress					.70	7.85***
R^2	.14		.43		.23	
F	38.15***		185.44***		49.13***	

***$p < .001$

In Hypothesis 2 we expected that perceived stress would mediate the relationship between self-compassion and physical symptoms. To examine this hypothesis, we followed the four-step procedure to set up mediation effect (Baron & Kenny, 1986). Regression analysis revealed that in the first step self-compassion negatively predicted physical symptoms (see Model 1 of Table 1). In the second step, self-compassion negatively predicted perceived stress (see Model 2 of Table 1). In the third step, after controlled for self-compassion, perceived stress positively predicted physical symptoms (see Model 3 of Table 1). At last, after controlled for perceived stress, self-compassion negatively predicted physical symptoms. On the whole, a full mediation effect was found, thus supporting hypothesis 2.

4. Discussion

The current study aimed to examine the mediating role of percieved stress in the relationship between self-compassion and health-related outcomes. The findings supported our hypotheses showing that the pathways from self-compassion to health-related outcomes through perceived stress were significant. These findings suggest the central role of perceived stress in mediating the association between self-compassion and health outcomes. The realthionship between self-compassion and stress has been well documented in both studies using self-reported stress and studies using objective measures (Arch et al., 2014; Breines et al., 2014; Luo et al., 2018). The relationship between stress and physical health has also been well documented (for a review, see O'Connor et al., 2021).

Our findings provide new insight into the relationship between self-compassion and health outcomes. The current study addressed two different aspects of physical health as two distinct variables: 1. physical symptoms, as measured by an elaborated assessment of physical conditions and sensations; and 2. SRH, as measured by an general overall appraisal of one's health. This differentiated approach to the study of physical health outcomes enabled us to deepen our understanding of the precursors affecting subjective health outcomes, which is a valuable predictor of objective health outcomes and mortality (Jylhä, 2009).

Despite its contributions, the current study has some limitations. First, the study variables were measured using self-report methods and may thus be susceptible to reporting bias. Although we used standardized validated tools to minimize biases, future studies should incorporate objective measures of stress and health-related outcomes. Second, the current study is a cross-sectional, correlational study and therefore does not imply causality. Future studies should shed light on the nature of the relationship between self-compassion and health-related outcomes through perceived stress at several time points. Moreover, experimental studies may be helpful for uncovering the exact health conditions which would be benefited by self-compassion interventions.

To conclude, the current study highlights the role of self-compassion in predicting physical health through perceived stress. Jylhä (2009) indicated that SRH serves as a crossroads where the psychological and biological aspects of the individual's experience converge and stressed the need for more comprehensive approaches. We emphasized here the psychological components of this crossroad, elaborating on the antecedents contributing to SRH. Future studies should explore additional psychological as well as biological aspects in order to generate a conceptual framework which can enrich our understanding of both health and illness trajectories.

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THE IMPACT OF QUANTUM BIOFEEDBACK IN REDUCING STRESS-RELATED ANXIETY AND PROMOTING NEUROPLASTICITY: AN INVESTIGATIVE REVIEW

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Abstract

Stress-induced anxiety can be debilitating and high-intensity experience, and biofeedback as an intervention tool has gained recognition as a promising method for managing stress-related anxiety by enhancing individuals' ability to regulate physiological responses and creating a path to homeostasis (Alneyadi et al., 2021). Recent global reports of increasing anxiety with a high intensity affecting a person's physical, emotional, and cognitive symptoms, alongside experiences of nervousness and distorted negative thoughts (American Psychiatric Association, n.d.; Sareen, et al. 2005), call for a holistic approach to treatment plans. Although traditional biofeedback is valid and reliable in its application and interventions, it still lacks a holistic perspective. This systematic review explores the viability of quantum biofeedback in its superiority over traditional methods for managing stress-related anxiety and its capacity to engage neural pathways in achieving plasticity through neural coding (encoding and decoding). The authors will examine the existing evidence to demonstrate quantum biofeedback's ability to provide patients with a holistic, comprehensive self-management strategy for reducing stress-induced anxiety while addressing interconnected physiological systems. Quantum biofeedback can be crucial in fostering neuroplasticity by simultaneously inducing and stimulating neural coding. By altering physiological responses to internal or external sensory stimuli, quantum biofeedback reorganizes and reshapes the structures, functions, or connections related to stress and anxiety, helping to form new connections and neural pathways. This potential exceeds that of traditional biofeedback methods, which is exciting and reflects the promising future of quantum biofeedback and the necessity for further research and validation.

Keywords: *Stress-induced anxiety, quantum biofeedback, neuroplasticity, anxiety reduction.*

1. Introduction

Experiencing severe anxiety can present as a variety of symptoms, encompassing physical, emotional, and cognitive aspects, each with varying levels of intensity (Alneyadi et al., 2021). An individual facing anxiety may feel stress, nervousness, and distorted negative thoughts, along with increased heart rate, sweating, and other physical symptoms (American Psychiatric Association, n.d.), creating a manifestation of both body and mind. At higher intensities and prolonged duration, anxiety can interfere with a person's quality of life, resulting in decreased psychological and mental performance that affects both their lives and those of others around them. As reported in 2019 by the World Health Organization, 301 million individuals experienced anxiety disorders, including 58 million children and adolescents (Sareen et al., 2005). The American Psychiatric Association (n.d.) reports on adult anxiety reveal an alarming higher number, with 43% of adults in the United States reporting feelings of anxiety, an increase from 37% in 2023 and 32% in 2022 (World Health Organization, 2019). The rising prevalence of anxiety disorders globally is a cause for concern, necessitating effective, prompt, accessible, and culturally sensitive interventions and treatments.

Currently, various therapeutic methodologies, such as psychotropic drugs, antidepressants, including selective serotonin reuptake inhibitors (SSRIs), and non-invasive holistic approaches, represent the primary options for adults with anxiety disorders (American Psychiatric Association, 2024). However, potential adverse effects associated with antidepressant medications, access to healthcare providers and psychiatrists, and the worldwide availability of these services present challenges and barriers to making any of these treatment options beneficial (Sareen et al., 2005). Considering the challenges associated with

a global approach to treating anxiety disorders, biofeedback therapy, a noninvasive and drug-free treatment, can serve as a viable and effective alternative. The biofeedback instrument gathers information on involuntary physiological processes using electrodes and electrical sensors attached to the individual's body, allowing for voluntary control over the mind and body (Mulholland, 1995). The visual and auditory stimuli provide essential insights into the body's functioning, which is utilized to help manage physiological responses by controlling involuntary physiological processes such as blood pressure, heart rate, muscle tension, respiration, and brain waves (Brauer, 1999). Various types of biofeedback applications are used to monitor different functions of the body, including electromyography (EMG) (Brauer, 1999) measuring and tracking muscle tension, heart-rate variability (HRV) (Diamantidis, 2006) monitoring and regulating cardiac rhythm, neurofeedback or electroencephalography (EEG) assessing brain wave activity, and galvanic skin response (GSR) evaluating changes in skin conductance can lead to reduced anxiety (Ratanasiripong et al., 2012). Biofeedback therapy addresses the physiological and mental equilibration, providing a more holistic approach to reducing anxiety by affecting the entire body during anxiety episodes.

2. Objective and scope

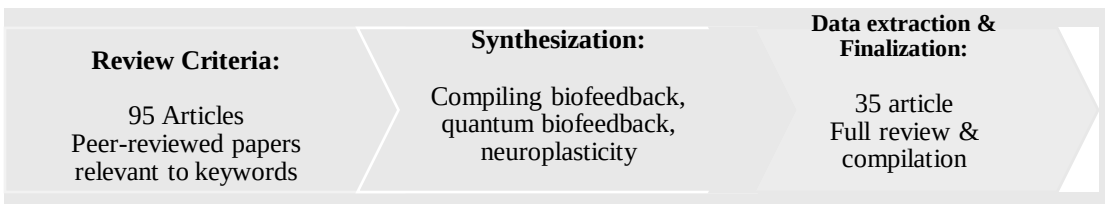
Objective - This investigative paper examines the benefits and effectiveness of quantum biofeedback interventions currently employed to address anxiety and their role in alleviating stress related to this condition. Although this is not a comparative analysis or a systematic review, the authors will critically evaluate the advantages of quantum biofeedback over traditional biofeedback as an emerging training method for stress reduction and promoting mental health and well-being by balancing the body's energy.

Scope - The initial objective of the study is to explore the most effective techniques for psychophysiological regulation that address the concerns of applied psychology while meeting the expectations of the field. Consequently, the scope will examine a broader spectrum, including a) the efficacy of biofeedback versus quantum biofeedback therapy in reducing anxiety, b) whether quantum biofeedback therapy offers a more advanced approach to anxiety reduction, and c) if so, the areas where higher efficacy in anxiety reduction may occur. Within this scope, the paper will also attempt to explain the advantages and potential of treating anxiety with quantum biofeedback, encouraging and motivating researchers to pursue this topic further. Importantly, this transdiagnostic approach may also have significant implications for clinical practice, inspiring hope for improved patient outcomes in mental health promotion.

3. Methods

The research objective employs several avenues of investigation and exploration, including comparing biofeedback and quantum biofeedback in terms of their effectiveness in reducing stress and whether the latter provides any physiological advantages. To achieve this objective, various scholarly search engines were utilized, including PubMed, Google Scholar, and Web of Science, to identify relevant literature reviews on topics such as "*stress-induced anxiety, quantum biofeedback, neuroplasticity, and anxiety reduction," which were s*ynthesized to compile this perspective paper. To eliminate duplication and ensure consistency in the definition and application of biofeedback, quantum biofeedback is described as the internal mechanism of the device, in contrast to its impact on the whole body, anxiety, and stress reduction. The initial search for scientific peer-reviewed articles related to biofeedback yielded over 75 scholarly articles on the uses and effects of quantum biofeedback, presenting certain challenges. By the end of the literature review focused on the applications of quantum physics, no more than 20 articles were found (not all of which were entirely comparable). Out of a total of 95 articles screened, 35 were selected that aligned with the scope and objectives of the investigative paper. See Figure 1.

Figure 1. Summary of the Literature Review Process.



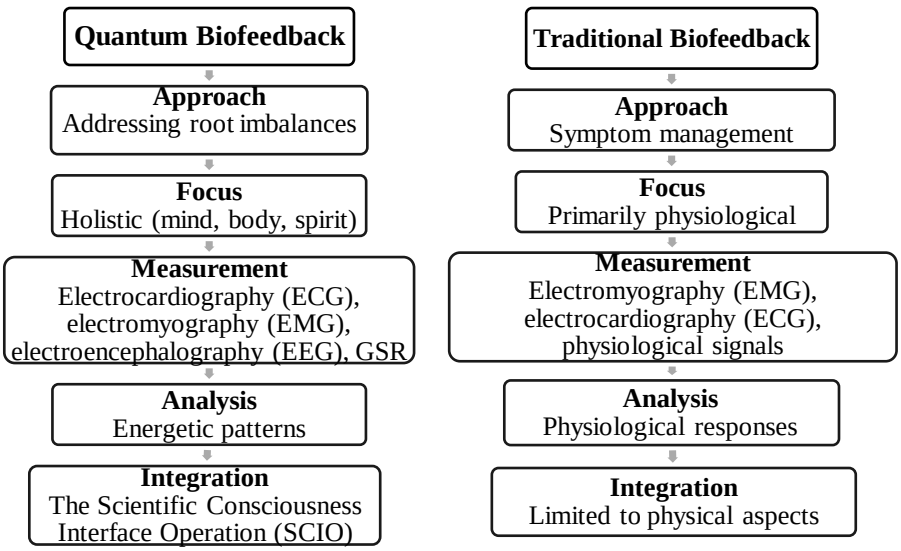
4. Differentiation between traditional and quantum biofeedback

Traditional Biofeedback - A self-regulatory technique, biofeedback helps the individual learn techniques to better manage the body's physiological functioning, such as heart rate, breathing, and

muscle tension, through a device that sends and receives meaningful visual and auditory cues. The dual functionality between the device and the individual creates a reflective system allowing a trained practitioner to guide the physiological functioning in a healthy direction (Frank, 2020). This real-time and reciprocal feedback from the device sending sensory cues helps patients gain conscious control over these physiological functions, enabling them to manage both body and mind more effectively (Durand, & Barlow, 2009). Biofeedback can be used to address conditions like high blood pressure, anxiety, and chronic pain. Some of the most common biofeedback technologies employ electromyography (EMG) for muscle tension, electrocardiography (ECG) for heart rate, and skin temperature monitoring. The concept of biofeedback is based on the fact that a wide variety of ongoing intrinsic natural functions of the organism occur at a level of awareness generally called the "unconscious." The biofeedback process is designed to interface with select aspects of these "unconscious" processes (Brown, 1975). Physiological signals (heart rate, muscle tension, etc.) Sensors and feedback loops to train control over physiological functions.

Quantum Biofeedback (QED) is a non-invasive technique that assesses the body's energetic responses to various electronic frequency signals. This advanced technology, *Quantum Electro-Dynamic Biofeedback*, often employs the Scientific Consciousness Interface Operation System (SCIO) to evaluate and interpret the body's energy fields, identifying imbalances and applying targeted frequencies to help restore harmony (Cadabams Hospitals, 2024). As an electrophysiological biofeedback system, it has shown effectiveness in stress reduction, pain management, and muscle re-education. Additionally, it successfully supports preventive healthcare and enhances athletic performance. The SCIO system uses sensors, frequency transmissions, and feedback mechanisms to achieve therapeutic outcomes (Frank, 2020). While both biofeedback and quantum biofeedback aim to improve health and well-being by teaching individuals to control physiological functions, quantum biofeedback claims to work on a more energetic level. In contrast, traditional biofeedback focuses on observable physiological signals like heart rate and muscle tension. Figure 2. shows the comparison and contrast of traditional versus quantum biofeedback.

Figure 2. Comparison and Contrast between Traditional and Quantum Biofeedback.



5. Substantiation of quantum biofeedback efficacy in reducing stress-related anxiety

Research has shown that biofeedback technology has shown high efficacy in treating anxiety disorders in adults. Analyzing several physiological responses indicates that biofeedback therapy focuses on several factors and the role these factors play in reducing anxiety. Focusing on multi-determinant factors and evidence indicates that frontal EMG therapy is instrumental in reducing muscle tension. However, the heart rate and EEG alpha used by biofeedback offer minimal support in reducing anxiety, and the literature review on the role of applying skin resistance level, finger pulse volume, and temperature biofeedback is limited, yet suggests that these techniques may be viable (Rice, & Blanchard, 1982).

Using sensors to monitor physiological relaxation indicators, skin temperature, and muscle tension through quantum biofeedback therapy regulates an individual's physiological responses, thereby reducing stress and anxiety. Traditional biofeedback employs electroencephalographic (EEG) measurements to control physiological functions such as heart rate, breathing, and muscle tension, reducing anxiety. According to an article from the American Psychological Association (2018), prolonged muscle tension and tightness can trigger physiological reactions and promote stress-related disorders, which can be

alleviated through relaxation. Quantum biofeedback utilizes advanced computer technology to detect stress indicators via galvanic skin response (GSR) while mapping the body, mind, and spirit responses to these indicators. This leads to a more scientific and evidence-based understanding of holistic healing (Valverde, 2016). Quantum biofeedback's sophisticated technology views the human body as a complex electrical circuit, identifying areas of disequilibrium while mapping pathways to regulatory codes that strive for homeostatic balance. This process involves interacting with and assessing the body's cellular matrices and establishing communication between conscious and unconscious levels (Valverde, 2015).

6. Quantum biofeedback and neuroplasticity

Neural or neuroplasticity refers to the brain's ability to change its response to internal or external sensory stimuli by reorganizing the structure, functions, or connections related to those stimuli and adapting accordingly by forming new connections and neural pathways (Puderbaugh, & Emmady, 2023). The nervous system's capacity to adapt to new stimuli can be seen as a reliable treatment for anxiety (Månsson, 2016), depression (Albert, 2019), traumatic brain injury, and stroke. Therefore, this ability can help individuals find new ways to respond to various conditions.

Neural coding (neural representation) – Neural coding (encoding and decoding) functions as the brain's software (Wilton, 2002) attempting to use the coding system to enable the external or internal stimuli to potentially restructure an individual's perceptions, concepts, memories, emotions, and actions, thus leading to neuroplasticity (remapping the neural paths). This concept suggests a link between external and internal environmental stimuli and neuronal responses, as well as among the electrical activities of neurons within a group. Neurons are thought to process information complexly, both digitally and in analog form. This complexity is intriguing, as analog signals convey information continuously over time, while digital signals transmit data in distinct intervals of time (Thorpe, 1990). Neural decoding models can interpret neural representations of visual, acoustic, or semantic information. Recent studies have shown that neural decoders can extract acoustic information from various neural signals, including electrocorticography (ECoG) and electroencephalography (EEG).

7. Integrating all three systems: Quantum biofeedback, neural coding, and neuroplasticity

New research combining neural decoding and biofeedback to target neuroplasticity causally links early visual cortical plasticity with improved perception. This exciting new approach to understanding brain function may lead to new ways of treating neurological disorders through targeted intervention. Shibata et al. show that training participants with biofeedback based on decoded neural signals can result in perceptual learning (Shibata et al., 2011). Other studies have shown that neural signals like biofeedback can induce targeted neural plasticity and can be instrumental in pinpointing brain regions. Multiple neural combining neural decoding and biofeedback to target neuroplasticity causally links early visual cortical plasticity with improved perceptiom (Shibata et al., 2011). Other studies show that training participants with biofeedback based on decoded neural signals can result in perceptual learning (Scharnowski et al., 2012) show that this new approach of using decoded neural signals as biofeedback to induce targeted neural plasticity is a powerful way of identifying the function of individual brain regions as well as neural networks involving multiple brain regions show that this new approach of using decoded neural signals as biofeedback to induce targeted neural plasticity is a powerful way of identifying the function of individual brain regions. Quantum biofeedback detects stress indicators via galvanic skin response (GSR) while mapping the body, mind, and spirit responses to these indicators.

8. Conclusion

Research studies provide empirical data supporting the use of traditional biofeedback as a viable alternative strategy to combat dysregulation and reduce stress-induced anxiety. Numerous studies show that traditional biofeedback has been effective in addressing anxiety in adult patients, although successful results have been limited to those who are open to non-traditional treatment modalities. This perspective highlights opportunities to closely examine the functionality of quantum biofeedback as a compelling alternative for changing the direction, meaning, and perception of external and internal stimuli that cause stress, leading to anxiety and related symptoms. Quantum biofeedback, which involves the use of 'neural coding' – the process of translating sensory information into a format that the brain can use to communicate and reinterpret these codes – appears to be a promising alternative for achieving better results in reducing anxiety. Quantum biofeedback employs neural coding, encoding, and decoding to stimulate neuroplasticity, aiding individuals with various physiological needs. While studies on the efficacy of quantum biofeedback are not as widely available as the extensive evidence on traditional biofeedback, there is an urgent need to

prioritize a new set of research criteria in this field. The potential for quantum feedback to read, interpret, and redirect neural codings, resulting in neuroplasticity, makes this discovery particularly intriguing and underscores the necessity for further research.

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PERSONALITY PROFILES WITH FIVE FACTOR MODEL IN IMPULSE CONTROL AND GENDER GROUPS

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Abstract

Impulsivity as a symptom may reflect a number of psychiatric disorders and studies have shown that it associated with like violent crimes, aggressivity and etc. Also studies show that men tend to be more impulsive behavior than women. However, there is less study about gender-related in non-clinical populations in impulse control. The aim of this study was to examine personality profile with Five Factor Model in order to in a sample of non-clinical genders groups. Participants (n = 1766, male %49.4, female %50.6, age M = 26.35, s = 10.97) completed lexically-based adjective checklist of impulsiveness scale and bipolar markers for the Five Factor Model. First, two groups were determined as below and above average using the impulsivity scale score. Then, these two groups and gender groups were compared with two-way variance analysis in terms of five-factor personality score. According to the results, there is difference in the five-factor (Extroversion, Agreeableness, Conscientiousness, Emotional Stability and Intellect) score of the low and high impulsivity groups. The personality scores of the high impulsivity group are at a lower level. Male and female groups in low and high impulsivity groups have similar results in five personality factor scores. In addition, there is no interaction between impulsivity groups and gender groups in the five factor score. On the basis of this result, it was concluded that there are no differences in the personality traits of male and female groups in low and high impulsivity groups, but there were differences in the personality traits of low and high impulsivity groups.

Keywords: *Impulsivity, personality, gender, five factor model.*

1. Introduction

Controlling impulses by inhibiting unwanted reactions, actions, or behaviors is important for performance in daily tasks (Bari and Robbins, 2013; Edmonds et al., 2009). Inhibition allows stopping the execution of purposeless or unproductive actions and inhibiting irrelevant thoughts or inappropriate emotions (Knezevic, 2018). Population-based studies have shown that males are more aggressive, commit more violent crimes, and use tobacco, alcohol, marijuana, cocaine, etc. shows that they use psychoactive substances more than women (Bangasser & Valentino, 2014; Fattore et al., 2020; Tuchman, 2010; Weafer, J., & de Wit, H. (2014). On the other hand, women show more ability to control unwanted impulses than men (Weafer & Wit, 2014). However, very little is known about gender-related similarities or differences in impulse control in non-clinical populations (Knezevic, 2018). In this study, it was considered to examine impulse control and gender differences in the non-clinical group with the five-factor model.

2. Methods

2.1. Participants

A total of 1766 people participated in the study, 873 males (49.4%) and 893 females (50.6%), aged between 18-80 (M = 26.35, s = 10.97). Of the participants, 1419 were single (80.4%), 281 were married (15.9%), 66 were widowed or divorced (3.8%), 47 were primary school graduates (2.7%), 37 were middle school graduates (2.1%), 234 were high school graduates (13.3%), and 1448 were university students or graduates (82.0%). Those who applied to the clinic were not included in the study.

2.2. Instruments

In the study, the Impulse Control Sub-Dimension (Peabody and De Raad, 2002) was used to measure impulse control, the Big Five Inventory-35 (Tatar, 2019) was used to measure personality, and the socio-demographic questionnaire form was used for independent variables.

Impulse Control Sub-Dimension: The lexically-based adjective checklist form suggested by Peabody and De Raad (2002) was used to measure impulse control as a component of the conscientiousness factor. A form consisting of 41 items, 16 of which were direct and 25 of which were reversed, was used for the measurement of the sub-dimension. A 5-point Likert scale was used for the items, with responses ranging from not at all appropriate (1) to extremely (5). A low score in the sub-dimension indicates low impulse control and a high score indicates high impulse control.

Big Five Inventory-35: Inventory is a self-report type measurement tool consisting of 35 items in total, including five factors and seven items with bipolar evaluations in each factor. The items are evaluated between 1 and 5 (a lot (1), a little (2), medium (3), a little (4) and a lot (5)), while high scores in the factors indicate high levels of Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Intelligence, which are indicated by the factor name. The inventory does not contain reverse-scored items. In the translation study into Turkish, it was reported that the internal consistency reliability coefficients of the inventory factors were calculated between 0.66-0.83 in the first application and 0.64-0.88 in the retest application (Tatar, 2019).

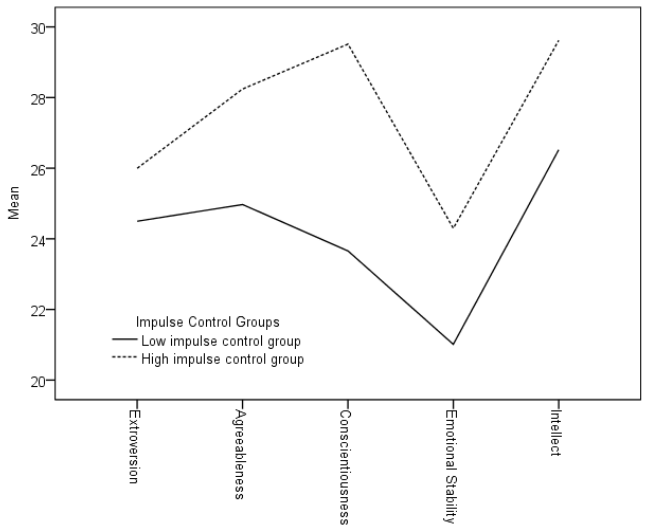
2.3. Application

The application of the study was carried out with a web-based online form in 2024. The web address of the forms was shared on social media and the inclusion / exclusion criteria were explained and voluntary participation was requested.

2.4. Results

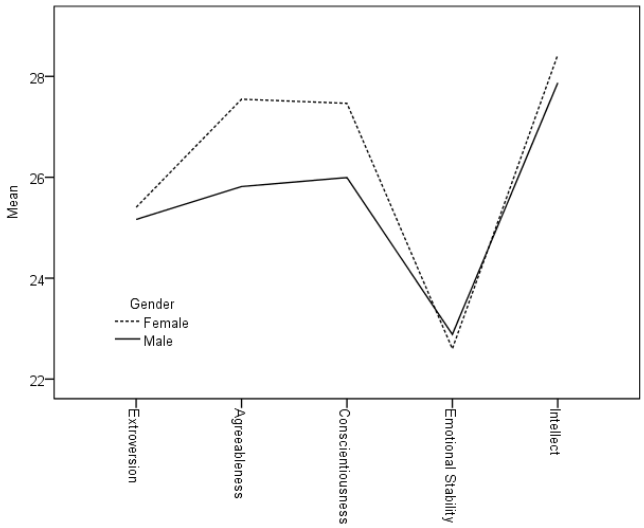
First, the internal consistency reliability coefficients of the Impulse Control Scale and the Big Five Inventory used in this study were determined. The Impulse Control sub-dimension was determined as .92, the Extraversion factor as .84, the Agreeableness factor as .72, the Conscientiousness factor as .82, the Emotional Stability factor as .64, and the Intelligence factor as .79.

Figure 1. Comparison of impulse control groups in terms of five factor scores.



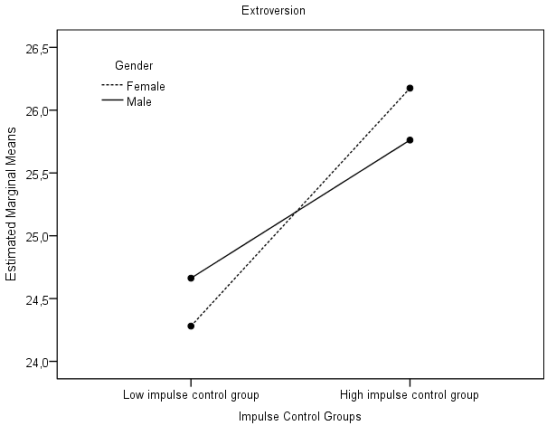
Then, using the Impulse Control Sub-Dimension score, two groups were determined as below and above the average (mean = 3.50, s = 0.44). Then, these two groups and gender groups were compared in terms of five-factor personality scores with two-way variance analysis. According to the results, there is a statistically significant difference between the total mean scores of the low and high impulsiveness groups in the Extraversion ($F(1, 1762) = 27.67$; $p < .001$), Agreeableness ($F(1, 1762) = 204.13$; $p < .001$), Conscientiousness ($F(1, 1762) = 640.07$; $p < .001$), Emotional Stability ($F(1, 1762) = 244.39$; $p < .001$) and Intelligence ($F(1, 1762) = 198.06$; $p < .001$) factors (Figure 1).

Figure 2. Comparison of gender groups in terms of five factor scores.



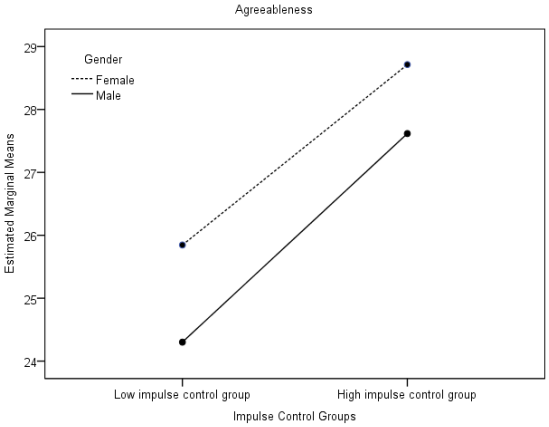
There is a statistically significant difference between the total mean scores of the factors Agreeableness ($F(1, 1762) = 37.24$; $p < .001$), Conscientiousness ($F(1, 1762) = 8.73$; $p < .01$) and Emotional Stability ($F(1, 1762) = 12.48$; $p < .001$) in gender groups. However, there is no statistically significant difference between the total mean scores of the factors Extraversion ($F(1, 1762) = 0.01$; $p > .05$) and Intelligence ($F(1, 1762) = 0.42$; $p > .05$) (Figure 2).

Figure 3. Comparison of impulse control and gender groups in terms of Extraversion score.



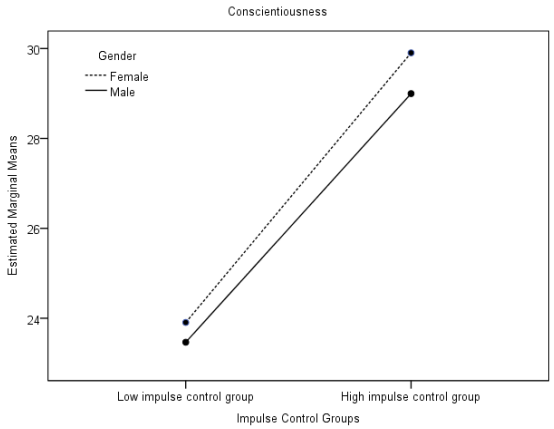
According to the results of two-way analysis of variance, there is no statistically significant interaction between impulse control and gender groups in terms of Extraversion factor score ($F(1, 1762) = 1.95$; $p > .05$) (Figure 3).

Figure 4. Comparison of impulse control and gender groups in terms of Agreeableness score.



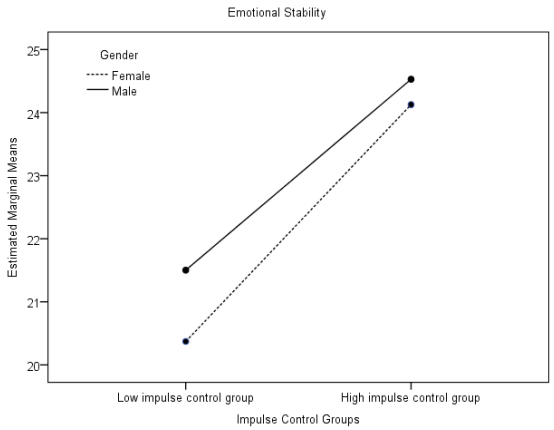
There is no statistically significant interaction between impulse control and gender groups in terms of Agreeableness factor score (F(1, 1762) = 1.07; p > .05) (Figure 4).

Figure 5. Comparison of impulse control and gender groups in terms of Conscientiousness score.



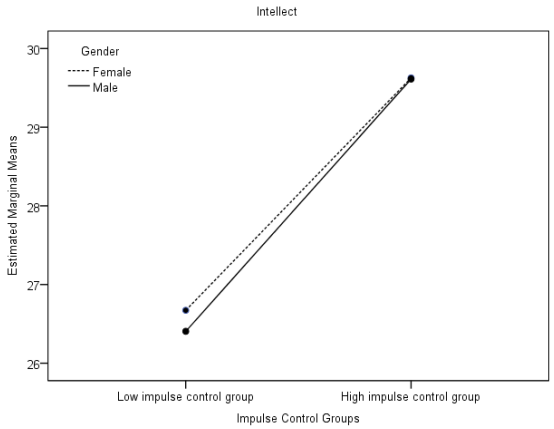
There is no statistically significant interaction between impulse control and gender groups in terms of Conscientiousness factor score (F(1, 1762) = 1.05; p > .05) (Figure 5).

Figure 6. Comparison of impulse control and gender groups in terms of Emotional Stability score.



There is no statistically significant interaction between impulse control and gender groups in terms of Emotional Stability factor score (F(1, 1762) = 2.82; p > .05) (Figure 6).

Figure 7. Comparison of impulse control and gender groups in terms of Intelligence score.



Finally, there was no statistically significant interaction between the control and gender groups in terms of the Intelligence factor score (F(1, 1762) = 0.33; p > .05) (Figure 7).

3. Discussion

In this study, it was predicted that different personality traits would be observed for impulse control level and gender groups. In addition, it was aimed to examine whether impulse control level and gender groups would interact in terms of personality traits. Although impulse control is a sub-dimension of conscientiousness, it was thought to be related to other personality traits.

The results revealed that groups with low and high impulse control levels showed similar personality traits in women and men. No interaction was observed between impulse control level and gender groups in terms of five factors. However, there was a difference between low and high impulse control groups in five factor scores. It was found that people with low impulse control levels had lower factor total score averages in all five factors.

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CLINIC, POLITICS AND COMMITMENT: HÉLIO PELLEGRINO AND THE SUBVERSION OF SILENCE

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Abstract

This paper explores the trajectory of Hélio Pellegrino, highlighting his active engagement in the fight against authoritarianism and the military dictatorship in Brazil, as well as his courage in challenging rigid institutions. Hélio Pellegrino embodied the synthesis of the intellectual committed to social transformation, integrating psychoanalysis with public and political engagement in times of coups, silencing, censorship, and the torture of political prisoners. His combative stance extended not only to the institutional practices of traditional psychoanalysis but also to the public confrontation of ethical issues, as in the case of the self-proclaimed "psychoanalyst" Amílcar Lobo, a collaborator in acts of torture. In this emblematic case, Pellegrino exposed the contradiction between the clinical commitment to human care and involvement in acts of torture. This denunciation transcends the Brazilian context and reveals the ongoing tension between psychoanalysis and authoritarianism in Europe and globally, standing out as a particular episode within a broader historical framework of international psychoanalytic institutions. His intense participation in spaces of resistance, such as the Symposium "Psychoanalysis and Politics" at PUC-Rio, is recalled as a moment when he confronted the dilemmas of analytical neutrality in dark times. Beyond being a psychoanalyst, Hélio was also a poet, journalist, physician, and psychiatrist—a defender of a living clinic open to the people, opposing the confinement of knowledge. He believed in psychoanalysis as a subversive and transformative practice, open to human encounters and historical processes. The first social psychoanalysis clinic in Brazil was born from his restlessness. Together with Kattrin Kemper, whose experience at the Berlin Polyclinic inspired a commitment to democratizing psychoanalysis, he proposed a model aimed at the working classes, breaking with the elitism of traditional consulting rooms. There, in Morro dos Cabritos and the streets of Copacabana, psychoanalysis assumed another face, one close to the suffering of the people. His trajectory reconstructs the struggle for ethics in psychoanalysis, transforming the consulting room into a space of human encounter that transcends the mere application of psychoanalytic technique—a gesture of presence in the face of the other's suffering, capable of opening unexpected paths to freedom. This study revisits this restless and luminous figure, reaffirming the relevance of his courageous trajectory, his intellectual contributions, and his clinical and political psychoanalytic praxis.

Keywords: *Hélio Pellegrino, international Freudianism, international authoritarianism and dictatorships, social clinic, ethical commitment.*

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1. Hélio Pellegrino

On the banks of the Danube, in this beautiful and magical city, the solemn proclamation of Freud was heard in 1918 at the *V International Congress of Psychoanalysis*, a courageous manifesto in defense of the dispossessed, as stated in the text *Lines of Progress in Psychoanalytic Therapy*. A remarkable son of this land, Sándor Ferenczi, president of the event and dean of the faculty of medicine, sought to integrate psychoanalysis into the medical curriculum, dreaming of multiplying practitioners so that psychoanalysis could reach the people, contributing to the reduction of neuroses, an "endemic" as harmful as tuberculosis at the time.

Werner Kemper brought the Budapest speech to Brazil, in 1948, in its original German version. He had it translated into Portuguese and gave a copy to Hélio Pellegrino, who carried it in his pocket. Certain aspects of the "1918 manifesto" deeply impressed the Brazilian psychoanalyst, guiding his approach to psychoanalytic practice, such as the question of abstinence: "By abstinence (...) one should not understand acting without any satisfaction—which would certainly be impracticable; nor do we mean what the term popularly connotes, that is, abstaining from sexual relations; it means something different, which is much more connected with the dynamics of illness and recovery" (Freud, 1987, p. 205). Likewise, he examined the dynamics of this new science: "The progress of the new therapy will undoubtedly continue

along other lines; above all, along the one that Ferenczi, in his article *Technical Difficulties in an Analysis of Hysteria*, recently termed 'activity' on the part of the analyst" (Freud, 1987, p. 204).

In Brazil, during the 1970s, the brutal military dictatorship, driven by a culture of death, inflicted suffering and pain upon the Brazilian people. Psychoanalysis plunged into the cowardly silence of those who omitted themselves, shielded by the pretense of apolitical neutrality—a disgraceful excuse for such a shameful omission.

Hélio Pellegrino was born a poet and became a militant in politics and journalism, raising questions that spanned literature to theology, philosophy to the arts. He was an indignant voice, calling to reflection those who longed for justice and equity. And he did so in the most significant sectors of Brazilian society.

In the field of psychoanalysis, his fervent passion, he fought for the return to its original spirit, the psychoanalysis of social democracy, as proclaimed by its creator, Sigmund Freud. The latter's 1918 speech, known as *Lines of Progress in Psychoanalytic Therapy* (Freud, 1987), was deliberately excluded from curricula, as was *The Question of Lay Analysis* (1927), written in defense of Theodor Reik, who was prosecuted for practicing psychoanalysis without being a physician (Freud, 1976). The training curriculum for psychoanalytic candidates was intentionally designed to sabotage such studies. The question that was never answered—whether psychoanalysis was a prerogative of physicians—became an increasingly troubling issue for the official members of psychoanalytic societies and institutions. The Brazilian press took an interest in this unsettling proposition and published articles on the subject, the most controversial of which appeared in *Jornal do Brasil*, written by journalist Roberto Mello, titled *The Barons of Psychoanalysis.*

Hélio Pellegrino was neither superficial nor a mere pamphleteer. His arguments were irrefutable, leaving his colleagues—concerned about their own financial interests—speechless. Yet, his emphatic inquiries never lacked delicacy and elegance; they were never offensive. This, in turn, unsettled his detractors even more, prompting them to fabricate false accusations in their defense. In fact, the response to his critiques relied on weak arguments, laced with insults, even as his adversaries grudgingly acknowledged his brilliance in journalism, philosophy, literature, and poetry. However, they sought to deny him recognition as a psychoanalyst. Their main criticism was his refusal to practice abstinence, exposing in public his ideology and militancy for the right to freedom of thought and expression—brutally suppressed by the ill-fated military persecution, which killed, kidnapped, and imprisoned regime opponents, eliminating countless Brazilians who remain missing to this day.

Governed by modesty and simplicity, he never boasted about his achievements, a stark contrast to the frequent self-promotion of his colleagues. His scientific output is vast, though not yet compiled into books. The rigor of abstinence was observed in the analytic setting, where he was impeccable in professional conduct. His clinic was the most sought-after in Rio de Janeiro, welcoming clients from all ideological backgrounds, including right-wing individuals who respected his honorable and dignified socialist stance in politics. A comprehensive view of his extensive theoretical work can be found in the recent doctoral research by Larissa Leão de Castro, *Hélio Pellegrino: For a Political Psychoanalysis* (2024). This groundbreaking study revealed the immense legacy of the psychoanalyst, triggering the initiative to publish, in 2025, *The Complete Works* of this genius, whose crystal-clear thought offers an enduring source of inspiration—a relentless struggle for a democratic and socially engaged psychoanalysis. Nevertheless, his persecutors sought to discredit him as a psychoanalyst, attempting to undermine his authority as a master and interpreter of Freud's work. He never cared to defend himself. The "authentic" psychoanalyst, according to his detractors, was one affiliated with the IPA, practicing abstinence both inside and outside the consulting room. He, however, preferred to be a bastard!

Regarding the expansion of psychoanalysis to new understandings of neuroses, one could say that Pellegrino gleaned from his contemporaries whatever could serve as an effective tool for understanding patients' symptoms, without straying from the psychoanalytic axis: the unconscious. He was a relentless scholar, distinguished by his unique ability to assimilate doctrines, digest them, and apply them with his own distinctive touch, without resorting to authorized discourse, jargon, or even citations from renowned authors.

The expression *Barons of Psychoanalysis* was coined to challenge the imposition, within the Psychoanalytic Society, of the figure of the training analyst, where candidates' analyses were only validated if conducted by officially accredited members—mandatorily four times a week, at exorbitant fees—with the novice having no right to a voice, space, or vote. Pellegrino considered them eunuchs, silenced until they could prove their unconditional adherence to the Institution through blind obedience. Similarly, supervisions could only be conducted by accredited analysts and were extensive, requiring more than one supervision per case, following the patient from start to finish.

When it was publicly revealed that a torturer—a military physician—was undergoing psychoanalytic training at SPRJ, to which Hélio Pellegrino belonged, he was seized by a prophetic spirit and raised his voice in protest, demanding the exclusion of this aberrant candidate. The case reached the

press and intellectual and artistic circles. The IPA was called upon, but its response was one of unjustified omission and leniency. Ultimately, it was Hélio Pellegrino who was expelled from the Psychoanalytic Society—not the accused. Pellegrino, fearless, took the matter to civil court, where a judicial ruling reinstated him to the Society, the place where he believed he belonged—to continue his contestations, always articulated with nobility and tenderness, grace and poetry, never with insults or aggression of any kind. He wanted dialogue. He wanted to ask questions and receive answers or explanations. He made enemies, not by choice, but because of his obsession with otherness—the other was the focus of his appreciation and love, which he demonstrated with deep devotion and respect for difference. If obsession knocked at his door, it was only to repeat the mantra that echoed inside and outside his consulting room—on the asphalt and in the slums, in the affluent homes and those lacking everything. He carried in mind Freud's words: "I have been able to help people with whom I had nothing in common—neither race, nor education, nor social position, nor general life perspective—without affecting their individuality." (Freud, 1987, p. 204). If, as Jacques Lacan aptly states in *Seminar VI*, it is the patient who legitimizes the psychoanalyst—not the Society where they trained, *Lesson 26*, then the unanimous recognition and gratitude of Pellegrino's patients render him, without a doubt, a legitimate and authentic psychoanalyst.

In *The Dictionary of Psychoanalysis* by Elisabeth Roudinesco (1998), Hélio Pellegrino is the only Brazilian psychoanalyst honored with a distinguished entry, highlighting the vigor of his practice in psychoanalysis in Brazil. In 2022, it was the Freud Museum in London that included in its annals the remarkable work of Hélio Pellegrino, titled *The Oedipal Pact and the Social Pact* (Pellegrino, 2020). The first presentation of this work took place in Santiago, Chile, in 1983. In 1986, he opened the Latin American Colloquium in Paris, titled *The Psychoanalyst under Terror*. In three states of the Brazilian Federation, clinics, streets, avenues, and public spaces immortalize his name, Hélio Pellegrino, resonating in the silence imposed by the Societies that sought to suppress the voice that protested against distortions and deviations in the role of psychoanalysis as a listening space for human suffering—a role meant for all, not just a privileged few. There is no record of another psychoanalyst being celebrated in the same manner as the *mineiro* who settled in Rio de Janeiro in 1952. Does all this mean something, or is it just dust dissipating in the perverse winds of oblivion? Should it not have become standard practice in Brazil? It did not yield financial dividends for professionals. Hélio Pellegrino was cursed by his peers. Despite the relentless siege against his psychoanalytic practice and the reprehensible censorship of freedom of expression, Hélio Pellegrino, alone, convened a symposium, *Psychoanalysis and Politics*, at the Catholic University of Rio de Janeiro. The auditorium was overcrowded, while outside, bayonets and tanks stood ready to sweep away those who dared to rise against the insane regime. It was during the keynote speech that a participant, a victim of torture, interrupted the discourse, stood up, and made an emphatic denunciation: *Doctor, your Psychoanalytic Society harbors a torturer. What do you intend to do about it?* The response came like lightning: *I will do the impossible to denounce this villainy and pursue it to its ultimate consequences.*

After a painful and grueling struggle, the torturer was expelled from the ranks of the SPRJ, without explanation or any form of reparation.

On November 26, 1985, Hélio Pellegrino received an official invitation from the Government of Cuba to visit the island. Brazil, under the arbitrary imposition of American imperialism, had no diplomatic relations with that beautiful Caribbean country. The journey took place via Lima, Peru. Criticism rained down: *Such conduct is an affront to his clients.* Yet, the Brazilian psychoanalyst traveled to meet with Cuban authorities, who were eager to understand what the *Psychodynamic Encounters* held in Rio de Janeiro had entailed. Hélio's commitment to the *Psychiatric Reform Movement* earned him the flattering invitation to speak at the Havana Psychiatric Hospital, extended by its distinguished and renowned director, Dr. Ricardo González Menéndez, alongside the institution's entire staff. Indeed, Pellegrino's defining characteristic was his pursuit of humanization in the care of those labeled as mentally disturbed. Two of his actions stand out as worthy of the anthologies. The first took place during a psychiatry lecture when a professor brought a psychotic patient before the students as a "live model," asking questions that elicited incoherent responses, which in turn provoked bursts of laughter. The patient had been a sailor. He had encountered the ghosts of the deep, the "sea wolf," fearless in the face of the towering waves of stormy days and nights. Yet there, in the amphitheater, before the unrelenting sea of inquisitive gazes, that ocean of frozen humanity terrified him, and he urinated on himself. Hélio Pellegrino, in tears, descended the steps where the students sat and embraced the patient. *Not like this,* he vowed, committing himself to a human methodology for humans, regardless of their psychological condition. The second gesture remains a cherished memory in Belo Horizonte, the city where the physician and psychoanalyst was born. At the Raul Suarez Institute, he was on duty on Christmas Eve. When he noticed that the prescriptions had been doubled to allow the professionals to leave early for their celebrations, he refused to administer them. Instead, he called everyone outside to see Santa Claus arriving in the sky. If medicine seemed harsh to him, striving to become an exact science, psychiatry appeared to be reifying the "disturbed" patient, obsessing over medicalization. Hélio Pellegrino sought the path of the word, believing that when one speaks, light emerges.

The limited time of this presentation prevents even a minimal description of the immense presence of this thinker of Brazilian psychoanalysis, so deeply committed to society. However, it is worth mentioning one of the most significant events of 1973: the creation of the *Anna Kattrin Kemper Social Psychoanalysis Clinic*.

Anna Kattrin Kemper, wife of Werner Kemper, had come from Germany with her husband, sent by Ernest Jones with the mission of organizing the Brazilian Society of Psychoanalysis. In Europe, Kattrin had been a prominent figure at the Berlin Polyclinic, tirelessly working with children orphaned by the war. She brought her dream to Brazil, where she joined another dreamer, Hélio Pellegrino, and together they envisioned a clinic modeled after the Berlin Polyclinic. Pellegrino, with his visionary genius, set to work and created a one-year course on *The Thought of Freud and His Followers*. He also established, at Cândido Mendes University, the *Psychodynamic Encounters*, including themes such as *The Child, Parents, and Their Problems* and *Grandparents Are Very Welcome*, which lasted two semesters. This event inaugurated the 1973 International Congress of the FSPI (*Federation of Independent Psychoanalytic Societies*) in Innsbruck, Austria.

The funds raised through courses and meetings enabled the rental of a house, the establishment of a clinic, and the introduction of Hélio Pellegrino's creative idea of founding a Time Bank. Each professional trained in group therapy, voluntarily affiliated with the Clinic, would allocate a minimum of two weekly hours of their work to support care for the destitute and dispossessed population. Thus, with payments made according to each individual's financial capacity—some merely symbolic—candidates steadily arrived, reaching seven hundred registrations by the end of the Clinic's first three months of operation. In its inaugural year, this pioneering treatment center opened its doors to adults, adolescents, and children, the latter forming the so-called Play Groups. Aggressiveness, disputes, and rivalries, the primary expressions of internal conflicts, were interpreted exclusively through allusive questioning. Individual treatments, in specific cases, were considered, as was psychiatric follow-up in a special department of the Clinic when necessary. The proximity of the Social Psychoanalysis Clinic to a favela in the Copacabana neighborhood led psychoanalysts to venture into the hills to listen to this segment of the population that would never enter a consulting room to speak of their fears and ghosts. This experience was presented at the Paris Colloquium, showcased at the aforementioned Latin American meeting, *The Psychoanalyst Under Terror*. Inês Etienne Romeu, detained in a maximum-security prison for her involvement in the 1969 kidnapping of U.S. Ambassador Charles Burke Elbrick and sentenced to life imprisonment, received therapy in prison at Hélio Pellegrino's request.

During his visit to Rio, Michel Foucault sought to personally visit the Social Clinic, meet with Hélio Pellegrino and Anna Kattrin Kemper, and later wrote to praise the initiative as fundamental. In fact, the CSAKP was the first of its kind in Brazil, the only one to implement a Time Bank, open to all Psychoanalytic Institutions, operating entirely non-profit and without any intention of becoming a training facility for professionals in the PSI field.

Hélio Pellegrino was passionate about the Other: *I wish to love him in his radical uselessness, that is, to love him for love's sake, not for any utility he may provide me.* He was exemplary in the way he welcomed patients. He neither acted on their behalf nor with them. His approach echoed the Socratic method, rooted in the belief that the subject, in due time, would find their own path. He followed the teachings of the Master: *"Cruel as it may seem, we must ensure that the patient's suffering, in some effective measure or form, does not come to a premature end. If, due to the removal of symptoms and their consequent loss of meaning, their suffering is alleviated, we must restore it elsewhere, under some appreciable form of deprivation; otherwise, we risk achieving nothing more than insignificant and transient improvements."* (Freud, 1987, p. 205).

A great outcry arose among psychoanalysts, who deemed the space injurious to psychoanalysis, historically elitist and exclusivist in Brazil. The very IPA requested the removal of the term *Social* from the Clinic's name, arguing that it should not be attached to Psychoanalysis. The response was a solemn disregard for this "nonsense" request, dismissing its absurd demand outright. The low fees charged for sessions threatened the longstanding tradition of high prices in private practices, a discretionary filter on the demand for treatment of psychic suffering. Attacks reached the press, where offensive remarks abounded, portraying the initiative as a trivialization of psychoanalysis or, worse, in a prejudiced accusation offensive to both Freud's science and the impoverished population, dismissing it as "luxury in the trash."

Pellegrino was envied and, consequently, criticized by colleagues who remained impermeable to revolutionary proposals aimed at purging psychoanalysis of the weeds that had taken root within it. He was expelled from the Psychoanalytic Society he so esteemed, one that conferred upon him both notoriety and respect by virtue of his membership. He was imprisoned for denouncing torture and advocating for freedom, stolen by military usurpers of the legitimately constituted power. The charge against him was that his actions endangered National Security. His weapon was the word—clear, precise, and always in service of the excluded.

The awareness that the patient presents with a shattered mind, attempting to compensate for their void through vicarious satisfactions, served as a warning for Pellegrino not to compensate, within the transference process, for the dissatisfaction continuously expressed. He mastered the art of restraint to the precise degree, offering a secure reception and attentive listening, within deprivation, providing nothing beyond, convinced that the patient would achieve fruitful appeasement through their own means. Moreover, his clinic was open to all, particularly sensitive to the less privileged, where he maintained a strict and unbiased psychoanalytic treatment. He remained faithful to the doctrinal axis that establishes psychoanalysis as a generous and aseptic form of listening, certain that, "when someone speaks, things become clearer" (Freud, 1905/1996, p. 212), as one may read in a footnote in the book Three Essays on the Theory of Sexuality.

Aligned with the thought and action of Hélio Pellegrino, it is worth recalling Elizabeth Ann Danto's monumental work, Freud's Free Clinics, an appeal to the fourth generation of Freudianism for a profound reassessment of psychoanalytic practice in the third millennium. This view is relevant, since psychoanalysis has long been confined to the bourgeois elite with financial means for extended treatment. Although not Freud's intent, psychoanalysis became reserved for the privileged, even though, since his 1918 speech, it had been clear that psychoanalysis was meant for everyone, with the Viennese Master characterizing it as a product of social democracy.

Indeed, during the 1920s, several Public Clinics emerged, with Freud and the first generation of psychoanalysts establishing them across various countries in Central Europe, including Austria, France, England, and Germany. In Vienna, the clinic known as the Ambulatorium was inaugurated in 1922 under the direction of Wilhelm Reich, who later founded Sex-Pol, a polyclinic dedicated to issues of sexuality and reproductive rights. The expansion of psychoanalytic clinics transcended oceans, reaching Egypt, Cuba, and the United States. In Brazil, the movement gained traction with the arrival of the Kemper couple, sent by Ernest Jones, who contributed to the consolidation of psychoanalysis in Rio de Janeiro.

Elisabeth Danto eloquently reminds us that, from its very origins, psychoanalysis has been intimately linked to a collective and social vision of psychic suffering. The first and second generations of psychoanalysts upheld this perspective with Freud's own endorsement, particularly in Vienna, known as "Red Vienna," where innovative housing policies aimed to ensure dignified living conditions for workers. Psychoanalysts such as Wilhelm Reich, Otto Fenichel, Alfred Adler, and Theodor Reik advocated for a practice engaged with social issues. In London, Melanie Klein, Anna Freud, and Ernest Jones followed this path, as did Karl Abraham and Otto Rank in Berlin, and Sándor Ferenczi in Budapest, who was influenced by the thought of Georg Lukács. In Paris, Marie Bonaparte established the Centre Jean Favreau with a similar intent.

The breadth of this movement becomes even more striking when one realizes that Public Clinics were not confined to Western Europe but spread across different regions of the world. Their purpose was to bring the analytical word to spaces where it could illuminate and transform, even in the face of the harshest criticisms. These initiatives faced resistance from critics. However, the founders of this approach were undeterred, maintaining that psychoanalytic listening must extend beyond the confines of the traditional consulting room and engage directly with urgent social demands. Over time, psychoanalysis distanced itself from the popular classes it once embraced. These initiatives sought to offer psychoanalysis to the poor and extremely deprived. Why was this practice lost?

Hélio died in 1988, aged 64. A long silence followed. In 2024, his centenary revived Freud's 1918 dream: psychoanalysis as listening to suffering, without class distinction.

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BEHAVIOR IS MEMORY: TEMPLATE THEORY, A NEW DIRECTION IN PSYCHODYNAMIC PSYCHOTHERAPY

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Abstract

Repeated caregiver responses in childhood get laid down in the child as automatic presumptions about relatedness, an internalized function I call the relational template. In future, interactive behavior can activate that established relational template, with its automatic behaviors becoming manifest. Relational templates originate in repeated relational events that are 1) directly experienced, 2) observed, or 3) fantasized (in opposition to traumatic interactions). The therapist can become aware of an activated relational template through observing the automatic relational 1) behavior, 2) expectancies and 3) premises a patient exhibit in the consultation room. That which is not remembered explicitly can be shown through such reflexive behavior, often outside of one's own awareness. This is how behavior is memory.

Keywords: *Relational, template, procedural, memory, behavior.*

1. Introduction

From the moment we enter the world, we interact with other people. The average person can be expected to experience countless interpersonal events in a lifetime, most of which will evaporate into lost memories. An interaction more likely to be explicitly remembered would need to be surprising, upsetting, delightful, somehow novel; but most of our day-to-day contact with others is not so distinctly memorable. Interpersonal events that are unremarkable generally do not stand out to us, but commonly blend together within a reservoir of internalized related interactions. These internalized groupings become part of an involuntary, possibly unconscious, memory of "what people do," or "how people are together." They may not be explicitly remembered in one's head, but they are known in the gut. Relational procedural memories representing an individual's reflexive assumptions about how people behave together, accompanied by automatic behaviors triggered by the presence of others, comprise a psychic structure (or function) I refer to as a "relational template" (Herzog 2012, 2015). The automaticity of relational templates is much like driving a car, where we might be very attentive while learning the skill, but with time and practice, no longer consider how we manage the brake or steering wheel (as described by Clyman, 1991). Within this realm of "procedures," automatic behavior can be activated entirely outside of awareness. So it is within relationships. Countless interactions have been encoded into procedural memory, forming the template: a contextually related group of essentially unconscious relational memories. These memories ultimately show themselves via automatic behavior. The relational template represents how we are with others, and how we believe others are with us. Even if much of what occurred has been lost to explicit memory, the automatic behaviors that remain will be manifested by the individual. We commonly behave with others the way we were shown, even outside of our unawareness. Because of this, the therapist, through observation of a patient's behavior, has access to memories that a patient may have forgotten. Reflexive patient behavior should be seen to represent repeated interactions from developmental years. Thus clinically observed behavior, when supplemented by verbally reported historical information, can create a detailed tapestry, a comprehensive view into a patient's past relationships. We amalgamate various observations with reported information, to visualize a more complete picture of the person. It's like putting together a jigsaw puzzle. One puzzle piece gives a minimal impression of the picture to come, but with enough pieces, a more cogent image starts to form. A single reflexive behavior is a piece of the puzzle. Additional observed behaviors, along with reported events, function as more pieces. They refine the picture. They clarify our impression of a patient's relational experience, with observed behavior possibly solving for various "unknowns" in a patient's development. It is my belief that observed behavior in the consultation room is

a crucial part of the therapeutic endeavor, because it can suggest much about someone's developmental background that might remain unreported.

2. Three sources of relational templates

I have defined three sources of relational experience that comprise most of what we are likely to see within the clinical setting. 1) Direct Interactions. When repeated often enough we incorporate interpersonal interactions into general "ways of being" with others. Embedded within our procedural memory, they become manifest as automatic relational behaviors. Although we may necessarily occupy our own directly experienced, singular role, we do not solely assimilate our individual perspective of the interaction. Relationships are between two or more people, thus all roles involved in the interaction are encoded into procedural memory. The child being yelled at will invariably adopt the child's role, involving silence, guilty posture, etc. But in addition, that child will also assimilate the parental role, having witnessed the parent's conduct of escalating anger, increased volume and verbiage. With sufficient repetition of the interaction, both roles of parent and child become embedded within the child. The whole dyadic configuration being absorbed into the relational template. In future, when faced with an interaction triggering the matching template, both roles are present in procedural memory, such that the individual might fall into either role. Thus the next time a scolding is about to occur, the child "assumes the position" of guilty posture and silence, in anticipation of what is to come. Following this, our recently scolded child might soon be overheard scolding the cat with the very same words and tone the parent used. The child shows a capacity to be both a "scolder" and a "scoldee". The child has internalized the two roles of child and parent, and can engage either role when the template is activated.

2) Observed Interactions. Our exposure to relationships includes interpersonal events that we are a part of, and others where we are not directly involved. What we experience indirectly, we can also incorporate — contributions from observed interactions between others, being potentially absorbed into a relational template. That which is observed time and again gets encoded into procedural memory, as a two-person, two-role configuration. Observed events may arguably be less powerful than those directly experienced, but regardless, interactions we observe can also become part of us. Consider, for example, how we see our parents treat each other. If we grow up witnessing a lot of fighting, we are likely to internalize both roles in those interactions. Growing up with one parent victimizing the other, a sadomasochistic style of bullying, we might learn to back down in the face of hostility, or conversely, to force others to back down. And repetition is not always required for incorporation. There are noteworthy occasions when a singular interaction may stand out, especially when idealized and thought about frequently. The individual's willful recollection of an interaction can further entrench it within a relational template, even when there hasn't been much observed repetition.

3) Fantasized Interactions. When someone judges interactions to be bad or inadequate, the rejection of those behaviors creates a location in fantasy for an opposing, good interaction. "Non-bad" fantasy alternatives can be recruited and consolidated to form fantasy-based templates, as an alternative to dysfunctional relational templates. I call these fantasy-based templates "fantasy relationships" (Herzog, 2018), acting in opposition to "bad" relational templates. When relational behavior is traumatic, privately invoking a fantasy relationship can function as "repetition's antidote," supplying internal comfort: visualizing better interactions within one's imagination. When a child decides his parents are too critical with one another, he has begun replacing them in fantasy with a wife and husband who are more accepting. The act of defining them as "mean" suggests "not-mean" as an alternative. Both the mean parents and not-mean parents are being simultaneously assimilated, one as a Relational Template, and the other as Fantasy Relationship.

3. Template manifestations are threefold

The manifestations of a relational template can also be divided into three parts. 1) Behaviors. We may hear about our patients' relational experiences and presumptions, but usually not before we've already seen indications in their behavior. Because reflexive behavior came from a multitude of related interactions that became internalized as a relational template, a patient's behavioral habits can give indications of past history. Of course, we cannot tell much of what is going on from simply one behavior, but further indicators give us further information. Tone, timing, movement, all figure into our intuiting what is being shown, and by extension, what it conveys about past relational events. We can learn much through the reflexive behavior we observe. Patients might not tell us, but they could be showing us.

2) Expectancies. Relational expectancies are automatic expectations of the presumed behaviors of others. As dyadic templates have two roles to be actualized, expression of a template involves both behavior in the person, plus expectations of the response of the other. Thinking in terms of expectancies can be very

helpful for some challenging dynamics that take place in the consultation room. An example of this involves those times when a patient demands more than the therapist can provide, and if the therapist does provide, the patient increases demands. It may be that a fantasy relationship has been mobilized, and the patient hopes that the therapist will respond in a new way, to create a new pattern of relating. However, the less ideal accompanying template can be in play alongside it, and this template may contain a contradictory relational expectancy — where the patient believes he is too demanding. So, he continues to demand — to engage a hoped-for reaction, and simultaneously, to provoke an expected rejection. A therapist's reluctance to gratify becomes a traumatic repetition, reinforcing the activated traumatic template. The therapist who considers experimenting with provision, may confound the traumatic template sufficiently to disrupt the repetitive elements — but the provision might not work, when a template's powerful expectancy of refusal may not be offset by sufficient fantasy elements.

3) Premises. Relational premises are belief systems about people that lie beneath the automatic behavior and expectancies. Such relational premises can be observed through behavior, or heard through an explicit statement. For example, an established premise that "good things are always going to be followed by bad" suggests a history of disruption whenever the person felt happy, comfortable, or safe, which has coalesced into a belief that all good things are inevitably interfered with.

4. Conclusion

When relational templates get actualized in therapy the patient can occupy one role, and the therapist the other. All template elements can be manifest: behavior, expectancy, and premise. The intuitive therapist "feels into" the clinical situation, identifies the elements of repetition, sees the template in play. The clinician may visualize an image of the dynamic in the room, and how that dynamic might have been present outside of therapy, either now or in development. She sees the roles occupied and the belief system underlying the behaviors. The therapist who recognizes the configuration can then infer what the pattern might have looked like between caregiver and child. She visualizes the roles and might attempt to verbally symbolize the activated template, through an explicit interpretation. If not, then the therapist can show the patient by engaging in behavior that confounds the template, and/or actualizes a fantasy relationship, which can initiate the creation of a new, more functional template within the therapeutic relationship.

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IMPLICATIONS OF LINGUISTIC IDENTITY FOR THE PSYCHOTHERAPEUTIC PROCESS

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Abstract

While our globalized world has increased the prevalence of multilingual patients and therapists, multilingualism seems to be a topic that remains unspoken in psychotherapy training programs as well as in institutions that provide psychotherapy to the wider community. The lack of awareness about the specificities of the multilingual experience can cause therapists to misunderstand their patients' emotional functioning and to misdiagnose them. This paper aims to offer a psychoanalytically informed framework that helps us understand how language is at the core of the individual's identity – a complex structure of stable and fluid/mutable elements which mediates the interaction between external and internal worlds. It also aims to address the implications of multilingualism for psychotherapeutic practice, by using clinical material from psychotherapy sessions with monolingual and bilingual patients. This paper delves into the particularities of the subjective experience of people who make sense of themselves and the world in more than one language, and argues that an awareness of the linguistic characteristics of each patient promotes better psychotherapeutic practice, whether conducted by monolingual or multilingual therapists. The paper then extends this exploration to monolingual therapeutic dyads, emphasizing that even in such dyads, there may be "different languages" being spoken, as the same words can have distinct emotional connotations depending on each person's lived experience. The paper concludes that the therapist's evaluation of the patient's language profile is of the utmost importance in any psychotherapy process, given the implications of this aspect of the person's identity in their sense of self and their mode of being in the world.

Keywords: *Language, multilingualism, identity, psychoanalytic psychotherapy.*

1. Introduction

The globalized world in which we live, with increased migration and access to travel, and with ever-expanding online connectivity, is a world where multilingualism is a reality for the majority of the population. Recent estimates point to over 50 percent of people speaking two or more languages globally (Pisa et al., 2021). This means that even when living in countries where the official mode of work and life is monolingual, the likelihood of encountering and interacting with multilingual people is becoming the norm and not the exception.

Nevertheless, the psychotherapy training programs and community psychotherapy institutions which address the role of language in one's sense of identity are the exception and not the norm. This discrepancy reveals a gap between the training/practice of psychotherapists and the reality and needs of the population they serve.

Because we are linguistic beings, language and subjective experience are inextricably entwined. Therefore, psychotherapeutic work is a process indissociable from language – it is weaved with the weight and meaning that a word takes for each person, in interaction with what it hides and is revealed by their non-verbal communication. Given that the expressed word is a key work instrument of any psychotherapist, it follows that understanding the personal meaning of word choice, the context of language development and its characteristics, and the relationship between the self and the accessible language(s) are aspects of fundamental importance when exploring the subjective experience of the individual. Awareness of these aspects is relevant to all the professionals who work with and via the expressed word, whether they and their patients be monolingual or multilingual.

The contemporary understanding of the individual by relational psychoanalysis is embedded in an intersectional approach to the *identity*. According to this approach, the psychotherapist is tasked with exploring the intersections of identity variables such as race, gender, sexual orientation, class and culture in the patient and in therapist, both as expressions of this particular dyad and of the wider social dynamics they inhabit.

Following this approach, I intend to show that the *linguistic identity* of the individual is a fundamental axis of their mode of being in the world. This axis interacts intimately with all the other identity variables, and is rich in both what it camouflages and in what it reveals. Several other aspects of the person's identity are attached to immediately identifiable characteristics which lead to a series of projections and basic assumptions regarding that person's racial/ethnic, cultural/religious identity, etc. However, one's linguistic identity entails the following setup – when silent, the subject can often "pass as" (identified as belonging to a different social/cultural group based on phenotypical characteristics and attire, mannerisms, etc.), but as soon as words are uttered, the communication style immediately serves as a marker of that person's socio-economic status, educational level and socio-cultural origins. Aspects such as accent, word choice, sentence construction, use of idioms and type of vocabulary provide culturally embedded signs regarding the person's social origin and current standing.

Therefore, I argue that linguistic identity needs to be evaluated alongside the other axes of identity. This comprehensive perspective should provide insightful information regarding areas of consonance and cohesiveness, as well as areas of disconsonance and lines of fragmentation, in the person's sense of self.

2. Building on the literature

To demonstrate the validity of linguistic identity as a concept, and the benefit of using it as an evaluation tool, I next intend to show how it builds on key contributions from a number of related literatures.

The role of language in psychic development is well described by several authors. Isakower (1939) finds the auditory apparatus and its vestibular and psychic components to be central in the establishment of the introjective process that is essential for language acquisition, since this acquisition depends on the presentation of verbal discourse to the child by the external world. Ultimately, for Isakower, our capacity to take in language and to relate to it, is intrinsically connected to our capacity to orient ourselves in the world – to have a sense of our position and latitude of movement, both concretely and symbolically.

For Maiello (1995), since the foetus' hearing is fully developed by the fourth month of intra-uterine life, this means that the foetus already has the capacity for some form of introjection from that point onward. These introjected elements have at least some sound qualities derived from the foetus's perception of the voices of the mother and of other family members. Moreover, the alternation between hearing the mother's voice and experiencing moments of silence can be viewed as providing the foetus with a first experience of *presence* and *absence*, forming the basis for a pre-natal proto-object – the *sound object*. Therefore, Maiello hypothesizes that the pre-natal auditory experiences and memories already provide a rudimentary differentiation between *me* and *not-me*, and she sees this area of sound and vocalization as being at the root of symbolic capacity.

According to Greenson (1950), the use of language allows the child both to maintain a connection to the mother and to create a path for separation and individuation: the child, who drank milk from the mother's breast, substitutes it now for the introjection of a new maternal liquid – the sound of her voice and the musicality of her words. For Greenson, language transforms the world of sense impressions into a world of ideas and meaning, which ultimately helps the individual to self-regulate. At first, all words have a hallucinatory quality – they are associated with the satisfaction of wishes and have a strong visual quality. With the development of the ego, the child starts to distinguish between images, thoughts and reality. For the purposes of communication, and a better economic management of psychological resources, most words eventually lose their hallucinatory component unless they are connected to emotionally conflicting situations. In that case, words remain the eternal messengers of the internal conflict.

Turning now to the relation between language and identity, Hägglund (1995) states that our identity is revealed and enacted through language. According to the author, most people have at least two linguistic identities. The first represents the native tongue as transmitted through the family, while the second represents the state's official language as transmitted through education. I would posit that these distinct identities generate different internal representations even when they are linguistically the same. In the author's view, personal linguistic identity is a fraught concept, because each person has a set of identities from which a predominant formation arises depending on internal and external circumstances. Therefore, linguistic identity fluctuates throughout life, influenced by changes in areas such as profession, romantic partner, and the social and cultural environment.

Several authors have proposed an intersectional approach to identity. For example, Belkin and White (2020) describe how the intersectional approach adopted by relational psychoanalysis invites us to consider how one identity variable can interact with others (either by enhancing or diminishing them), which in turn can capture the complexity of the person's experience and can help distinguish between pathology and difference. According to the authors, a person's location in any of the identity variable continuums changes over time according to the interpersonal context, and at the points of intersection between these variables there is an exponential increase of the complexity of the person's lived experience.

I consider that this intersectional approach can be extended to include linguistic identity as a fundamental axis. This perspective allows therapists to explore the ways in which language interacts with, hides, and reveals other aspects of the individual's identity which make up their overall sense of self. For this to be possible, it is paramount that therapists pay attention to, and remain curious about, each patient's linguistic identity. To mitigate Hägglund's (1995) concerns regarding the concept of a personal linguistic identity, therapists should bear in mind that linguistic identity is especially mutable, and they should explore how it fluctuates.

In order to examine how linguistic identity is experienced by multilingual people, I shall now turn to some literature on multilingualism. In the psychological literature on non-monolingual individuals, the terms bilingualism, multilingualism, polylingualism, plurilingualism and polyglotism are used interchangeably (Pavlenko, 2006), and for the purposes of this paper I shall use the terms bilingualism and multilingualism. Given the complexity of the phenomenon, several authors have identified certain dimensions that can help us differentiate types of multilingualism, such as: *language dominance* – the degree of linguistic competence in each language (Marcos, 1976); *age or context of language acquisition* (Ervin and Osgood, 1954); *current context* in which the languages are used (Hamers and Blanc, 1989); *language semantic features* – degree of semantic similitude between the languages (Hamers and Blanc, 1989); and *cultural connotation* associated with each language in the current social environment of the individual (Hamers and Blanc, 1989).

Each of these dimensions can have an implication for linguistic identity and its intersection with other axes of identity, which in turn leads to implications for the multilingual patient in psychotherapy. When bilinguals communicate via a language they are not fully proficient in, they are likely dealing with the impact of the *language barrier* – the degree of lack of linguistic proficiency and consequent difficulty in the processing of information in a non-native language (Marcos, 1976). This forces the bilingual to deal with *extra cognitive demands* which can lead to a diminution of affect and a disconnect between the content of speech and the emotional expression. It can prompt the *reinforcement of obsessive defences* as the person may focus excessively on their diction and may use sterile language, and may also lead to a *struggle with paralinguistic cues* – interpreting meaning from the therapist's intonation, pauses and emotionality (Marcos and Urcuyo, 1979).

When bilinguals use a language they acquired post-childhood, often in a non-familial environment, they are likely dealing with the impact of *language independence* – the capacity to maintain and operate two independent language systems – which generates different associative streams according to the language used (Marcos and Alpert, 1976). This phenomenon may cause the bilingual to have *language-specific lacunae* – areas of the psyche which remain inaccessible because they have been encoded in a language which is not the one being used in that specific communication (Javier, 1989). Language independence may also cause *distortion of affect* (affect not concordant with content of speech) if the bilingual verbalizes an experience in a language different from the one in which the experience was lived (Marcos et al., 1977).When we have a dyad of matched bilinguals (both having proficient access to the same linguistic codes) we can observe the manifestation of *language-related resistances* – to avoid anxiety, the bilingual switches to another language in which they may use a more abstract discourse and a more emotionally detached approach (Marcos et al., 1977). Lastly, this bilingual may experience a *language-related dual sense of self* – a fragmented sense of self based on the languages available to the individual, leading to a different self-perception according to each (Marcos et al., 1977). Therefore, the therapist working with multilingual patients must be aware of these *language barrier* and *language independence* phenomena as there are serious risks of misinterpreting and misdiagnosing the patient otherwise.

Although several authors who follow a classical psychoanalytic approach tend to focus on the ways in which bilingualism can constitute a source of intra-psychic conflict, identity confusion and an obstructive force in the attempt to achieve a sense of cohesiveness and continuity in the self, a relational psychoanalytic approach tends to also consider a new language (acquired alongside or after the native one) as a new opportunity to re-signify past experiences, providing a safer, less evocative and anxiety-laden way to address psychic contents that are more difficult or impossible to access via the native language (Amati Mehler et al., 1990). Indeed, different languages can be "at the service of the repressed but also of the return of the repressed" (Amati Mehler, 1995, p. 100) depending on personal characteristics and experiences.

Overall, I consider that the therapist who pays attention to the patient's linguistic identity may find it useful to explore this axis by addressing the following aspects listed by Marcos et al. (1977): the developmental stage during which the languages were acquired; the experiential worlds and object relations associated with each language; the values and ego ideals linked to each language; and the characteristics shared across languages and the ones which are unique to each. Furthermore, in my view, there is a benefit to the therapist being aware that multilingual people may have multiple linguistic identities which intersect each other as well as other axes of identity. The therapist's attention to language identity can serve as a

window into larger, all-encompassing, areas of intra-psychic conflict and the split parts of the self at each moment.

Now, armed with the awareness of the multilingual complexity, I shall turn my attention to the communication which takes place within a monolingual dyad. Even in such dyads, multiple linguistic identities may be possible. Although it may seem remarkable, there is a risk in assuming mutual understanding between two individuals simply because they communicate via a shared native language. As Amati Mehler et al. (1990) explain, there are different "languages" comprised within the same tongue. These can include: a familiar/informal type of language, an erudite one, a technical one with specific jargon, or slang; and regional expressions and idioms which create an aura of private language within specific social groups. I would posit that the role of accent is another important aspect to pay attention to since it is an immediate marker of socioeconomic status, educational level and regional origin, and it is linked with implicit biases related to ideas of worth, intelligence and other major attributes. Bearing this is mind, I would caution to avoid the fallacy of an assumed mutual understanding.

The intersectional perspective also helps us adapt another recent work on the role of the therapist in assessing the patient's relation to and use of language. According to Horta (2014), language can be used for many purposes beyond communication: for the purposes of evacuation, obfuscation, manipulation, destruction, seduction, etc. Given this, it is paramount that the therapist analyses the manner in which the patient relates to language and how they use language when relating to others. Even though these are not discrete categories, three modes of relating via language emerge. First: body-to-body or mouth-to-nipple formulation (in this setup, it is a state of fusion or contiguity which predominates, and language is characterized by concreteness, lacking symbolism). Second: relating mediated by an object, as in the case of children who use drawings or toys in order to communicate their internal world, or in the case of adults who use their discourse either as a loving offer (a gift) or as a tool for destruction (a rock) and manipulation (sand thrown at the other's eyes). Third: language used in its full symbolic capacity, in a search for the fullest expression of one's subjective truth. This third mode of relating allows for communication – a generative and meaning-making shared process – to take place. For the author, the decision on the appropriate therapeutic intervention is dependent on the mode of language used by the patient (for example, the use of an interpretation, since this technical device only fulfils its potential and serves its benefit when used with patients relating via the third mode).

I consider that this insight can be expanded to the multilingual context. In that context, each language available to the patient can be associated with a different mode of relating due to the patient's history. Even though the therapeutic dyad may only be able to use one of the languages accessible to the multilingual patient, the therapist can still glean information regarding the patient's modes of relating in other languages by remaining attentive to their linguistic identity and its manifestation at each moment. In a state of even-hovering attention, the therapist can benefit from listening to the sounds uttered by the patient in a manner akin to the child who is surprised by, and plays with, sounds in their mesmerizing and infinite combinatorial possibilities.

3. Clinical vignettes

I shall now share clinical vignettes to exemplify some of the linguistic identity phenomena described above, and how paying attention to this identity axis can shed light on the patient's psychic state and its changes. None of these patients sought out therapy due to a struggle with their linguistic identity, but with all of them this aspect was at some point an important angle of shared reflection and exploration.

Giovana is a 23-year-old female from Brazil living in a Portuguese urban centre since age 15. We came to understand that early on in her life, Giovana felt that her family environment expected her to adapt unconditionally to it, rather than the environment offering to adapt to her needs and preferences. She learnt to silence and ultimately to ignore and invalidate her needs, thoughts and feelings. Giovana developed a romantic relationship with a partner which repeated this dynamic of expecting and enforcing her subservience and silence, and throughout the therapeutic work she has slowly come to terms with this pattern of relating, and has made decisions that have brought significant changes to her life. Giovana's phenotypical characteristics and mannerisms make her easily blend into Portuguese society, and she has reported experiencing stark differences in others' behaviour when she "keep[s] [her] mouth shut" and when she speaks up with her identifiable urban Brazilian accent. As we explored the social and cultural implications of this experience, given the disdainful attitude that some Portuguese people can display towards Brazilian nationals, we acknowledged how this discrimination interacts with and evokes the relational pattern characteristic of her personal history – where she learnt that in order to be accepted and be viewed as a "good girl" she should "be quiet and smile". This case illustrates the chameleonic nature of linguistic identity, since one's silence allows for other identity variables to feed others' perceptions and assumptions, often culminating in a picture quite contrary to the person's *true self*.

Chloe is a 36-year-old female born and raised in France until the age of 14 by an English mother and a father from a different European country. According to Chloe, her mother always spoke English with her and the father spoke French and never his native language. At age 14, Chloe was sent to a boarding school in England amidst an increasing instability in the family environment, culminating in a series of hospitalizations of her mother due to a mysterious medical presentation which included unpredictable fits of rage, tremors and erratic behaviour. In the first months of therapy, Chloe referred to her mother intermittently as French and English, and I was only able to ascertain her mother's origin after directly addressing this discrepancy, which Chloe had not been aware of. I then understood how the "French mother" stood for a *good object*, and how the "English mother" stood for a *bad object*. When exploring this aspect of Chloe's sense of self, she stated feeling that she has "no mother tongue", and that she is linguistically "stateless". She explains her sense of having more "solid bases" for understanding the world in French and not in English. However, her freer and more fluid engagement with the world, built in French, was "frozen" at age 14, and her youth and adulthood were lived in an "efficient manner" in English, albeit without a sense of "rootedness" and continuity of existence. In Chloe's case, language seems to clearly demarcate different senses of self, and her relation to each language reflects her different relationship to internal objects.

4. Conclusion

The present work has aimed to show that linguistic identity is an axis that should be explored and understood in the context of the person's other identity variables, as it is a fundamental marker of one's sense of position and freedom of movement in the world. This is the case regardless of whether we are working with a monolingual or multilingual patient. Multilingualism in the dyad complexifies the therapeutic process, since emotionally meaningful material can remain hard to access without using the language in which those experiences were lived, and changing language during the therapy session can be used by the patient as a defence, or as the only way to access conflictual material. Moreover, the assumption of mutual understanding in the monolingual dyad is erroneous and can lead to a reduction in the field of the therapeutic listening.

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OEDIPUS COMPLEX, OEDIPAL PACT AND SOCIAL PACT: THE INSURRECTION OF OEDIPUS IN HÉLIO PELLEGRINO

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Abstract

This article addresses the thought of Hélio Pellegrino, highlighting his singular contribution to psychoanalysis through the development of a critical and innovative reflection on the *oedipus complex*, the *oedipal pact*, and the *social pact*. Pellegrino — psychoanalyst, poet, and essayist — is among the most prominent figures of twentieth-century Brazilian psychoanalysis and belongs to the fourth generation of the international psychoanalytic movement. His trajectory was marked by a commitment to the democratisation of access to psychoanalysis and the struggle against social injustice. The articulation between psychoanalysis and the Brazilian historical context underpins his critique of authoritarian institutions, revealing the ethical dimension of his clinical practice. The concept of the oedipal pact, as formulated by Pellegrino, reflects the structuring function of the Law, emphasising reciprocity and equality as foundational to the civilising process. Throughout the text, the author analyses how this perspective contributes to the understanding of the structuration of human desire, processes of subjectivation, and the formation of both psychic and social symptoms, positioning itself as a critique of the traditional psychiatric model and the conservatism prevalent within psychoanalytic institutions. Hélio Pellegrino is recognised among the key figures of Brazilian psychoanalysis and is one of the few Brazilian psychoanalysts with a dedicated entry in the *Dictionnaire de la psychanalyse* by Élisabeth Roudinesco and Michel Plon. Moreover, his essay *Complexo de Édipo, Pacto Edípico e Pacto Social* is catalogued in the Sigmund Freud Library in London, translated into English as *Oedipus Complex, Oedipal Pact, and Social Pact*. This fact reaffirms Pellegrino's international relevance, establishing him as a reference not only within the Brazilian context but also on the global psychoanalytic stage. The inclusion of his work in the Freud Library collection symbolises the recognition of his theoretical contributions to psychoanalysis, especially concerning the articulation between psyche, culture, and social institutions.

Keywords: *Hélio Pellegrino, Oedipus Complex, oedipal pact, social pact, Brazilian psychoanalysis.*

1. Oedipus Complex, oedipal pact and social pact: A critical reinterpretation

In Budapest — a city marked by the encounter between psychoanalysis and the aspiration to build a more just future — Freud, in 1918, proclaimed his vision of access to psychoanalytic treatment as a right of all and as a duty of the State (Freud, 1987). Inspired by this original and revolutionary spirit, the present study engages with the thought of Hélio Pellegrino, whose work likewise advocates for a psychoanalysis committed to the emancipation of subjects and to the critique of repressive social structures. Just as Freud envisioned a future in which psychoanalysis would be accessible to all social classes, Pellegrino expanded this proposal by linking psychoanalysis not only to individual clinical practice but also to the analysis of institutions and to political debate. Within this context, we revisit the concept of the oedipal pact as formulated by Pellegrino and his contribution to a critical reinterpretation of the Oedipus complex in psychoanalysis, articulating it with the formation of the social bond. This study is justified by the relevance of Pellegrino's work, whose contributions have yet to be fully systematised, and by its potential to illuminate contemporary questions regarding subjectivity, culture, and power. Here, findings from research based on a documental survey conducted in the archives of the Museu de Literatura Brasileira in Rio de Janeiro are retrieved. The archive houses over 130 psychoanalytic texts — both handwritten and typewritten — by Pellegrino, analysed through an interpretative approach aimed at identifying some of his key theoretical inflections concerning the Oedipus complex and its relation to the social pact. The study is linked to a doctoral thesis, which resulted in the publication of a book (Castro, 2024), constituting a first cartography of Hélio Pellegrino's psychoanalytic work.

The contemporary relevance of the debate on Pellegrino is reinforced by the forthcoming publication of his complete works, which will expand opportunities for revisiting and deepening the

understanding of his intellectual production. This release will not only facilitate access to his thought but also rekindle fascination with his singular figure, whose life journey is masterfully narrated in the book *Hélio Pellegrino: inconfidências*, by João Batista Ferreira Lembi (2024). With a poetic-psychoanalytic style, the author intertwines the life and work of the psychoanalyst-poet, capturing the aesthetic, historical, and affective dimensions of a thinker who transcended the limits of psychoanalysis. The writer guides us through this journey with the delicacy required to reveal not only the intellectual, the psychoanalyst, and the anti-asylum psychiatrist, but also the poet and the man, highlighting the sensitive beauty that permeated his writing and his gaze upon the world, bringing to light previously unpublished aspects of his trajectory and enriching the historiography of psychoanalysis.

His psychoanalytic proposal distances itself from an adaptive approach, aiming instead to emphasise and reclaim the critical and emancipatory dimension embedded in the origins and foundations of psychoanalysis. By problematising the historical use of the Oedipus complex to reinforce power structures, Pellegrino introduces the concept of the *oedipal pact* as a central element in the constitution of subjectivities, unveiling its imbrication with social and political configurations. This concept emerges from his reading of psychoanalysis through the lens of historical materialism and the critique of authoritarian institutions, revealing the singularity of a thought inscribed within the freudo-marxist tradition. In this respect, his reflection resonates with the formulations of authors who sought to articulate psychoanalysis with social critique, such as Wilhelm Reich and Herbert Marcuse, who insist on the transformative essence of psychoanalysis.

Thus, the relevance of his work transcends the psychoanalytic field, extending to broader debates on the reproduction of inequality and the mechanisms of social exclusion. Pellegrino's approach to the Oedipus complex enables a conceptual displacement that expands its theoretical and clinical implications. In formulating the oedipal pact, Pellegrino not only revisits the elaborations of Freud and Lacan, but also questions the ways in which psychoanalysis may contribute to the reinforcement of repressive normativities. In his critique of institutional psychoanalysis, the author denounces its tendency toward complacency with mechanisms of domination and its detachment from the marginalised sectors of society. Within this context, the central question that may be posed is: how does Hélio Pellegrino's formulation of the oedipal pact allow for a critical rereading of the Oedipus complex, and what are its implications for the relationship between psychoanalysis, the social bond, and politics?

The answer to this question lies in examining the oedipal pact as a process of subjectivation that extends beyond the family dynamic, embedding itself in a network of social relations marked by power asymmetries. This shift is essential to rethinking psychoanalytic practice in its articulation with politics and with the historical conditions that shape subjectivity. In investigating these issues, Pellegrino contributes to the expansion of the theoretical horizon of psychoanalysis, reaffirming its critical potential and its ethical commitment to the Other. As Freud foresaw in his lecture in Budapest, psychoanalysis can and must become a democratised instrument for transforming psychic and social suffering.

2. A subversive psychiatry: Hélio Pellegrino and the struggle against the asylum paradigm

Hélio Pellegrino positioned himself as a critic of traditional psychiatry and of the institutionalisation of madness, denouncing asylums as spaces of exclusion and subjective annulment. For him, psychiatry — when aligned with the logic of confinement — functioned as a technology of power that subjected individuals to repression and silencing, rather than promoting care and autonomy. He emphasised that asylum-based internment not only removed individuals from social life, but also stripped them of citizenship and of their condition as desiring subjects. The erasure of alterity promoted by the asylum model was sustained by practices that reinforced institutional violence and isolation, exposing a societal project that naturalised the exclusion of those deemed undesirable to the capitalist order. His critique anticipates and inspires the movement that would culminate in the Brazilian Psychiatric Reform, which, through Law 10.216/2001, established the progressive replacement of asylums with a model of care in freedom, centred on social reintegration and the strengthening of community-based support networks. Pellegrino's struggle echoed in the transformation of public mental health policy, reaffirming that madness must not be confined, but welcomed in its singularity and in the right to a full and dignified existence (Castro, 2025).

His political militancy was decisive in the construction of this emancipatory psychiatry, as he understood that the question of madness was directly linked to power relations and to the social structures of domination. In a country marked by historical inequalities and the systematic exclusion of the poor and Black population, Pellegrino denounced the duality of psychiatric care: while the wealthy had access to humanised treatment, the poor were cast into institutions that more closely resembled warehouses of bodies. His actions inspired the anti-asylum movement, driven by the Sanitary Reform and the struggle for Brazil's redemocratisation, and he remains a reference for critical thought on psychiatry in the country. Pellegrino did not conceive of madness as an exclusively medical problem, but as a social and political phenomenon,

one whose approach required a radical transformation of institutions and of society's very gaze upon psychic suffering. The State's omission, the dismantling of the National Mental Health Policy, and the disproportionate funding of Therapeutic Communities in recent years demonstrate that the struggle for an emancipatory psychiatry remains an ongoing challenge (Desinstitute, 2021). As recent studies indicate, scientific evidence supports the effectiveness of the care-in-freedom model; however, the persistence of political and economic interests in profiting from the suffering of madness under capitalism continues to sustain repressive institutions — even those publicly funded.

3. Hélio Pellegrino and the insurrection of Oedipus

Freud's theory of the Oedipus Complex revolutionised the understanding of subjectivity by showing that sexuality is not merely a biological phenomenon, but rather plays a structural role in the constitution of the subject and in the formation of the social bond (Freud, 1905). Freud highlighted the centrality of Oedipus by identifying it as an essential threshold in the individual's transition to culture, ensuring inscription into the symbolic order through the renunciation of incestuous desire and the acceptance of the Law. Hélio Pellegrino (2020) retains this fundamental premise and expands it by emphasising that the internalisation of the Law cannot be reduced to a mechanism based solely on fear or the threat of castration. For him, the Law plays a structuring role in human desire and must operate as a pact that articulates interdictions and permissions in a reciprocal manner, ensuring both limits and the possibility of desire's circulation within the social bond. Thus, he rethinks interdiction not as prohibition, but as a reciprocal process ensuring recognition and dignity (Pellegrino, 1987b).

The formulation of the oedipal pact, as proposed by Pellegrino, does not replace Freud's conception of the Oedipus Complex but expands it by highlighting its role as a fundamental structure not only in the constitution of subjectivity but also in that of the social bond itself. If Freud identified Oedipus as the central model of socialisation and of the internalisation of culture, Pellegrino (1987a) underscores that this process is not limited to childhood but recurs throughout life — in education, in work, and within institutional relations. The oedipal pact thus functions as a regulator of the interdictions and permissions that structure subjectivity and collective coexistence. What distinguishes his reading from traditional psychoanalytic interpretations is the emphasis on reciprocity in the internalisation of the Law; that is, the necessity that interdiction be accompanied by a set of social guarantees that enable the subject's development under conditions of equality. In this way, Pellegrino shifts the understanding of the Oedipus Complex to a broader dimension, in which the Law is not merely a normative prohibition, but a symbolic agreement structuring the relationship between subject and society. Cultural inscription, therefore, should not be experienced as an annulment of desire, but rather as a process that enables the subject's emergence as an active participant in the social pact.

The distinction between the Oedipus Complex, the oedipal pact, and the social pact allows one to grasp how the psychoanalyst inserts psychoanalysis into the debate on civilisation and politics. While for Freud the internalisation of the Law constitutes the foundation of the psyche and of culture, Pellegrino (2020) expands this analysis by showing how this process may unfold in different ways, depending on the social structure and the historical conditions that shape concrete social pacts. The internalisation of the Law may give rise to emancipatory processes, or conversely, to modalities of submission and exclusion — depending on how that culture is organised. Accordingly, Pellegrino distinguishes between a just social pact, which ensures reciprocal rights and duties, and a perverse social pact, which naturalises inequalities and arbitrary privileges. For him, the capitalist model of society, grounded in exploitation and the reproduction of inequality, reflects a distorted oedipal pact in which the Law functions as unilateral repression, thereby discrediting its structuring function and becoming merely a mechanism of oppression (Pellegrino, 1984). It is within this context that the notion of the *insurrection of Oedipus* emerges, signalling a symbolic rupture with the reproduction of exclusionary and perverse pacts. This reading expands the Freudian conception by demonstrating that Oedipus, beyond being a psychic phenomenon of the individual, is also a historical and political dispositif that structures the social order and modes of subjectivation.

With this reformulation, the author proposes a psychoanalysis committed to social transformation, capable of addressing the dynamics of power and exclusion in the constitution of the subject. For Pellegrino, it is not enough to understand the Oedipus Complex as an internal psychic process; it is essential to analyse it in relation to the structures of power that determine who may or may not access rights and recognition (Pellegrino, 1984). Psychoanalysis, in failing to confront these questions intrinsic to its own field, runs the risk of becoming complicit with forms of domination and adaptation to the status quo (Pellegrino, 1979). His thought aligns with the Freudo-Marxist tradition in demonstrating that desire and subjectivity cannot be understood in isolation, but must be analysed within the context of social relations and the historical conditions in which subjects are constituted. Psychoanalysis, for Pellegrino (1984), must emancipate rather than normalise.

4. The Law and the mechanisms of domination: The perverse pact and the production of exclusion

The psychoanalyst analyses the structure of modern society as a reflection of a *perverse oedipal pact*, in which the Law no longer functions as a symbolic regulator based on reciprocity, but rather as a mechanism of privilege and oppression. For the author, the internalisation of the Law should guarantee a balance between interdictions and rights, ensuring that the subject's desire may circulate within the social bond without being annulled or instrumentalised by perverse power. In unequal societies, however, this pact is broken and replaced by a perverse model sustained by the systematic exclusion of part of the population. This structure appears across institutions — from prisons to psychoanalytic societies — which often sustain domination under the guise of neutrality. The perpetuation of this *perverse pact* hinders the construction of a truly democratic form of socialisation, for it transforms the Law into an instrument of arbitrary power rather than a foundation of equality and alterity. Thus, Pellegrino reaffirms the necessity of a Law that, instead of operating through unilateral repression, be structured as a legitimate social pact in which the interdiction of incestuous and parricidal desire is bound to the construction of egalitarian conditions for all subjects (Pellegrino, 1984).

5. The Economy of Social Jouissance in Violence: Between paranoia and class hatred

The distorted oedipal pact manifests in symptoms like racism, class hatred, and criminalisation of poverty. Pellegrino analyses the social projection of paranoia as a psychic mechanism through which dominant classes displace their own fears and guilt onto those who challenge their hegemony. The persecution of workers, social movements, and marginalised populations reflects this process, in which violence is justified by the imperative to maintain order and domination (Pellegrino, 1979). Historical episodes such as the Riocentro Operation in 1981 illustrate this logic, whereby agents of the State attempted to instrumentalise collective paranoia in order to criminalise the left and legitimise repression. The denial of equality and the use of violence as a political tool are mechanisms by which society avoids the internalisation of a truly democratic oedipal pact, sustaining privilege through repression and systematic exclusion. Structural racism and anti-communism are symptoms of a society that constructs enemies to justify their symbolic or literal elimination (Pellegrino, 1979). Moved by his indignation at structural violence, Pellegrino shows how the refusal of equality and symbolic castration shapes a subjectivity marked by domination and resistance to alterity.

6. The Insistence on Silence: Psychoanalysis, cowardice and the illusion of neutrality

For Pellegrino, institutionalised psychoanalysis often aligned with power and the dominant order. He denounced the historical complicity of psychoanalytic societies affiliated with the IPA with authoritarian regimes, and the resistance of these institutions to the politicisation of analytic thought. For Pellegrino, the alleged neutrality of psychoanalysis is nothing more than an ideological illusion that upholds hegemonic power and compromises the critical and emancipatory potential of freudian theory. The emblematic case of Amílcar Lobo — a military doctor linked to the DOI-CODI and accepted by the Psychoanalytic Society of Rio de Janeiro (SPRJ) — illustrates this distortion, revealing the institution's silence and omission in the face of practices of torture. Pellegrino's subsequent expulsion from SPRJ, after denouncing this contradiction, exposed what he termed the *teleology of incest*: the tendency of psychoanalytic institutions to close in on their own privileges, silencing dissident voices and protecting perverse power pacts. The refusal to listen to political prisoners, the persecution of critical psychoanalysts, and the acceptance of figures directly involved in torture demonstrate how psychoanalysis can be co-opted to reinforce structures of domination rather than to dismantle them (Pellegrino, n.d.a).

For Pellegrino, the Brazilian case reflects a broader institutional malaise rooted in the perverse history of institutional psychoanalysis — a trajectory he likens to a Greek tragedy (Pellegrino, n.d.a). In this sense, his critique of the theoretical distortions of the IPA is unequivocal: the organisation, by maintaining a conservative vision of the Oedipus complex — centred on the function of the Law as an instrument of obedience and order — ends up reinforcing the privileges of the dominant class and distorting the radical nature of Freudian theory. The IPA's 1973 refusal to consider the Amílcar Lobo case, along with its historical complicity with institutions aligned to oppressive regimes, illustrates this entanglement.

7. The law and the right to dream: The oedipal pact and social transformation

Freud (1921) saw the Oedipus Complex as the subject's entry into Law and alterity. Pellegrino (1987) maintains this formulation but expands it by demonstrating how the internalisation of the Law may take different forms, depending on the social structure in which it is embedded. When the Law operates as a mechanism of equality and reciprocity, it makes possible the development of a just social pact; however, when appropriated by perverse power, it is transformed into an instrument of privilege and exclusion. For him, authoritarian societies distort the oedipal pact by structuring the Law not as a democratic regulator, but as a means of coercion and domination. In this way, what ought to be a pact grounded in justice is converted into a *perverse pact*, which obstructs the emancipation of subjects and naturalises oppression.

In criticising the conservative tendency of institutional psychoanalysis, Pellegrino shows how the theory can be mobilised either for liberation or for the maintenance of the existing order — when distorted for the ends of right-wing ideology (Pellegrino, n.d.-a). His thought recovers the subversive potential of psychoanalysis by insisting that the Law cannot serve as an instrument of exclusion, but must instead guarantee the right to difference and to freedom. His proposal thus reformulates psychoanalysis as a field not only of interpretation of the unconscious, but of resistance to the structures of power that shape subjectivity and the social bond.

8. Hélio Pellegrino and the democratisation of psychoanalytic knowledge

Hélio Pellegrino was insubordinate. With his sharp voice and unwavering commitment to justice, he refused to accept a psychoanalysis enclosed within elitist circles, protected by symbolic walls that distanced it from those who needed it most. For him, psychoanalysis could not be a science of silence, nor a profession of the consulting room reserved for a privileged few. It was, rather, a practice committed to human emancipation, to the unveiling of power structures, and to the denunciation of forces that reduce the subject to a mere object of history.

His confrontation with the Psychoanalytic Society of Rio de Janeiro (SPRJ) exemplifies this struggle: in demanding a public stance against the crimes of the dictatorship, he not only exposed the institution's complicity with authoritarianism, but also revealed the extent to which psychoanalysis, when detached from a commitment to concrete reality and to that which dehumanises, may be captured by perverse power. In resisting such capture, he reclaimed a popular psychoanalysis — accessible, rooted in Brazilian culture, and above all, engaged in social transformation. He saw psychoanalysis as a tool to break dominant discourse and foster new subjectivities.

His writings — now on the verge of being revisited with the publication of his collected works — present a psychoanalysis that pulses with the rhythm of love for the other, of discontent, of revolt, and of the desire for transformation. In his theory of the oedipal pact, Pellegrino expanded Freud's vision by showing how the structuring of desire occurs not only at the psychic level but is inseparable from the social and political conditions into which the subject is inscribed (Pellegrino, 1987). He did not conceive of the Law merely as an abstract interdiction, but in its concrete expression — as a promise that should guarantee rights and dignity for all, in a reciprocal relation. Pellegrino warned against the ideological misuse of Oedipus as a tool of adaptation, reaffirming the libertarian vocation of psychoanalysis and its role in defending desire and difference. If desire is always traversed by the social, it is in the struggle against oppression that a truly human and libertarian oedipal pact becomes possible.

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INTEGRATING FREUDIAN, RELATIONAL/INTERPERSONAL PSYCHOANALYTIC AND NEUROSCIENCE CONCEPTS OF UNCONSCIOUS PROCESSES: DISSOCIATION, NOT REPRESSION

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Abstract

Until the "cognitive revolution" in psychology, psychologists and psychoanalysts had different models of the mind. Not only were unconscious processes unimportant to behavioral psychologists, conscious processes were not important as well. Once the "cognitive revolution" took place in psychology, conscious processes, and eventually unconscious processes, were believed to be crucial again to understanding human behavior. The experiences that are unconscious in contemporary cognitive psychology are not, however, experiences that people appear motivated to keep out of awareness. They are experiences that are simply not activated by current situations. The psychoanalytic unconscious has continued to represent experiences that either do not reach awareness or get pushed out of awareness—in other words threatening experiences of which there is motivation to remain unaware to maintain the functioning of the meaning system—what Freud called "repression". Knowledge that neural networks are activated by incoming experiences, especially those related to physical and psychological survival, and that the organization of experiences takes place on an ongoing basis, can unify psychology and psychoanalysis in their understanding of these processes. Psychoanalysts can now join mainstream neuroscience and scientific psychology by laying the term "repression" to rest and thinking instead in terms of "motivated forgetting" and of threatening experiences as sometimes "dissociated." It is useful, however, to conceptualize unconscious processes not only as repressed, dissociated, or "adaptive" (or maladaptive), but as a cauldron of generative experiences. Turning to a patient Andreas, it is noteworthy that his insight into the origin of his "dead" feelings did not eliminate the compulsive sexuality that bothered him so deeply. He required learning other ways of handling feelings, not only an awareness of the origins of these feelings. Specific strategies about alternative ways of responding that some clinicians might consider "nonanalytic" were helpful to him until he became involved in a more meaningful relationship with another man. Unconscious processes are a sort of "boogie-woogie," always rumbling in the background, with desires waiting to be satisfied and connections waiting to be forged. They rumble like a "boogie-woogie" out of awareness all the time until they are activated by external or internal experiences. We can think of the mind as having various aspects of self-representations that are not fully activated influencing our feelings and behaviors without our full knowledge—like Baudelaire's (1857) "city full of swarming ants, city full of dreams where ghosts in plain daylight grab at passers-by."

Keywords: *Unconscious processes, psychology, psychoanalysis, dissociation.*

1. Unconscious processes in psychology and psychoanalysis

Until the cognitive revolution in psychology, psychologists and psychoanalysts had very different models of the mind. Not only were unconscious processes unimportant to behavioral psychologists, but conscious processes were also not important. Once the "cognitive revolution" took place in psychology, conscious processes, and eventually unconscious processes, were believed to be crucial again in understanding human behavior. The experiences that are unconscious in cognitive psychology are not, however, experiences that people appear motivated to keep out of awareness. They are experiences that are simply not activated by consciousness, i.e., by current situations. For psychoanalysts, in their understanding of conscious, unconscious processes, and their interplay, unconscious experiences are also those that are not connected or "dissociated" from the conscious processes activated at any given moment. Psychoanalysts can join mainstream neuroscience and scientific psychology by laying the term "repression" to rest and thinking instead in terms of "motivated forgetting" and of threatening experiences as sometimes "dissociated". It is useful, however, to conceptualize unconscious processes not only as repressed,

dissociated, or “adaptive” (or maladaptive), but as a cauldron of generative experiences—perhaps burning, perhaps murky, but always rumbling in the shadows of the mind.

2. The psychoanalytic unconscious

The psychoanalytic unconscious has continued to represent experiences that either do not reach awareness or get pushed out of awareness—in other words threatening experiences of which there is motivation to remain unaware --to maintain the functioning of the meaning-making system. Knowledge that neural networks are activated by incoming experiences, especially those related to physical and psychological survival can unify psychology and psychoanalysis in their understanding of conscious and unconscious processes and their interplay. Unconscious experiences are those that are not connected or “dissociated” from the conscious processes activated at any given moment. Psychoanalysts can join mainstream neuroscience and scientific psychology by laying the term “repression” to rest and thinking instead in terms of “motivated forgetting” and of threatening experiences as sometimes “dissociated.” It is useful, however, to conceptualize unconscious processes not only as repressed, dissociated, or “adaptive” (or maladaptive), but as a cauldron of generative experiences—perhaps burning, perhaps murky, but always rumbling in the shadows of the mind.

3. Three unconscious minds

Three views of the unconscious minds have developed—a repressed unconscious from Freudian theory, a dissociated unconscious from Sullivanian and trauma theories, and a non-defensive, adaptive unconscious from cognitive theory. Recently, relational psychoanalysts have adopted a "dissociational" model of the mind, for a variety of reasons, including the fact that repression is a term related to the squashing down of instinctive urges which they no longer see as the major motivational urges. Rejecting drive theory, the models of Sullivan (1953) and Fairbairn (1929) considered dissociation to be the primary mode of defense. Cognitive and other psychologists in the empirical tradition have also adopted the word dissociation, initially perhaps out of an attempt to distance themselves from the idea of the psychoanalytic unconscious, but also quite likely because of the lack of clarity surrounding the term "repression." Although both relational analysts and academic psychologists speak primarily of dissociations, there is greater overlap in the understanding of relational and other psychoanalysts about unconscious processes, however, than there is between psychoanalysts and empirical psychologists.

On June 5, 1968, Sirhan Sirhan shot Robert F. Kennedy. Apparently, Sirhan had attacked Kennedy in a very agitated state and remembered nothing about the event afterwards. Diamond (cf. Bower, 1981), the forensic psychiatrist who examined Sirhan hypnotized him and helped him reconstruct the memories of what had happened in the kitchen of the Los Angeles hotel. "Under hypnosis, as Sirhan became more worked up and excited, he recalled progressively more, the memories tumbling out while his excitement built to crescendo leading to the shooting. At that point Sirhan would scream out the death curses, "fire' the shots, and then choke as he re-experienced the secret service guard nearly throttling him after he was caught. Despite the fact that Sirhan would have liked to have felt that he did the deed (in the cause of Arab nationalism) he was never able, through conscious effort in a non-hypnotized state, to remember doing so." Do psychoanalysts call Sirhan's memory repressed or dissociated? It fits Freud's definition for “repression” as "rejecting and keeping something out of consciousness” (1915, p. 105). The memory involves what many may think of as a forbidden instinctual urge--murder. But the memory seems to be available in a dissociated state, so that many analysts would call it “dissociated.” Although many psychoanalysts might agree that some examples of forgetting seem to be more clearly "dissociation" and others that are more clearly "repression," there is a great deal of overlap in these ideas. Let us look further at these two unconscious minds in psychoanalysis.

4. Dissociation in neuroscience

Disconnections as a consequence of physical damage are referred to as dissociations throughout the neuroscience literature. Obviously, these dissociations from physical processes are not related to motivation in any way. Attempts to integrate the neuroscience perspective with the psychological perspective have merged in a field called “social cognitive neuroscience (Ochsner & Lieberman, 2001) and a new journal *Cognitive, Affective and Behavioral Neuroscience.*

5. Case example

With regard to a patient Andreas, it is noteworthy that his insight into the origin of his "dead" feelings As coming from his mother daily looking at a photo of a dead sister did not eliminate the compulsive sexuality that bothered him so deeply. His behaviors he had developed to cope with the dead feeling required learning other ways of handling his feelings, not only an awareness of the origins of his feelings. Specific strategies about alternative ways of responding that some clinicians might consider "nonanalytic" were helpful to him until he became involved in a more meaningful relationship with another man. It is unclear if he "repressed" or "dissociated" the memory, but it also required conscious processing of his reactions to get over his compulsive activity and a relationsip with a stable partner.

6. Measuring unconscious processes

Unconscious processes are now being measured by a number of ways: 1) Implicit measures, including the Implicit Association Test, the Affect Misattribution Procedure, and lexical decision tasks; 2) Physiological measures that track bodily responses, such as electroencephalography (EEG**)** / Event-Related Potentials (ERP) that detect brain activity patterns related to unconscious processing, functional magnetic resonance imaging (fMRI**)**: identifying brain regions activated by unconscious stimuli, skin conductance responses: measuring changes in sweat gland activity, indicating unconscious emotional response, pupillometry tracking pupil dilation as a sign of cognitive effort or arousal; 3) Behavioral methods observing how people behave without explicit self-report, including priming tasks (a stimulus influences responses to subsequent stimuli, revealing implicit association), eye-tracking**,** .and automatic motor responses such as hand movements in tasks like mouse tracking that reveal implicit tendencies, and 4) Hypnosis & subliminal messaging, presenting stimuli below the threshold of awareness to influence later responses.

Furthermore, a fleury of recent research on dreams by neuroscientists is providing evidence of the motivational factors involved in dreaming. Functional neuroimaging and neurophysiological techniques open fascinating new perspectives on the psychodynamic understanding of dreams (Castellet y Ballara, Spadazzi, & Spagnolli, 2023). And, at a recent meeting of neuroscientists, they voted in favor of a Mark Solms' (2018) Freudian view of the motivation of dreams over that of Harvard's Allan Hobson's random theory. Quoting from a paper in Neuropsychoanalysis (2023) by Campos Barbosa, "Functional neuroimaging and neurophysiological techniques open fascinating new perspectives on the psychodynamic understanding of dreams… This model proposes a correlation between the neurophysiological and the clinical role of dreaming… [T]he manifest content of the dream needs to be "unraveled" into its emotional roots. In conclusion, within a framework which includes psychoanalysis, theoretical and affective neurosciences, dreams represent the via regia not to the unconscious but to self-awareness and emotional self/regulation."

And quoting Mares, a student in Australia, in a recent article on the common factors in CBT, psychoanalysis and schema therapy. . .." [U]nconscious processes are thought to be a major cause of symptoms, (b) a patient's symptoms can be used to infer something about their unconscious causes, and (c) patients becoming consciously aware of unconscious processes is an important aim of treatment" (2022, p. 443).

7. Conclusions

Unconscious processes are a sort of "boogie-woogie,' to use the language of the poet Langston Hughes, always rumbling in the background, with desires waiting to be satisfied and connections waiting to be forged. They rumble like a "boogie-woogie" out of awareness all the time until they are activated by external or internal experiences. Now that the thinking in social/cognitive psychology has included the possibility of unconscious goals, or "dreams deferred" in Hughes' language, more research by psychologists can potentially include arousal of the conflicting unconscious desires most important to people. A broader conceptualization of unconscious processes as creative can unify both psychoanalytic and cognitive understandings of unconscious processes and is discussed further elsewhere (Curtis, 2009). If we think of the mind as having various aspects of self-representations (that are not fully activated aspects of self) that might be influencing our feelings and behaviors without our full knowledge – like Charles Baudelaire's (1857) "city full of swarming ants, city full of dreams where ghosts in plain daylight grab at passers-by" (author's translation).

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EVALUATION OF THE RED CROSS PROGRAM OF SAVING THE CHILDHOOD OF WAR AFFECTED CHILDREN FROM EX-YUGOSLAVIA IN GREEK FAMILIES

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Abstract

In the early 1990s, separation of constituent republics of Yugoslavia led to a civil war. In the following years, Serbia went through a social, political and economic crisis, and UN sanctions. To support children that were most affected by these conditions, a comprehensive Program of children recovery in Greek families was created. Children from Serbia and the Republic of Srpska were sent to Greece for recovery during holidays and for schooling (six months stays). In the period 1993 – 2011, there were 21.648 children (7-16 years of age) that were hosted in families all over Greece. The recovery Program was overseen by the ministries of health, education, social care and foreign affairs in both countries. The aim of this paper was to explore the evaluation of this complicated and complex community-based psycho-social intervention. Qualitative evaluation was based on the available Program documentation, press-clipping, documentary films and semi-structured interviews with participants – ex-children (17), teachers (three), Red Cross people - employees and volunteers (two) and Greek host families – parents (five). Data were analyzed using thematic analysis. Due to the extremely sensitive situation of the children and overall uncertainty and ambiguity, great care was devoted to the process evaluation that entailed continuous monitoring of children by teachers, physicians, families, Red Cross professionals and volunteers. All children went through the before/after medical checkup. Those that went to school in Greece were assessed by their teachers. As part of the process evaluation of the overall Program, the stay of every group went through outcome evaluation. Teachers, physicians and Red Cross people reported about children's psychophysical health, adaptation and development at the beginning, during and after their stay. Findings were used for improving the stay of the following groups - dealing with selection of children and Greek families, activities with children and caring for their wellbeing. Most important benefits for the children were living in good conditions and safe places, attending school regularly, participating in family life, and shifting their focus from disasters of war. Positive experiences from the perspective of all the stakeholders led to enlargement of the Program. In the period 2021-2024 we performed qualitative evaluation of the Program. Decades later, memories of all the participants were extremely positive. Grown-up children had vivid memories of peaceful life, warmth, peer-related positive emotional memories, memories of sun and sea, and Greek culture. Safety, warmth and abundance were the key memories that were in strong contrast to war related memories. Ties between “ex-children" and Greek families are still strong. Staying with Greek families also had a strong impact on career paths of some children. Positive impact of the Program inspired long-term media attention over the years in both countries. Unique, long-term evaluation shows that however specific, restoration of routines was of critical importance for trauma recovery and resilience-building among war-affected children. The stay in Greece could not heal all the wounds but it helped children be children.

Keywords: *Programme theory evaluation, war affected children, Serbia, Greece.*

1. Introduction

Year after year, children are exposed to war (according to UNICEF over 473 million of children live amid the war or armed conflict), yet empirical research findings on the interventions aiming to protect children and support their recovery are still scarce (Masten et al., 2015). In the early 1990s, after more than 70 years of living in the same country, constituent republics of the Socialist Federal Republic of Yugoslavia separated. Unfortunately, numerous unresolved problems led to a civil war. In the following years Serbia went through a social, political and economic crisis, and UN sanctions. Consequently, the Red Cross was

faced with large numbers of displaced persons, missing persons, refugees, orphans and children that lived in poverty. To support children that were most affected by these conditions, a comprehensive Program of recovery of children in Greece was created.

Children from Serbia and the Republic of Srpska were sent to Greece for recovery during holidays (Christmas, Easter and summer break) and for schooling (six-month stays that were organized three times in the period 1994 - 1996). In the period 1992 - 2011 there were 21.648 children that were hosted in families all over Greece. Children were 7-16 years of age. These were children that lost one or both parents (or they were missing), refugees from Ex Yugoslavia, displaced children from Kosovo and Metohija, children living in poverty. Program ended in 2011 due to the economic crisis that hit Greece. It should be noted that children went to Greece for recovery as part of other arrangements as well (in cooperation of municipalities, Greek Orthodox Church, and various organizations of civil society).

Psychosocial Recovery Program was both a complex and complicated intervention planned and overseen by the ministries of health, education, social care and foreign affairs both in Serbia and Greece. One of the main dilemmas before the start of the Program was if the war-traumatized children should be taken away from the close ones to a completely unknown environment that could traumatize them additionally. Due to the extremely sensitive situation of the children and overall uncertainty and ambiguity, the aim of this paper was to explore and discuss evaluation of this specific program. Process evaluation focuses on social processes and mechanisms during the implementation of a program, and at the same time develops building blocks for the later evaluation of outcomes (Fridrich et al., 2015).

2. Method

Evaluation was explored based on the available program documentation, press clipping and interviews with participants – children, teachers, Red Cross people (employees and volunteers) and Greek families. In particular, process evaluation was carried out as digging into the past based on Red Cross documentation (e.g., Yugoslav Red Cross, 1995) and interviews with participants. Documents that were analyzed included procedures, agreements, status reports, press clipping, and films that were created during the realization of the Program.

Outcome evaluation was carried out in the period 2021-2024 as qualitative evaluation of the program with those that participated as children, teachers, Greek host families and Red Cross people. We conducted semi-structured interviews with various participants of the Program: 17 adults that participated in the Program as children, three teachers and five members of Greek families. Outcome evaluation also included two films that were created after the program ended. Video material included Euronews documentary (Popovic, 2023) and documentary about the realization of the Program at the Greek Tinos Island (Kojic, 2024). Data were analyzed using thematic analysis.

3. Findings

Great care was devoted to the process evaluation that entailed continuous monitoring of children by teachers, physicians, Greek families, Red Cross professionals and volunteers. All children went through the medical checkups before travelling and after returning from Greece. Those that went to school in Greece were evaluated by their teachers (they had regular classes in Serbian and they were learning Greek). As part of the process evaluation of the overall Program, every group of children went through outcome evaluation. Teachers, physicians and Red Cross people reported about children's psychophysical health at the beginning, during and after their stay, adaptation and development during the stay. These findings were used for improving the stay of the following groups dealing with selection of children, selection of Greek families, activities with children and monitoring their wellbeing. Most important benefits for the children were living in good conditions and safe places, regularly going to school, participating in family life, and shifting their focus from disasters of war. Positive experiences from the perspective of all the stakeholders led to enlargement of the Program. As early process evaluation and immediate outcome evaluation based on the one-month stay of children from Banja Luka on the Kos Island gave positive impressions and results, Greece shared positive experience with representatives of European capitals inviting them to join the Program, but other European countries stayed silent.

As part of the long-term outcome evaluation, decades later, memories of all the participants were extremely positive. Grown-up children had rich memories of warmth and peer-related positive emotional memories, memories of sun and sea, and Greek culture. Safety and warmth were the key memories that were in strong contrast to war related negative memories. Some of the memories of impressions were “We completely forgot about the war.” (girl). “We were so carefree” (girl). “They reset us” (girl). “They (children) forgot about the war” (teacher). “Children were so relaxed, as if they did not suffer all those losses at home” (teacher). “Six months stay on the Greek island Tinos saved my childhood” (boy). Children

were also strongly impressed by abundance in everything: “there was abundance of laughter, joy, food, toys...” (girl). “We were so happy when they took us for a whole week on a cruiser” (girls, boys). The impressions are quite similar and each could be signed by more than one person.

Memories show “As a child I had my heroes, but they were wiped out by the war. Then, at Tinos Island, I got my new heroes from my Greek family” (boy, 9 years old at that time, lost father in war). There are still strong ties between ex-children and Greek families. These ties are even passed on to new generations (some of them visiting each other for weddings, baptisms, graduation ceremonies). Also, some connections were lost, mainly due to relocation of children or economic hardship. A grown-up boy who lives in one of the EU countries, unannounced visited his Greek family in a village close to Thessaloniki for the first time 25 years after staying with them. His Greek mother took him to his room and gave him the pyjamas he forgot there a long time ago. She kept it under his pillow waiting for him all those years. She said: “I knew you would come back one day”. Greek hosting families were families. Members of hosting families took on their family roles of mothers, fathers, aunts and uncles, brothers and sisters. Thus, they could create the much-needed healing environment.

From the career management perspective, it is important to note that Program influenced the careers of children in a number of ways. Learning Greek language and getting familiar with the Greek culture led them to jobs in hospitality and tourism, translating, and teaching Greek language. Some turned to careers which they first met in their (extended) Greek families (e.g. architect, plumber, physician) or about which they learnt during the Program (e.g. footballer, priest). Career paths could be regarded as an unintended outcome.

The Program gained strong media attention over the years in both countries. Positive impact of the Program inspired documentaries "A century for the future" (Red Cross of Serbia, 1994), "House of warm souls" (Vujasinovic, 2001), film and TV series "There where someone is waiting for you" (Popovic, 2023). The premiere of the film "Saving the broken childhood" (Kojic, 2024) took place on Tinos Island. Thirty years earlier Tinos hosted the author of the film together with 90 children and four teachers from the Republic of Srpska. Several of them went to Tinos for the premiere. Due to economic hardship, for some of the "then-children" that was the first time they returned to Tinos and reunited with their Greek families.

4. Discussion

There is a striking gap between the exposure of children to war and evidence based on evaluating interventions developed to support war affected children (Masten et al., 2015). Evaluation presented in this paper lists great immediate effects on children's mental health and well-being, in some cases extremely quickly visible, as well as positive long term outcomes. Safety, abundance, warmth and bonds with Greek families helped children to forget about the war, to get back to the mode of carefree childhood and build grounds for future development. Long-term emotional bonds between the children and Greek families who hosted them, moreover between families from Serbia and Republic of Srpska and Greece, still play an important role in the lives of all the participants.

What were the key levers for the success of the Program? On one side, it was thoroughness, comprehensiveness and multidisciplinary approach in designing and implementing the Program. Moreover, on the other hand, it was the charity and sacrifice of the Greek hosts, not only families and schools, but also organizations and entire local communities all over Greece. Thinking of the context, we should be reminded of a deeply touching episode in recent Greek history. In 1948, at the peak of the Civil War, tens of thousands of children were evacuated from their homes to be protected from the war (Danforth & Boeschoten, 2011; Mircevska 2014). As part of two programs, children were taken to orphanages in Eastern Europe (including Yugoslavia) and children’s homes and foster care in other parts of Greece. Less than half a century later, wishing to save them from the war, Greeks opened their hearts and homes to neighbouring children. A favourable Greek recovery context proved to be essential for children from ex-Yugoslavia together with specific restoration of routines away from war, in an unknown but warm family with children of similar age, welcoming community and cultural setting. In addition, for children that stayed longer and went to school in Greece, restoration of routines was also under specific circumstances – unknown school and peers (with opportunities for integrating and learning the unknown language), where classes and communication with the teacher and other children was in their mother tongue.

For such a complex psycho-social intervention, applying the context, process, and outcome evaluation model proved to be extremely useful (Fridrich et al., 2015). From the perspective of the long-term evaluation, we would like to add that outcome evaluation could be perceived at two levels. On the first level, immediate outcomes were assessed after children returned from Greece. On the second level, evaluation was carried out two-three decades after children and other participants took part in the Program. Although, exploring memories about the past can be regarded as a limitation of the retrospective studies, in this case, we believe that it adds an important layer to the immediate evaluation. As there are so many

deeply moving stories and anecdotes about staying with Greek families, for future exploration of the effects of the Program we plan to apply a storytelling approach. Memories of the Program and what it meant to participating children are deeply ingrained in who they are today. As one of the little girls at that time said "At that time we were not aware of the privilege we had by being taken to Greece. We did not understand how much it meant to us as we understand today".

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Posters

SAFER-DEM: GENERATING CO-DESIGNED ADAPTATIONS TO A DISCHARGE CARE PLANNING BUNDLE FOR PEOPLE LIVING WITH DEMENTIA

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Abstract

Individuals living with dementia are often excluded from care transitions research and discussions around their discharge from hospital. In collaboration with people living with dementia, their carers and mental health professionals we sought to co-design a dementia inclusive discharge care planning bundle (SAFER-DEM) based on an existing intervention (SAFER mental health care bundle). We used sequential co-design workshops and 'think aloud' methodology to adapt the resources. Think aloud interviews were analysed using Thematic Analysis and highlighted key changes such as simplified language, flexible timings, personalised support, digital and non-digital formats. Better communication and dementia-inclusive hospital environments and processes are needed to improve hospital discharge, the SAFER-DEM shows potential to improve dementia care during hospital discharge.

Keywords: *Mental health services research, care transitions, inpatient mental health services, dementia, shared decision making.*

1. Introduction

Individuals living with dementia are often excluded from care transitions research (Piraino et al., 2012), leading to unclear understanding of their specific needs in inpatient mental health settings. People living with dementia are seldom involved in their own discharge discussions (Corrado et al., 2019), making the navigation of this vulnerable period challenging for them and their carers. The SAFER-MH care bundle seeks to improve discharge quality for those transitioning from mental health hospitals to the community (Tyler et al., 2023). This study aims to co-design adaptations to the care bundle to make it more applicable to people with dementia.

2. Objective

In collaboration with people living with dementia, carers, and a graphic designer this study aims to co-design a dementia-inclusive version of the SAFER-MH care bundle, termed SAFER-Dem.

3. Methods

Three stakeholder groups were involved: people with lived experience of dementia, carers and healthcare professionals. Four co-design workshops were held with 17 participants from diverse backgrounds. Participants were presented with the original SAFER-MH (Tyler et al., 2023) resources and ideas for potential adaptations were invited and discussed, revised prototype resources were fed-back as

the workshops progressed. This was followed by 12 ‘Think Aloud’ interviews (Tourangeau, 1984) using prototype resources. A thematic analysis was conducted (Braun & Clarke, 2012). Figure 1 shows the methods used to develop the resources and figure 2 shows an example of a scenario card protocol developed during the workshops and presented to participants in the ‘Think Aloud’ interviews.

Figure 1. Summary of the methods used to develop the protocols.

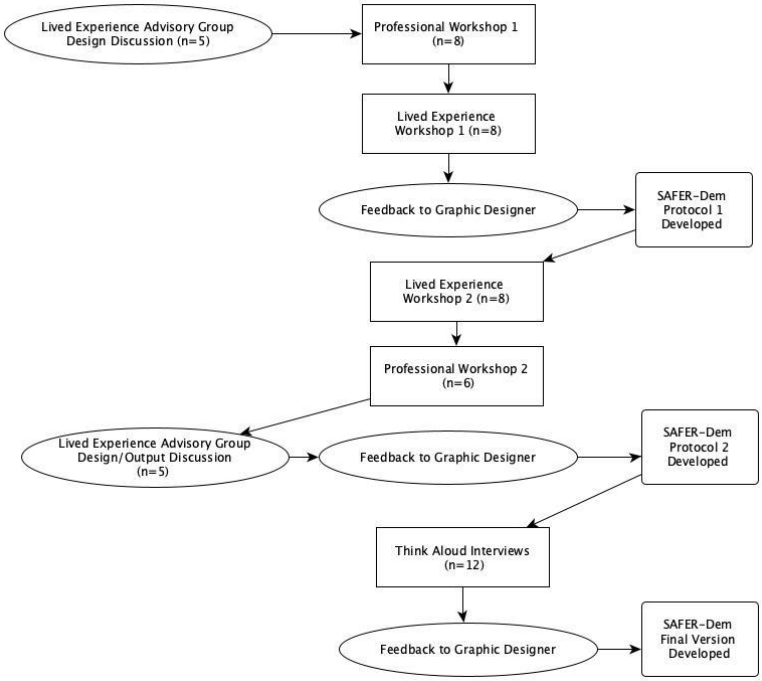
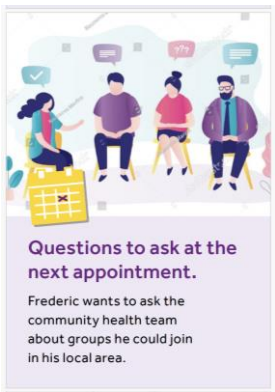


Figure 2. Example of protocol scenario card developed at Protocol 2 stage and presented to participants during the ‘Think Aloud’ Interviews.



4. Results

In the workshops, participants recommended simplifying materials and tailoring them to different levels of dementia severity, favouring realistic illustrations over cartoons or photographs. They also suggested developing scenario cards and 'talking mats' to enhance communication. The Think Aloud interviews identified two main themes: dissatisfaction with discharge procedures, particularly regarding communication issues and suggestions for practical improvements to the SAFER-Dem care bundle. Recommendations focused on improving appropriateness by using clear, relatable imagery and offering both digital and non-digital formats. Practical changes included flexible timing, individualized involvement of carers, and addition of memory aids. Usability improvements emphasized the need for simplified language and personalized support. Table 1 provides a summary of the themes and subthemes that emerged from the ‘Think Aloud’ interviews.

Table 1. Themes and subthemes from the thematic analysis of responses during the 'Think Aloud' Interviews.

Themes	**Sub-themes**
Appropriateness	Usefulness
	Accessibility and inclusivity
	Capacity
	Idealism
Practical Changes	Resources format
	Digitalisation
	Simplification and clarity
	Emotive responses
Usability	Timing
	People involved
	Additional Aids

5. Discussion

The SAFER-Dem care bundle was well received by stakeholders, showing promise for improving the quality of discharge practices for people with dementia. However, participants identified areas for improvement to enhance accessibility and effectiveness. Key concerns raised were around communication and environmental issues during discharge, highlighting the need for more dementia-sensitive approaches. Practical suggestions focused on refining the bundle's usability and appropriateness to better meet the unique needs of this population. These findings suggest that with further refinement, SAFER-Dem could become a valuable tool in supporting dementia-inclusive discharge practices. Research, patient and public involvement and co-design with people living with dementia have been instrumental in understanding needs and experiences during discharge.

6. Key Implications

- The SAFER-Dem care bundle shows potential to improve dementia care during hospital discharge.
- Better communication and dementia-inclusive hospital environments are needed for smoother discharges.
- Engaging people living with dementia, their caregivers, and professionals in co-designing discharge solutions is crucial to addressing their needs effectively.

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PRIMAL WORLD BELIEFS AND PERFECTIONISM AS PREDICTORS OF ALCOHOL USE

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Abstract

Problematic alcohol use is frequently associated with symptoms of depression and anxiety. A major shift in treating these conditions occurred with Beck's theory on beliefs about the self, the world, and the future, later expanded by the concept of Primal World Beliefs—fundamental beliefs about the world, such as whether it is safe, enticing, or good, which influence how individuals perceive and interact with their environment. Studies also suggest a link between problematic alcohol use and perfectionism, understood as a set of self-focused beliefs that heighten the fear of failure. *Aim:* This study examines the relationships of perfectionism (high standards and discrepancy) and primal beliefs with alcohol use levels. *Method:* The sample included 882 participants (52.5% women; Mage = 33.42; SD = 14.94). Measures included the Alcohol Use Disorders Identification Test (Saunders et al., 1993), the PI-18 Primal Inventory (Clifton & Yaden, 2021), and the Short Almost Perfect Scale (Rice et al., 2014). *Results:* Regression analysis, controlling for age and gender, revealed that lower age, male gender, and lower levels of the Primary Primal belief "Good" predicted higher alcohol use. Perfectionism was not a significant predictor. *Discussion:* These findings contribute to health psychology by linking primal world beliefs to problematic alcohol use, with implications for the prevention of both alcohol misuse and depressive disorders.

Keywords: *Alcohol use, perfectionism, primal world beliefs.*

1. Theoretical background

Beliefs shape the way people approach alcohol use. Cultural and normative beliefs are reflected in views about the harms and treatment of alcohol use disorder (Koski-Jännes et al., 2016). Likewise, beliefs may contribute to alcohol misuse as they are a source of emotional experience. Beck (in Bridges & Harnish, 2010) claimed that many disorders originate and are sustained by negative beliefs and thinking styles, that people have about themselves, about their circumstances, and their future. "Beliefs contain assumptions, expectations, fears, rules, and evaluations" (Buschman et al., 2018). Clifton and Crum (2024) state that the world is a situation from which it is impossible to leave, and evaluating of the world is an ongoing process. Primal world beliefs - primals - are defined by Clifton et al. (2019, p.1) as "an individual's most basic beliefs about the general character of the world as a whole". Primal world beliefs form the background that is used to evaluate situations.

According to Beck, negative events in the world trigger a cognitive triad of irrational beliefs about oneself about the world and about the future. Some of these may also manifest in the form of perfectionistic beliefs. Perfectionism is a personality trait that expresses itself in high personal standards and expectations for oneself and a substantial self-criticism toward achieving those standards (Rice et al., 2013). Adaptive perfectionism may appear to be protective in terms of alcohol use (Nelsen et al., 2023; Watson et al., 2020). This may be due to adaptive coping, through which people deal with negative circumstances and environmental pressures. Conversely, maladaptive perfectionism have been shown to be linked to susceptibility to temptation in the context of alcohol use (Hannah Lee & Suh, 2022). Also, drinking to cope is one of the coping strategies people use to deal with negative affect (Richardson et al., 2020).

Previous research found that primals are associated with depression and life satisfaction (Clifton et al., 2019). Studies have also discussed the links between depression, life satisfaction, and alcohol use (Jensen et al., 2021; McHugh et al., 2019). The aim of this contribution is to examine the relationship of primary world belief - good, as well as the personality trait of perfectionism to alcohol use.

2. Methods

The sample consisted of 882 participants (52.5% women; M_{age} = 33.42; SD = 14.94). Alcohol use level was measured using the AUDIT - Alcohol Use Disorders Identification Test (Saunders et al., 1993).

AUDIT consists of 10 items that assess alcohol intake, dependence, and adverse consequence. In total, it reflects the frequency, amount, intensity, and consequences of alcohol consumption. Cronbach alpha: .826.

Primary world beliefs were measured by the PI-18 questionnaire (Clifton & Yaden, 2021). The questionnaire examines the primal "good" (Cronbach alfa = .809) as well as a triad of primary world beliefs: alive, enticing, safe. Respondents rate items on a 6-point Likert scale.

The Short Form of the Revised Almost Perfect Scale (Rice et al., 2013) was used. The scale includes two aspects of perfectionism, high personal standards (Cronbach alpha: .858) and self-discrepancies (Cronbach alpha: 819). Each of the subscales has 4 items that respondent's rate on a 7-point Likert scale.

Data were analyzed by correlation and regression analysis using SPSS 21.

3. Results

Table 1. Correlational analysis of the relationships between alcohol use, primary primal "good" and perfectionism.

	M	SD	1.	2.	3.	4.
1. AUDIT	13.984	4.048				
2. Primal GOOD	4.133	0.657	-.128**			
3. Perfect Scale - Standards	4.538	1.321	0.033	0.056		
4. Perfect Scale - Discrepancy	3.323	1.200	0.049	-.293**	.290**	

A weak negative correlation was found between alcohol use and primal "good". Also, weak negative correlation was found between discrepancy and primary primal "good". High standards and self-discrepancy were positively correlated.

Table 2. Linear regression: primary primal 'good', high standards and self-discrepancy as predictors of alcohol use.

	B	SE	β	t	Sig.
Gender	-2.236	0.289	-0.281	-7.739	0.000
Age	-0.036	0.011	-0.124	-3.363	0.001
Perfect Scale - Standards	0.105	0.134	0.031	0.789	0.430
Perfect Scale - Discrepancy	0.051	0.150	0.014	0.339	0.734
Primal GOOD	-0.730	0.252	-0.115	-2.896	0.004

Linear regression (R^2=10.6, F= 11.717, p<0.001**)** proved a negative relationship of primary primal "good" to alcohol use. Neither high standards nor discrepancy was significantly associated with alcohol use. Controlled variables lower age and female gender were positively associated with alcohol use.

4. Discussion

The aim of this paper was to examine the relationship between primal "good", perfectionism and alcohol use. It was found that the more people perceived the world to be "good", the less they used alcohol. No significant relationships were found between perfectionism and alcohol use. Correlational analysis also indicated that respondents with higher self-discrepancy perceived the world as less "good". This means that self-critical respondents perceived the world as less "good".

Previous research has found that negative primary beliefs have almost never been associated with more favorable outcomes in the form of success, life satisfaction, and health (Clifton & Meindl, 2022). For beliefs about the world, one could apply the rule regarding beliefs about the self that it is not the positivity or negativity of the beliefs that is most important. What is essential is the ability to update them, influenced by experience (Kube et al., 2019). In one study, the most common reasons given for holding beliefs include maintaining certainty and keeping expectations low in order to avoid future disappointments (Kube & Rauch, 2025). Demandingness is also known within REBT, indicating a person's persistent assimilative efforts to cope with information that contradicts the schema, leading to persistent arousal and perceived threat (Buschmann et al., 2017). It is possible that beliefs about the self and beliefs about the world correlate in the same direction, but this requires further research.

Developing cognitive flexibility within therapeutic approaches and prevention may respond to these phenomena. It has been shown that in the context of substance abuse, cognitive flexibility could have a protective effect (Jansen et al., 2015).

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PROXIMITY ACROSS DISTANCE: A SMART GLOVE-SLEEVE SYSTEM FOR THE TRANSMISSION OF TOUCH

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Abstract

Background. Physical touch is essential for emotional bonding, yet long-distance relationships lack this sensory dimension, potentially leading to feelings of disconnection and increased mental health risks. Existing communication technologies enable auditory and visual interaction but fail to provide haptic feedback. This study explores touch patterns used to express emotions in face-to-face interactions to inform the development of a Glove-Sleeve System that integrates virtual touch into video calls. *Methods.* We conducted semi-structured interviews with 15 participants across three user groups (grandparents, grandchildren, and long-distance partners). Participants described how they use touch to respond to scenarios designed to elicit joy, fear, anger, sadness, stress, loneliness, thankfulness, and love. Descriptive statistics quantified touch gesture frequency, and Chi-square tests assessed variations across user groups. Heatmaps visualized the distribution of touch behaviors across emotions. *Results.* Participants most frequently reported hugging as their primary touch response. However, due to technological constraints, the study focused on hand and arm touch patterns, with hand holding (N = 35) and arm stroking (N = 30) being the most common gestures. Fear and stress were most associated with the absence of touch (N = 21 for arm, N = 20 for hand). Chi-square tests indicated no significant differences in touch patterns between user groups (p > .05), suggesting a universal reliance on similar touch interactions to convey emotions. *Conclusion.* Findings suggest that a customizable haptic system should focus on stroking and holding for arm-based interactions and holding, squeezing, and interlocking fingers for hand interactions. Given the frequent occurrence of pressure-based gestures, haptic feedback should incorporate force-sensitive actuation. Future research should explore full body mediated touch and adaptations of hugging in virtual interactions to enhance emotional closeness in remote communication.

Keywords: *Smart textiles, emotional closeness, social connectedness, affective communication, user centered design.*

1. Introduction

Physical touch is essential for building and maintaining emotional connections. It conveys affection, reassurance, and empathy, helping to strengthen relationships (Hertenstein and Weiss, 2011). However, for those separated by long distances, the lack of touch can lead to feelings of disconnection, putting a strain on relationships and increasing the risk of mental health challenges such as depression and anxiety (Field, 2010). While video calls and messaging allow people to see and hear each other, they lack physical interaction and emotional closeness (Gallace & Spence, 2010). To address this, we are developing a Glove-Sleeve System that enables virtual touch during video calls. A major focus is ensuring the system is practical, intuitive, and well-accepted, which is why we follow a user-centered design (UCD) approach that prioritizes understanding the needs and challenges of future users. This paper presents findings from a user requirements analysis, the first step in developing the Glove-Sleeve system. Through semi-structured interviews, we explored how grandparents, grandchildren, and long-distance couples stay emotionally close despite physical separation. The study examined common touch patterns used to express emotions such as joy, fear, anger, sadness, stress, loneliness, thankfulness, and love. These insights will inform design and technical decisions, helping integrate touch into video calls to support emotional bonds.

2. Methods

2.1. Study design and participants

We conducted semi-structured interviews that explored both the context of use of remote communication technologies — as defined by ISO 9241-11:2018 on ergonomics in human-system interaction — and the touch patterns used to respond to different emotions and user states in face-to-face interactions (ISO, 2018; as-is scenario). The study included 15 participants**,** categorized into three user groups: grandparents (n = 5, 4 women, 1 man), grandchildren (n = 5, 3 women, 2 men), and long-distance partners (n = 5, 3 women, 2 men), all of whom frequently used video calls and were receptive to physical touch. Participants' mean ages were M = 78.2 years (SD = 10.01) for grandparents, M = 26.8 years (SD = 7.22) for grandchildren, and M = 30.0 years (SD = 3.39) for long-distance partners. As part of the requirements analysis, this paper focuses on touch patterns, with findings on context of use to be reported elsewhere. The study received ethical approval from the Ethics Committee of the Faculty of Medicine of the Heinrich-Heine University Düsseldorf.

2.2. Data collection and analysis

Participants were presented with hypothetical scenarios which were designed to elicit specific emotions (e.g., joy). They were read aloud by the interviewer. They were then asked to describe how they would physically express their reaction through touch. Example: *"Imagine your grandchild shares exciting news that they won 500 Euros."* For each emotion, participants responded to three consecutive questions: General touch response: *"How would you touch them in this situation*?" Arm-specific touch: *"If you could only touch their arm, how would you do it?"* Hand-specific touch: *"If you could only touch their hand, how would you do it?"* These questions were asked while considering the future design of the Glove-Sleeve System. Interviews lasted between 45 and 60 minutes. All interviews were then audio-recorded and transcribed for analysis. At the beginning of each interview, participants provided their verbal consent to the audio recording. A systematic analysis of touch patterns was conducted using descriptive statistics, summarizing the frequency of each touch gesture across user groups and emotions. Chi-square tests were performed separately for arm and hand touch patterns to determine whether touch usage differed significantly across user groups. Heatmaps visualized the distribution of touch patterns for the different emotions, helping to identify associations between gestures and emotional states.

3. Results

General Touch Patterns. Across all emotions, participants most frequently reported hugging as their primary touch response. However, due to technological and practical constraints, this study focused on arm and hand touch patterns.

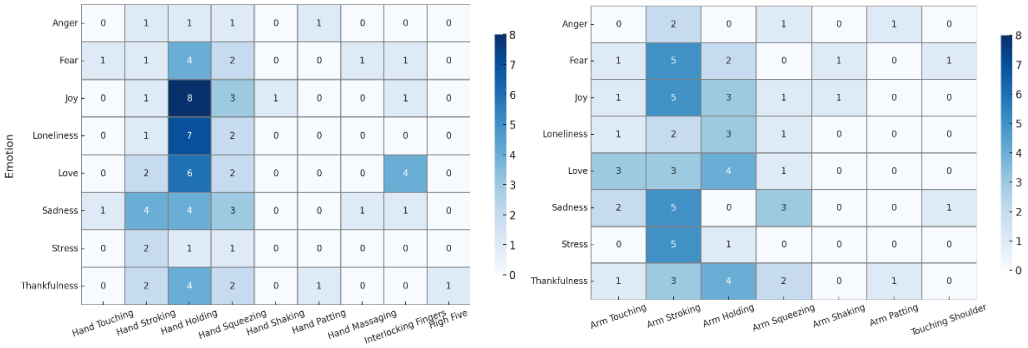
3.1. Arm and hand touch patterns across emotions

The analysis identified ten hand and eight arm touch patterns (including "None"). The six most frequent interactions were Hand Holding (N = 35), Arm Stroking (N = 30), Arm Holding (N = 17), Hand Squeezing (N = 16), Hand Stroking (N = 14), and Arm Touching (N = 9) (see Figure 1). The emotional states of fear and stress were most associated with the absence of touch (N = 21 for arm, N = 20 for hand), indicating that participants often preferred not to engage in touch when confronted with these emotions, see Figure 1.

3.2. Arm and hand touch patterns across user groups

A Chi-Square test for independence examined whether touch pattern usage differed among grandparents, grandchildren, and long-distance partners for both arm and hand touch behaviors. Results were not statistically significant for arm touch patterns, $\chi^2(14, N = 112) = 19.57$, $p = .144$, nor for hand touch patterns, $\chi^2(18, N = 116) = 28.38$, $p = .057$. These findings suggest that all user groups rely on similar types of touch interactions to express emotions.

Figure 1. Heatmaps showing the frequency of hand touch patterns (left) and arm touch patterns (right) across all emotions.



4. Discussion and implications for haptic technology design

Hugging was frequently mentioned in this study, aligning with previous research indicating that it is a common way to express affection and strengthen social bonds in Western cultures (Forsell & Åström, 2012; Gallace & Spence, 2010). However, because full-body touch could not be implemented due to technological limitations, this study focused on alternative forms of physical interaction that might serve a similar function. Participants described hand and arm touch gestures, the most common being holding, squeezing, and stroking. Stroking was the preferred gesture for arm-based interactions, and holding was more frequently used for hand gestures. The frequent use of pressure-based gestures, such as squeezing, tells us that force-sensitive feedback could be especially important for replicating realistic touch in mediated communication. These findings show that haptic sleeves should emphasize stroking and holding, granting smooth, continuous movements with varying intensity. The gloves, on the other hand, should be designed to support holding, squeezing, and interlocking fingers and incorporate pressure feedback for greater precision. Since participants across all user groups showed similar touch patterns, an individualized system that incorporated customization rather than group-based presets would likely be more effective. Gooch and Watts (2012) found that personalization strengthens emotional connections between users and their devices, which suggests that offering users control over touch intensity and gesture selection—including the ability to disable certain gestures, such as face or shoulder contact—could improve both comfort and acceptance.

5. Future research and limitations

Even though this study focused exclusively on arm and hand touch patterns, future research should explore ways to replicate full-body touch, such as hugging. Although hugging was not included in the system, its emotional importance shows the need for more investigation into how users respond to alternative forms of mediated touch. Additionally, since touch behaviors and preferences do vary in different cultures, future studies should look into those differences to develop haptic systems that are both culturally sensitive and universally applicable.

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FREEDIVING AS A MINDFULNESS PRACTICE FOR TRAUMA RESILIENCE

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Abstract

Exploring the deep blue sea through freediving is a physical activity and a practice that can foster personal growth and shares several parallels with mindfulness. Our research investigates how freediving sessions contribute to the resilience of individuals who have experienced a dramatic life-changing event. Our main results show that freediving sessions afford participants an opportunity for introspection and acceptance of dramatic life-changing events they had to face. Notably, the trip facilitated their integration into a supportive community, providing them with social reinforcement. Importantly, all participants continued practicing apnea post-trip.

Keywords: *Quality of life, trauma resilience, mindfulness practice, freediving, health intervention.*

1. Introduction

Life-changing accidents can be emotional or relational events such as bereavement, a break-up, conflict, illness, a health crisis, or redundancy (Denis, 2022). After such an event, people may experience mental health issues. In this context, we explore how a new therapeutic approach through freediving can improve resilience and quality of life. Mindfulness practices are well known for their benefits in many areas: they help reduce post-traumatic stress symptoms (Boyd, Lanius & McKinnon, 2018), and symptoms of anxiety and depression (Hoge et al., 2018; Kenny & Williams, 2007). Gardi, Fazia, Stringa, and Giommi (2022) have also shown that these practices correlate with lower stress hormone cortisol levels. Mindfulness-based physical activity is a low-intensity, inward-looking activity performed with deep concentration (La Forge, 2005). In this sense, freediving shares several common points with mindfulness and introspection. By the way, a recent study underscores the activation of identical brain regions during meditation and apnea (Annen et al., 2021).

2. Methodology: Research objectives, instrumentation and sample

Our exploratory research used a mixed design to investigate how freediving sessions contribute to the resilience of individuals who have experienced a dramatic life-changing event. We collected qualitative data using semi-structured interviews and quantitative data through two psychometric instruments: the *Five Facet Mindfulness Questionnaire* (FFMQ) (Bear et al., 2008), which assesses five dimensions of mindfulness, and the Connor-Davidson *Resilience Scale* (CD-RISC) (Connor & Davidson, 2003), which measures three dimensions of resilience. We used the French-language versions of these two tests, validated by Heeren et al. (2011) for the FFMQ and Guilhard et al. (2018) for the CD-RISC. We first conducted a descriptive analysis of the results, highlighting key trends. We also operated a thematic analysis of the semi-structured interviews, following Braun and Clark's method (2006).

Our inclusion criteria were to be an adult who had experienced one or more dramatic life-changing events and chose to participate in freediving sessions during scuba diving trips for more than five days. Each participant had to be proficient in French (the language in which the interviews were conducted). This study's sample consists of 10 subjects in total.

3. Results

3.1. Demographic characteristics of the sample

The sample included six women and four men; their average age was 45 years (min = 31; max = 67). Nine participants were French and one Swiss. Some participants reported having experienced one life-changing accident (N = 7), others two (N = 2) or three (N = 1). The nature of dramatic life-changing

events are *physical illness* (N = 4), *separation* (N = 4), *bereavement* (N = 3), *burn-out* (N = 1), *mental illness* (N = 1) and *work accident* (N = 1).

3.2. Main results

First, we questioned the reasons for undertaking a scuba-diving trip. Our respondents mainly chose to do it to seek relief (N =4) and escape from everyday life (N =4). They also need to explore new experiences (N =3) and increase self-confidence (N =3).

Table 1 shows the scores of the 10 participants on the five dimensions of the FFMQ scale, their total score, and the scores of the French validation sample carried out by Heeren et al. (2011). The results show that the mean scores of our sample are higher in all dimensions than the mean scores of the validation sample. This validation sample consists of 214 French-speaking people who have never practiced mindfulness exercises. In addition, semi-directive interviews revealed that apnea sessions enabled 9/10 participants to increase their level of mindfulness: *"I focus on the sensation of the water on my skin, on the temperature of the water".*

Table 1. Average results of the FFMQ for our sample and the validation sample.

		Means of our sample	*Means of the validation sample*
Dimensions of FFMQ	*Observation*	33.1	24.43
	Description	31.8	25.81
	Acting with awareness	28.1	27.29
	Nonjudging	28.6	27.79
	Nonreactivity	21.3	18.79
	Mindfulness	**142.9**	**124.11**

Concerning resilience, Table 2 shows that participants' results on the CD-RISC scale do not globally differ from those obtained by the francophone validation sample of 524 participants (Guilhard et al., 2018). However, thematic analysis of the semi-structured interviews highlights that apnea practice promotes some resilience factors. Seven participants mentioned "future projects" linked to diving. According to Dubé, Lapierre, Bouffard, and Alain (2010), having projects helps subjects to look to the future, and thus contributes, in a way, to increase their capacity for resilience. Several participants also mentioned the "social support" provided by the freediving community (N =5). Social support strengthens resilience (Cyrulnik, 2013). Finally, all participants (N = 10) said they wanted to continue freediving after their stay.

Table 2. Average results of the CD-RISC for our sample and the validation sample.

		Means of our sample	*Means of the validation sample*
Dimensions of CD-RISC	*Tolerance to negative affects*	29.6	27.15
	Tenacity	18.8	17.85
	Self-confidence	10.8	11.45
	Resilience	**59.2**	**56.45**

4. Discussion

Our respondents mainly desired to engage in freediving sessions during their scuba diving trip to find a temporary refuge and reconnect with themselves. They seek for relaxation, personal plenitude, and exploration of new experiences. Moreover, freediving helps to develop the "mindfulness state" (being fully aware during the activity) but also improves the "mindfulness trait" (living daily life with full awareness). Indeed, scientific literature revealed freediving can increase state-level mindfulness (Alkan & Akis, 2013). This practice also offers the opportunity to develop resilience factors. Depending on their personal experiences and individual needs, people who have experienced dramatic life-changing events can rely on different elements to help them progress in their resilience path (Cyrulnik, 2013). For this study, the inclusion criteria did not require a diagnosis of post-traumatic stress disorder (PTSD). As Denis (2022) points out, psychologists consider that any sudden event has the potential to cause trauma in the individual. Consequently, we selected participants who had experienced a life accident based on their subjective experience. Unfortunately, the difference in size of our sample (N = 10) with the validation samples of the two standardized tools (N = 214 and N = 524) did not allow us to carry out valid statistical analyses. In the

future, surveying a larger sample of freedivers to make robust statistical comparisons would be relevant. Forthcoming studies could also include a measure of personality assessment to see whether some "profiles" would be more predestined to choose freediving (and mindfulness practices in general) as a resilience strategy after an event experienced as traumatic.

5. Conclusion

Freediving sessions afford participants an opportunity for introspection and acceptance of dramatic life-changing events they had to face. They also facilitated their integration into a supportive community, providing them with social reinforcement. The FFMQ scale results reveal that participants obtained significantly higher than average levels of mindfulness. Moreover, through freediving, they identified areas for personal improvement that could elevate their quality of life and reduce negative emotions. We noticed that after the trip, all participants continued practicing freediving. Therefore, this personal development retreat seems to be a gateway to a new perspective on life. Dramatic life-changing events are often associated with negativity but also represent opportunities for personal growth.

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PERFECTIONISM AS A PREDICTOR OF PRIMAL WORLD BELIEFS

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Abstract

The study aimed to examine the relationship between primal world beliefs and perfectionism, as both constructs reflect foundational attitudes and expectations that individuals hold about the world and themselves. Previous research has highlighted perfectionism as a mediator between beliefs and anxiety, as well as a correlate of deprivation of social and emotional needs and interpersonal sensitivity, particularly when reality does not align with personal expectations. Our research distinguishes perfectionism into two dimensions – high standards and discrepancy – and focuses on three overarching primal beliefs (safe, enticing, alive) and one primary primal (good), with age and gender included as control variables. *Method*: The sample consisted of 882 participants (52.5% women; Mage = 33.42; SD = 14.94). Measures included the PI-18 Primal Inventory (Clifton et al., 2019) and the Short Almost Perfect Scale (Rice et al., 2014). Separate regression analyses were conducted for each primal belief. *Results*: The primary primal, "Good," was positively associated with age, high standards, and negatively with discrepancy. The primal "Alive" was positively associated with female gender and high standards. "Enticing" was positively related to high standards and age, and negatively to discrepancy. Finally, "Safe" was negatively associated with discrepancy. *Discussion*: The findings suggest a connection between personality and primal beliefs, offering potential implications for psychotherapy. The dimensions of adaptive and maladaptive perfectionism, characterized by secure versus fragile self-evaluations, are reflected in individuals' fundamental beliefs about the world.

Keywords: *Perfectionism, primal world beliefs.*

1. Introduction

"Belief", according to the Merriam-Webster dictionary, is a habit of mind to perceive things in the same manner. Habit, as a changeable part of the human psyche, can be derived from personality. Personality traits can shape the conditions for habitual ways of behaving as well as habitual ways of thinking accompanied by emotions. As a consequence, uniform experiences are the means through which beliefs are formed. The relationship between personality and beliefs has been explored, for example, by Clifton et al. (2019), who found that beliefs correlate with certain personality traits (e.g., optimism) and well-being. This paper discusses whether perfectionism as a personality trait is a predictor of primary world beliefs.

Perfectionism is a personality trait expressed by high personal standards and expectations for oneself, and by expressive self-criticism toward achieving these standards (Rice et al., 2013). Stoeber and Otto (2006) refer to this as perfectionistic striving and perfectionistic concern.

Primal world beliefs - primals - are defined by Clifton et al. (2019, p.1) as "an individual's most basic beliefs about the general character of the world as a whole". In addition to primary beliefs about whether the world is good or not, they also talk about three secondary beliefs about the world as safe, alive, and enticing, and then about specific qualities of the world, including stability, connectedness, or fun. Secondary primal safe points that the world is rarely threatening, rather it is fair, stable, and comfortable. The secondary primal enticing implies that the world is meaningful, fascinating, and not boring. The secondary primal alive refers to the intentionality of the world with as it interacts with us.

Beliefs about oneself, the world and other people are important in the treatment of depression (Beck, in Clifton, 2024). A maladaptive form of perfectionism, which is thought to be self-discrepant, i.e., a high level of critical view of one's own performance, is similarly associated with depressive symptoms (Smith, 2021). Hewitt (2020) claim, that perfectionism can inhibit successful interaction with the world because fears of failure inhibit any behavioural efforts to improvement and the person only escapes to fantasies of mastery, instead of actual action in which they would gain experience with the world.

2. Objectives

The aim of this contribution is to explore the relationship between perfectionism (high standards and discrepancy of real, and expected performance) and primal world beliefs (good, safe, enticing, alive), controlling for gender and age.

3. Methods

The sample consisted of 882 participants (52.5% women; Mage = 33.42; SD = 14.94).

The Short Form of the Revised Almost Perfect Scale (Rice et al., 2013) was used for exploring perfectionism. The scale includes two aspects of perfectionism, high personal standards (high expectations of one's own performance) and self-discrepancies (degree of self-criticism of one's own performance). Each of the subscales has 4 items that respondents rate on a 7-point Likert scale. The Cronbach alpha for high standards was .858 and for self-discrepancy was .819.

Primary world beliefs were measured by the PI-18 questionnaire (Clifton, 2019). The questionnaire examines the primal "good" as well as a triad of primary world beliefs: alive, enticing, safe. Respondents rate items on a 6-point Likert scale. Cronbach alphas for each subscale: good .809, safe .712, enticing .807, alive .738.

4. Results

By liner regression analysis we examined the predictive power of gender, age and two aspects of perfectionism (see Tables 1-4).

Table 1. Perfectionism as a predictor of primal GOOD.

	B	SE	β	t	p
(Constant)	4.120	.143		28.779	.000
gender	.035	.044	.027	.792	.428
age	.005	.002	.105	3.079	.002
Perfect Scale Standards	.090	.021	.164	4.229	.000
Perfect Scale Discrepancy	-.185	.020	- .330	-9.180	.000

The results in Table 1 showed that the tested model was significant (F=26.680, p<.001, R^2=10.8) and primals “Good” was positively associated with age, high standards, and negatively with discrepancy.

R2=3.0; F=6.792, **p<.001**

Table 2. Perfectionism as a predictor of primal ALIVE.

	B	SE	β	t	p
(Constant)	2.602	.244		10.664	.000
gender	.251	.074	.118	3.414	.001
age	.003	.003	.034	. 940	.347
Perfect Scale Standards	.120	.035	.133	3.397	.001
Perfect Scale Discrepancy	-.047	.033	- .051	-1.397	.163

The tested model for primals “Alive” was also significant (F=6.792, p<.001, R^2=3.0) and positively associated with female gender and high standards (Table 2).

Table 3. Perfectionism as a predictor of primal ENTICING.

	B	SE	β	t	p
(Constant)	4.786	.172		27.903	.000
gender	-.011	.055	-.008	-.195	.845
age	.006	.002	.034	2.771	.006
Perfect Scale Standards	.116	.026	.133	4.426	.000
Perfect Scale Discrepancy	-.239	.025	-.302	-9.667	.000

The results for primals “Enticing” (F=30.375, p<.001, R^2=12.2) showed positive relationship with high standards and age, and negative with discrepancy.

Table 4. Perfectionism as a predictor of primal SAFE.

	B	SE	β	t	p
(Constant)	3.880	.176		22.053	.000
gender	.020	.056	.015	.365	.715
age	.004	.002	.064	1.752	.081
Perfect Scale Standards	.040	.026	.061	1.554	.122
Perfect Scale Discrepancy	-.156	.026	- .231	-6.104	.000

The results in Table 4 showed that primals "Safe" ($F=10.641$, $p<.001$, $R^2=4.6$) was negatively associated with discrepancy.

5. Discussion

In this research, we tested the relationship of perfectionism to primary world beliefs through linear regression. Different results were found for each primary belief. Beliefs that the world is both good and engaging and meaningful are positively associated with high standards, and negatively associated with self-discrepancy. It is also related to older age. The belief that the world is alive and things happen with purpose is associated with femininity and high standards. The belief that the world is safe is negatively associated with self-discrepancy.

The results may indicate how different personality settings create opportunities for beliefs to be formed through frequently repeated experiences. On the other hand, Clifton (2024), following Beck, as well as Dweck, suggests that a change in beliefs results in a change in personality. In the same way, we can consider the different understanding of adaptive and maladaptive perfectionism not as personality traits but as a set of cognitions about the self (Flett et al., 2018). Beliefs about the self have also been found to be significantly associated with beliefs about the world (Catlin & Epstein, 1992). This is particularly the case when they are formed during emotionally significant experiences. If the role of perfectionism is important for gaining experiences about the world, it is also important in the formation of beliefs.

Acknowledgments

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THE MEDIATING ROLE OF GRIT IN PERFECTIONISM, DEPRESSION AND ANXIETY AMONG KOREAN YOUTH

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Abstract

This study examines the mediating role of grit in the relationship between self-oriented perfectionism (SOP), socially-prescribed perfectionism (SPP), and the mental health outcomes of depression and anxiety. A cross-sectional survey of 747 Korean young adults aged 19–34 years was conducted. Mediation analyses were performed to test the direct and indirect effects of perfectionism dimensions on depression and anxiety through grit. For depression, SPP showed significant direct effects (β = 0.22, p < .001) and indirect effects mediated by grit (β = 0.06, p < .001), accounting for 20.8% of the total effect. SOP showed a significant negative indirect effect through grit (β = -0.03, p < .001), while its direct effect was not significant (β = 0.01, p = .944). The overall effect was significant (β = -0.04, p = .014), suggesting that the overall effect of SOP on depression is primarily driven by its indirect negative pathway through reduced grit, highlighting grit as a key protective mechanism linking SOP to reduced depressive symptoms. For anxiety, SPP again showed significant direct effects (β = 0.24, p < .001) and indirect effects mediated by grit (β = 0.05, p < .001), with 16.2% of the total effect mediated. SOP had a negative indirect effect through grit (β = -0.03, p < .001) and a small positive direct effect (β = 0.01, p = .53), resulting in a non-significant overall effect (β = -0.02, p = .11). These results highlight the distinct roles of SOP and SPP in mental health. SOP primarily influences depression and anxiety through its indirect effects via grit, with increased grit contributing to lower psychological distress. Conversely, SPP directly increases vulnerability to depression and anxiety while decreasing grit, further exacerbating these mental health problems. The findings underscore the importance of addressing grit in interventions aimed at mitigating the negative effects of SPP and promoting resilience among young adults with perfectionistic tendencies.

Keywords: *Self-oriented perfectionism, socially-prescribed perfectionism, grit, depression, anxiety.*

1. Introduction

Depression and anxiety have become critical public health issues in South Korea. According to the Health Insurance Review and Assessment Service, the prevalence of depression among individuals in their 20s and 30s increased from 26% in 2018 to 36% in 2022(Jang, 2024). Similarly, anxiety disorders are on the rise, highlighting the urgent need for targeted mental health interventions (Kim, 2024).

One psychological factor consistently linked to depression and anxiety is perfectionism (Curran & Hill, 2019; Smith et al., 2017). Hewitt and Flett (1991) conceptualized perfectionism as a multidimensional construct, distinguishing between socially prescribed perfectionism (SPP) and self-oriented perfectionism (SOP). SPP involves the perception that external expectations are too high, leading to emotional distress such as depression and anxiety (Limburg et al., 2017; Smith et al., 2017). In contrast, SOP is characterized by setting high personal standards, which can have both adaptive and maladaptive outcomes depending on the context (Stoeber & Otto, 2006). Other-oriented perfectionism was excluded from this study due to its weaker correlation with depression and anxiety (Kim, Lee, & Lee, 2012).

Understanding the mechanisms linking perfectionism to psychological maladjustment is crucial for effective interventions (Seo & Kim, 2009). Grit, defined as persistence and passion for long-term goals (Duckworth et al., 2007), has emerged as a potential protective factor. Grit negatively correlates with depression and anxiety by fostering resilience and emotional regulation (Datu et al., 2016) and mitigating the effects of stress and failure (Musumari et al., 2018).

This study examines the mediating role of grit in the relationship between perfectionism (SOP and SPP) and mental health outcomes (depression and anxiety) among Korean youth. Specifically, the study aims to:

1) Determine if grit mediates the effect of SPP on depression and anxiety.
2) Determine if grit mediates the effect of SOP on depression and anxiety.

2. Methods

SOP and SPP were measured using the Multidimensional Perfectionism Scale (MPS) developed by Hewitt and Flett (1991), grit was assessed using the Original Grit Scale created by Duckworth et al. (2007), and symptoms of depression and anxiety were evaluated using the Brief Symptom Inventory-18 (BSI-18) developed by (Derogatis, 2001). All analyses were conducted using R, and mediation analyses were conducted using nonparametric bootstrapping to estimate the direct, indirect, and total effects.

3. Results

3.1. Descriptive statistics and correlation analysis

The sample consisted of 747 Korean young adults (M = 27.93, SD = 4.08), ranging in age from 19 to 34 years. The gender distribution was almost equal, with 370 males (49.5%) and 377 females (50.5%). Regarding occupational status, 70.3% were employed, 19.3% were students, and 18.5% were either unemployed or reported other occupations.

First, correlation analysis revealed that SOP showed a positive correlation with grit (r = .22, p < .001). In contrast, SPP exhibited negative correlation with grit (r = –.31, p < .001), suggesting that higher levels of socially prescribed perfectionism are related to lower levels of grit. Grit was also negatively associated with both depression (r = –.38, p < .001) and anxiety (r = –.33, p < .001).

3.2. Testing the mediating role of grit

3.2.1. Mediation effects on depression. The overall effect of SPP on depression was significant (β = 0.274, p < .001, 95% CI [0.242, 0.31]). Both the indirect effect (β = 0.057, p < .001, 95% CI [0.041, 0.08]) and the direct effect (β = 0.217, p < .001, 95% CI [0.181, 0.25]) were significant. The proportion of mediation was 20.83% (p < .001), indicating that grit partially mediates the relationship between SPP and depression.

The overall effect of SOP on depression was significant (β = -0.043, p = 0.014, 95% CI [-0.076, -0.01]). The indirect effect through grit was significant (β = -0.042, p < .001, 95% CI [-0.059, -0.03]), suggesting that grit mediates this relationship. The direct effect of SOP on depression was not significant (β = -0.001, p = 0.944, 95% CI [-0.034, 0.03]).

Figure 1. Mediation Model of SPP and SOP on Depression through Grit.

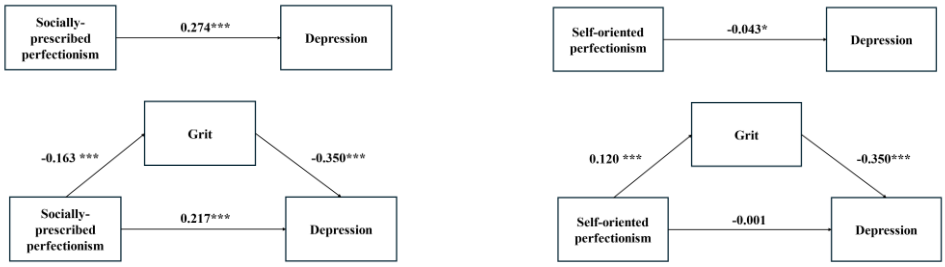


Table 1. Indirect Effects of SPP and SOP on Depression through Grit.

Effect Type	Path	β	95% CI	p
Indirect effect	SPP→ Grit →Depression	0.057	[0.041, 0.08]	< .001
	SOP→ Grit →Depression	-0.042	[-0.076, -0.01]	< .001

3.2.2. Mediation effects on anxiety. The overall effect of SPP on anxiety was significant (β = 0.287, p < .001, 95% CI [0.255, 0.32]). Both the indirect effect (β = 0.046, p < .001, 95% CI [0.032, 0.06]) and the direct effect (β = 0.240, p < .001, 95% CI [0.203, 0.27]) were significant. The proportion mediated was 16.20% (p < .001), indicating partial mediation by grit.

The overall effect of SOP on anxiety was not significant (β = -0.024, p = 0.11, 95% CI [-0.054, 0.01]). The indirect effect through grit was significant (β = -0.034, p < .001, 95% CI [-0.049, -0.02]), whereas the direct effect was not significant (β = 0.010, p = 0.53, 95% CI [-0.022, 0.04]).

Figure 2. Mediation Model of SPP and SOP on Anxiety through Grit.



Table 2. Indirect Effects of SPP and SOP on Anxiety through Grit.

Effect Type	Path	*β*	95% *CI*	*p*
Indirect effect	SPP→ Grit →Anxiety	0.046	[0.032, 0.06])	< .001
	SOP→ Grit →Anxiety	-0.034	[-0.049, -0.02]	< .001

4. Conclusions

This study highlights the mediating role of grit in the relationship between socially prescribed perfectionism (SPP), self-oriented perfectionism (SOP), and psychological distress, such as depression and anxiety. Results indicate that while SPP contributes directly to psychological distress, its effects are partially mediated by grit. On the other hand, SOP influences mental health primarily through its effect on grit, with no significant direct effect. These findings are consistent with previous research on the detrimental effects of maladaptive perfectionism and the protective role of grit. Interventions targeting grit may offer promising strategies for mitigating the negative mental health outcomes associated with perfectionism. However, future research using longitudinal designs is needed to establish causal relationships, and the inclusion of multiple assessment methods would increase the reliability and depth of findings.

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MOURNING AND THE MANDALA

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Abstract

Grief is a universal human response to death and loss. Mourning is an equally universally observable practice that allows the grieving person to express their grief and come to terms with the reality of the loss. An innovative practice to overcome the pain of losing a loved one is mandala therapy in a round sand tray. Mandala in Sanskrit means "circle", the mandala has potential benefit for the treatment mental disorders. It can be included as a therapeutic mourning process within sand play therapy, a therapeutic technique that is based on the free expression of imagination and individual creativity and which can be used with children, adolescents and adults. In the context of sand play therapy, symbols can be defined as objects or figures that represent something else. They can be concrete or abstract. Symbols can take many forms, such as animals, people, objects, or shapes, stones, berries, twigs, flowers, petals and other natural materials. A traditional mandala is a square containing a circle and the pattern inside of the circle is symmetrical and balanced. A Grief Mandala has no pre-set pattern inside of it. The practice of the mandala is always associated with the technique of breathing and visualization. Sand can also represent feelings of being overwhelmedor trapped, as it can easily dislodge and bury things. Sandplay is a form of therapy that offers clients the opportunity to portray feelings and experiences that are inaccessible or difficult to express in words. Sandplay also provides a balance to the extroverted, verbal, and outer-focused everyday world. Mandalas are a wonderful way to tap into the Creative Self, the part of the psyche that thrives in authenticity. Touching the sand encourages the inner Self to come to the surface, which is the goal in making mandalas and sand trays. The use of mandala and sand thus becomes a useful approach in the elaboration of mourning.

Keywords: *Mandala, grief, healing, sandplay.*

1. Introduction

Grief, a universal but deeply personal experience, represents one of the most painful and transformative moments in human life. When facing grief, emotions can be hard to manage and understand. Sadness, anger, guilt, and denial are just some of the phases a person may go through. However, psychological and symbolic tools, such as the mandala, can offer powerful support in this journey, helping to facilitate the process of emotional and mental healing. The mandala, with its cyclical shape, becomes a powerful symbol of acceptance of suffering, but also of rebirth and hope. " A mandala is a geometric figure that represents the harmony, balance, and integration of the universe. In its various forms, the mandala has ancient roots in many spiritual traditions, including Buddhism, Hinduism, and Jungian psychology. Characterized by a symmetrical and radial structure, the mandala symbolizes unity, infinity, and the cyclical nature of life.

In a therapeutic context, the mandala is a powerful tool for self-exploration and introspection. Its use in the grieving process offers a safe space for crying, reflection, and reconciliation with the deepest emotions.

The process of drawing or coloring a mandala invites the person to focus on the present moment, reducing anxiety and facilitating acceptance of the painful reality. The activity itself becomes a meditative act that helps organize confused emotions and thoughts.

Sand mandala therapy, has proven to be an effective and profound approach in helping people process grief and navigate the complex emotions that accompany loss. This symbolic art, which uses colored sand and both animate and inanimate symbols to create temporary mandalas, encourages reflection, meditation, and emotional release, and can be a powerful tool for the healing process.

This study aims to demonstrate how, in a therapeutic context, the creation of sand mandalas can help individuals connect with their pain and with the awareness of impermanence. In sand play therapy, symbols can be defined as objects or figures that represent something else. They can be concrete or

abstract and can be used to communicate complex feelings or experiences. Symbols can take many forms, such as animals, people, objects, shapes, stones, berries, twigs, flowers, petals, and other natural materials. Sand can also represent feelings of being overwhelmed or trapped, as it can easily dislodge and bury things. Touching the sand encourages the inner Self to come to the surface, and this is the goal in creating mandalas and sand containers.

2. Design

This is a therapeutic technique**.** There is a therapeutic setting in which there is a round sand container, and alongside it are various symbols of both animate and inanimate figures that the patient can place and remove during the session through a creative act. This process helps the patient gradually connect with their emotions, become aware of them, and recognize them. By creating mandalas with sand and symbols, a tangible space is created in which the patient, whether a child, adolescent, or adult, can express their pain, losses, and unspoken emotions. Sand, as a fragile and mutable material, becomes a medium for translating pain into a visual and physical experience. The very process of drawing and manipulating the sand allows the person to express their grief non-verbally, yet meaningfully

3. Objectives

1. Express and manifest pain
2. Reconcile the conflict between permanence and impermanence
3. Restore order and control
4. Promote reflection and meditation
5. Create an act of release and liberation

4. Methods

The sand mandala practice is used with patients who choose a mindfulness path. Mindfulness, which focuses on attention to the present moment, awareness, and non-judgmental acceptance, integrates well with this therapeutic technique. In the grief processing journey, a round sand container is used, a therapeutic practice that combines the art of mandala with the symbolic use of sand, becoming a particularly powerful tool in grief processing. This methodology, integrates sand as a physical and metaphorical medium to express pain, the transience of life, and the healing process. The use of a round container is a powerful symbol of cyclicality, inclusivity, and containment of emotions. Sand, with its fragile and easily manipulable nature, symbolizes the impermanence of life and human emotions. It is a substance that can be shaped but, at the same time, can slip away quickly through one’s fingers, suggesting the transience and end of all things, including experiences of loss. Sand reminds us that life, like death, is fleeting, and even pain can be transformed over time. In this case, the round sand container represents a safe and protected space in which to gather emotions, allowing grief to be explored and experienced without During a session, the person can work with sand and figurines, shells, stones, etc. to create symbolic representations that reflect emotions, conflicts, or inner dynamics. The use of mandalas, often drawn or created in the sand, can be a central aspect of the therapy, as the mandala is seen as a symbol of integration and balance the fear of being overwhelmed. The session includes:

1. **Preparation**: Setting up the environment and selecting the tools.
2. **Work with sand**: Manipulating the sand and creating shapes or mandalas.
3. **Reflection and discussion**: Analyzing and reflecting on the process, guided by the therapist.

The journey lasts for 16 sessions of 90 minutes, with a weekly cadence.

Creating a calm and protected environment is essential. Before beginning, it is important that the person facing grief feels safe and takes a moment to center their mind. A psychological assessment is conducted regarding grief and its emotions, and the same assessment is made at the end of the therapy process.

The creation of the sand mandala can be done alone or with the assistance of the therapist, but in any case, it must take place in a calm, uninterrupted environment. The sand container is always round. The color of the sand varies according to the patient's choice and the stages of grief. Sand can also represent feelings of being overwhelmed or trapped, as it can easily displace and bury things. Sandplay is a form of therapy that offers clients the opportunity to represent feelings and experiences that are difficult to express in words or are inaccessible. Sandplay also provides a balance to the extroverted, verbal, and outward-focused everyday world. Touching the sand encourages the inner Self to come to the surface, which is the goal in creating mandalas and sand containers. With hands, a spatula, or other tools, the person can begin shaping the sand inside the container, drawing circles, spirals, or other forms that evoke

their experiences. The act of slowly building a sand mandala can serve to express pain non-verbally, allowing it to be processed tangibly. The process of creation is the therapeutic aspect. Every gesture, every movement of the sand, is an opportunity to release repressed emotions, confront fears, and resistances related to loss. Once the mandala is complete, the person can sit in front of it and reflect on the meaning of the shapes and colors chosen. Creating a sand mandala is a process of self-exploration that facilitates the emergence of unrecognized emotions or those difficult to express in words. After completion, the reflection and processing begin. Finally, the destruction of the mandala allows for "letting go" of pain. The sand that is scattered symbolically represents letting go of suffering to make space for new emotions, for inner renewal. The act of destroying the mandala is a step toward accepting the cyclic nature of life and death, and the need to continue on the healing journey.

5. Discussion

The person who created the sand mandala processed their grief, and the act of destroying it at the end of the process became a moment of accepting the reality of death. Working on the sand mandala allowed the person to regain a sense of control, calm, and connection to the present. This type of meditation fosters connection with emotions but also with the unconscious mind, allowing the person to explore their feelings of grief in a non-judgmental way in a safe and protected environment. At the final moment of the therapeutic process, when the sand mandala was destroyed, it represented the release of pain. This final act can be liberating, freeing the grief from the weight of unchanging suffering and making space for healing. Sand mandala therapy offers a unique opportunity to confront grief in a deep, creative, and transformative way. Through the process of creation, reflection, and destruction of the mandala, individuals can face the pain of loss in a safe, therapeutic context, finding comfort and hope in the awareness of life's impermanence. This invites a path of inner healing, promoting acceptance, resilience, and reconciliation with one's pain.

6. Conclusion

Using the sand mandala as a therapeutic tool in grief processing is a profound and transformative experience that encourages deep reflection on the transience of life and emotions.

Through the act of creating a mandala, patients are invited to express their pain, sorrow, and confusion in a tangible form. The act of constructing the mandala can be seen as a ritual of reconciliation with the loss, allowing the person to process the pain and find meaning in the grief. As the mandala takes shape, it becomes a rite of passage, helping the individual gradually transition from a state of loss and suffering to one of acceptance and peace. This process of creation and destruction within a contained, mindful practice offers the opportunity to release heavy, stuck emotions and embrace the changes that come with the grieving process. By integrating such practices into grief therapy, individuals are not only given a space for expression but also a means to regain control over their emotions and their narrative. The mandala, as a symbol of unity and integration, becomes a way for them to rebuild their emotional world in a way that respects the past but also opens up to future possibilities. The therapeutic use of the sand mandala, therefore, offers a unique and powerful pathway for navigating the complexities of grief, ultimately supporting the individual in finding a new equilibrium after loss.

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ASSESSMENT OF INCLUSIVE EDUCATION IN UNIVERSITY STUDENTS

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Abstract

Introduction: inclusive education in university curricula is essential to ensure equity and respect for diversity in higher education. Educational inclusion focuses on eliminating barriers that prevent the learning and participation of all students, regardless of their cultural, social or ability differences. *Objectives:* we aim to find out how university students understand and think about inclusive education at their university, in this specific case the University of Alicante (Spain). *Methodology:* this is a non-experimental, expo-facto, descriptive, survey-based and cross-sectional design. The type of sampling is accessibility. From the results obtained, it will be possible to conclude the level of training of higher education students on inclusive education for its subsequent generalization as secondary school teachers and the pedagogical practices and strategies that must be implemented to provide quality education. The Questionnaire used for the evaluation of inclusive university education (CEEIU) is by the author De la Herrán Gascón et al. (2017). *Results:* Based on the analysis of the results, it will be possible to conclude the level of training of higher education students on inclusive education for its later generalization as secondary education teachers in their respective educational centers. *Conclusions:* In addition, in view of the results obtained, we can affirm that inclusive education promotes pedagogical innovation, since it encourages universities to adopt flexible and adaptive methodologies. Inclusive education not only benefits students with specific needs, but also improves the learning experience for all. In the university context, it also contributes to reducing school dropout, by providing an environment that recognizes and values individual particularities. Thus, this study is aimed at promoting tolerant and respectful attitudes in attention to functional diversity and educational inclusion in university students.

Keywords: *University education, educational inclusion, students.*

1. Introduction

Talking about inclusion requires talking about equitable access, but access without probability of success is an empty phrase (International Association of Universities, 2008). In Spain, the number of students who enter the university system is higher than the European Union average, but the university dropout rate is also double the EU average (European Commission, 2018; INEE, 2017). According to the MCIU (2019), 21.5% of university students dropped out of their studies during the first year and 34.4% finished later than scheduled. These data should motivate a reflection on the conditions under which the university plans of all students are developed. Traditionally, much of the work that has tried to explain university permanence and/or dropout has done so from a meritocratic model, where the motivation, effort and resilience of the student explained their chances of success (Ayala & Manzano, 2018; Esteban et al., 2016; Tuero et al., 2018). Later, from a more comprehensive approach, the relevance of factors that, outside the control of the students, are related to the institutional capacity to offer quality educational responses to their needs was highlighted (Tinto, 2012). Access barriers affect students with disabilities, who make up 1.5% of university students (MCIU, 2019; Fundación Universia, 2018). In Spain, the traditional conceptions that university institutions have about their functions and methodologies (Arias et al., 2018) are influencing the socioeconomic level, ethnic origin, age or disability of students as obstacles to accessing higher education (Ariño, 2014; Egido et al., 2014).

2. Method

The objectives of our study project are as follows:

1. Identify the opinion of students on whether inclusion is a priority or not and whether it should be considered a social right
2. Identify whether the culture of their university favours and supports inclusion
3. Confirm the need for inclusion in the university environment

Hypothesis:

H1. It is expected to confirm that for students inclusion in the university is considered a priority and a social right.

H2. The university is an organisation that favours the inclusion of all types of students.

H3. Inclusion is necessary in the university environment.

As for the research method of our study, it is a non-experimental, expo-facto, descriptive, survey and cross-sectional design. The type of sampling is by accessibility. From the results obtained, it will be possible to conclude the level of training of higher education students on inclusive education for its later generalisation as secondary education teachers and the pedagogical practices and strategies that must be implemented to provide quality education. The Questionnaire for the Evaluation of Inclusive University Education (CEEIU) by Herrán Gascón et al. (2017).

Table 1. Sample data.

Number of de subjects	Average age	Standard deviation	sex	
	M	SD	Men	Women
39	25,74	6,69	8	31

3. Results

The results obtained regarding the level of training of higher education students are shown in Table 2, Table 3, Table 4, Table 5 and Table 6.

Table 2. Level of development of inclusive education (EI) at the University of Alicante (UA) through projects.

	Frequency	%
YES	34	87,2
I DON´T KNOW	5	12,8
Total	39	100

Table 3. Quality of teaching at the UA.

Defined by academic results	Frecuencia	%
SI	26	66,7
NO	4	10,3
NO LO SE	8	20,5
Total	39	100

Table 4. Students with special educational needs make academic work difficult.

	Frecuencia	%
SI	3	7,7
NO	35	89,7
NO LO SE	1	2,6
Total	39	100

Table 5. For EI to be effective, work by students is important.

	Frecuencia	%
SI	35	89,7
NO	1	2,6
NO LO SE	3	7,7
Total	39	100

Table 6. EI is part of the teaching work

	Frecuencia	%
SI	36	92,3
NO LO SE	3	7,7
Total	39	100

4. Conclusions

Based on the results obtained, the objectives and hypotheses raised are confirmed. It is concluded that for university students, inclusion is a priority at any stage of the educational system and that the institutional culture of the university stands out both for the competency assessment of students and for the development of educational inclusion, which is a requirement to achieve Sustainable Development Goal 4 (UNESCO, 2015) so that university institutions commit to offering inclusive, equitable and quality education for all.

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THE DEVELOPMENT AND VALIDATION OF THE EMOTIONAL ENTITLEMENT QUESTIONNAIRE (EEQ)

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Abstract

Beliefs about what one is entitled to emotionally may make a unique contribution to emotional and interpersonal experiences. In the current study we introduce the concept of emotional entitlement, the degree to which people believe they have the right to experience different emotions (e.g., the right to feel happy, angry etc.). Our aim was to develop and validate the emotional entitlement questionnaire (EEQ). In a series of 3 studies, we constructed and validated a 3-factor, 15-item emotional entitlement questionnaire (EEQ), in Hebrew and in English: emotional entitlement to positive emotions (EEP), to negative emotions (EEN), and the maladaptive aspect of emotional entitlement which we termed uncompromised emotional entitlement (EEU). Different dimensions of the EEQ were related to different levels of life satisfaction and loneliness. The results indicate that emotional entitlement is a multidimensional construct and that the EEQ is a reliable and valid tool with good psychometric properties and that overall, we would suggest that EEP represents an adaptive aspect of emotional entitlement, EEU represents a maladaptive aspect, and EEN has both adaptive and maladaptive aspects.

Keywords: *Emotional entitlement, emotions, factor analysis, scale.*

1. Introduction and objectives

Emotions are central to human functioning, influencing thoughts and actions across various life domains (McRae & Gross, 2020). To better navigate emotions, it is suggested that individuals should acknowledge and accept their right to experience positive and negative emotions rather than dismissing them (McRae & Gross, 2020). This paper introduces a new concept, *emotional entitlement*—the belief that one has the right to experience a full range of emotions, including happiness, anger, and sadness.

Drawing on research on general entitlement (Zemojtel-Piotrowska et al., 2015) and beliefs about emotions (Ford & Gross, 2019), emotional entitlement is proposed as a multidimensional construct potentially linked to emotional processes, interpersonal dynamics, and well-being (Edwards & Wupperman, 2019). This paper introduces and validates the Emotional Entitlement Questionnaire (EEQ), designed to assess adaptive and maladaptive aspects of emotional entitlement across both positive and negative emotions.

2. Method

2.1. Materials and procedure

Study 1: Two hundred participants were recruited through convenience sampling via social networks and completed an online survey after providing informed consent. A 41-item Hebrew Emotional Entitlement Questionnaire (EEQ) was developed and refined to 25 items with input from social psychology experts. A 15-item, 3-factor version of the EEQ was finalized in Hebrew.

Study 2: Total of 672 participants were recruited via social networks to complete the 15-item EEQ derived from Study 1. Test-retest reliability was assessed one month later with 518 participants.

Study 3: Four hundred ninety-five participants were recruited via Amazon Mechanical Turk. Participants completed the English version of the 15-item EEQ, translated using a back-translation method. To assess convergent and divergent validity, participants also completed the **Entitlement Questionnaire – Short Form** (Żemojtel-Piotrowska et al., 2015), **Positive and Negative Affect Scale (PANAS)** (Watson et al., 1988), and **Interpersonal Emotion Regulation Questionnaire (IER)** (Williams et al., 2018). To explore the predictive value of the EEQ dimensions, participants also completed the **Life Satisfaction Scale**

(SWLS) (Diener et al., 1985), **Loneliness Scale** (De Jong Gierveld & Kamphuis, 1985) and Sociodemographic data, including gender, age, and years of education, were collected in all studies.

3. Results

In the first study, we constructed a 3-factor, 15-item emotional entitlement questionnaire (EEQ), in Hebrew. Factor analysis revealed a 3-factor structure of emotional entitlement to positive emotions (EEP), to negative emotions (EEN), and the maladaptive aspect of emotional entitlement which we termed uncompromised emotional entitlement (EEU) with Cronbach's α .85–.88. The second study, replicated this 3-factor structure in a new independent sample and established test-retest reliability. EEU showed the highest stability (ICC = 0.85), followed by the EEN (ICC=0.75) and the EEP (ICC=0.62). Initial validity was established showing that the three subscales of the EEQ were related to but different from the measure of global sense of entitlement, positive and negative affect, and interpersonal emotion regulation ($.01 < r < .56$).

In the third study, it was found that the three dimensions of the EEQ were related to life satisfaction and loneliness, above and beyond global entitlement. Mediation model indicated that EEP predicted higher levels of IER (β=.46**), which in turn predicted more positive emotions (β =.07*) and lower levels of loneliness (β =-.38**). Moderation model indicated that EEU was positively associated with loneliness, b = .16**, IER was negatively associated with loneliness, b = -.12, and that IER significantly moderated the association between EEU and loneliness, b =- .06** whereas the association between EEU and loneliness was positively significant for low (b = .26**) and medium (b = .16**) levels of IER, it was not significant for high levels of IER (b = .05).

4. Discussion and conclusions

The findings suggest that emotional entitlement is a multidimensional construct and that the EEQ is a reliable and valid measure with strong psychometric properties. This scale evaluates beliefs about entitlement to positive emotions, negative emotions, and uncompromised emotional entitlement. The EEP subscale reflects an adaptive aspect of emotional entitlement, linked to lower loneliness and higher life satisfaction. Conversely, the EEU subscale captures a maladaptive aspect, associated with increased loneliness. The EEN subscale may reflect maladaptive tendencies depending on specific conditions, warranting further investigation in future research.

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EFFECTS OF THE USE OF FEEDBACK IN PSYCHOTHERAPY: TWO CASE STUDIES

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Abstract

The research shows that the highest percentage of effectiveness in psychotherapy is due to a series of extra-therapeutic variables, among which the feedback provided in the therapeutic session stands out (Wampold & Imel, 2015). The way in which outcomes are evaluated in psychotherapy on which feedback is given to the patient is called Routine Outcome Monitoring (ROM), which consists of the periodic inter-session evaluation of the progress of psychological treatment. To evaluate the patient's progress throughout treatment, the Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE; Evans et al., 2002) stands out, although there are few studies that have tested the effectiveness of its use. The objective of this work is to analyze the impact of the feedback that the therapist provides to the patient on their progress, based on the use of the CORE, in routine clinical practice. The sample was made up of two participants who were treated in private clinical practice, aged between 50 and 60 years, who presented anxiety-depressive problems of varying severity without other diagnoses. The instruments used were the CORE-18 and CORE-34 to evaluate the inter-session progress of the patients, the first composed of two parallel forms that alternate in their application, and the SCL-90-R (Derogatis, 1977) to evaluate clinical symptoms. The session-by-session CORE-18 scores, and the CORE-34 scores obtained every three months, were used to monitor progress and provide feedback to the patient about the evolution of treatment. Analysis of treatment effects was carried out using a single-case design, and statistical analyses were used to quantify the magnitude of the treatment effect, the reliability of the change, and its clinical significance (Jacobson & Truax, 1991). The results showed reliable and significant changes, with an effect size that qualified the treatment as very effective, in both participants. The results obtained allow us to conclude that the CORE questionnaire appears to be an effective tool for systematic monitoring of results, which has in turn proven useful for carrying out an effective intervention in patients with anxiety-depressive problems of different severity.

Keywords: *Psychotherapy efficacy, routine outcome monitoring, CORE, feedback, case study.*

1. Introduction

Although the use of validated, evidence-based psychological treatments has been progressively increasing, therapeutic failure rates remain high. In fact, clinical trials show that approximately 30% of patients do not respond to psychotherapy, and in routine practice, up to 65% of patients drop out of treatment without measurable benefit (Lambert, 2017). These data highlight the need for further research to improve therapeutic interventions in order to increase their effectiveness and reduce failure rates. For this purpose, it is relevant to analyze the common factors that explain the effectiveness of treatments, as it has been shown that the therapeutic relationship and the active participation of the patient play a crucial role in treatment outcomes, regardless of the model applied (Wampold & Imel, 2015). In particular, recent research supports the use of instruments that evaluate the patient's progress during the course of psychotherapy and provide continuous feedback that can improve treatment outcomes (de Jong et al., 2025). Assessment of patient progress during the therapeutic process is carried out through routine outcome monitoring (ROM), one of the main instruments used for this purpose being the Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE; Evans et al., 2002). However, research is needed to determine the efficacy of this strategy on different clinical problems and its application in different therapeutic contexts. Given that anxiety and depressive disorders are highly prevalent in clinical practice, the aim of this paper was to analyze the impact of feedback on treatment progress, as assessed by CORE, on two clinical cases suffering from anxious-depressive problems of different severity.

2. Method

2.1. Participants

The sample was made up of two participants who were treated in private clinical practice in a psychotherapy center in Malaga (Spain). From an original sample of 16 cases in which feedback had been routinely applied during the intervention process, the inclusion criteria in this study were being between 50 and 60 years old and present anxious-depressive problems without other diagnoses. The exclusion criterion was receiving pharmacological treatment. The information for the diagnosis was obtained through a clinical interview and according to the ICD-10 it was, for Case 1, as Mixed Anxious-Depressive Disorder (F41.2), and for Case 2, as Mixed Anxiety-Depression Reaction (F43.22). Both patients had a medium-high socio-economic level.

2.2. Instruments and procedure

The Clinical Outcomes in Routine Evaluation (CORE; Evans et al., 2002) is a set of scales that measure subjective well-being, functioning, problems/symptoms and risk, which are used to carry out systematic monitoring of results in psychotherapy. In this work, the CORE-34 and CORE-18 were used, the latter consisting of two parallel forms which alternate in their application. Specifically, we used the Spanish adaptation of the scales carried out by Feixas et al. (2012), which have a test-retest reliability between 0.75 and 0.90 and have high validity and sensitivity to detect change (Trujillo et al., 2016). The clinical cut-off point set at 1.00 in several studies was used in this study (e.g. Feixas et al., 2012).

The Symptom Checklist-90-Revised (SCL-90-R; Derogatis, 1977) is a 90-item instrument that is used to evaluate the clinical symptoms that the person has experienced in the previous week. In this work, the global severity index (GSI) score was used. Regarding the clinical cut-off point, it is set at 0.60 for functionally-moderately symptomatic, and at 1.20 for moderately-severely symptomatic (Schmitz et al., 2000).

In Case 1, 12 treatment sessions were carried out, while in Case 2 there were 15, in both with an inter-session period of around two weeks and a total duration of seven and eight months, respectively. The psychological intervention used was carried out using an integrative systemic approach. The CORE-18 scores obtained before each session allowed the therapist to provide continuous feedback to patients on their progress. In addition, the observation of the graphs with the CORE-34 scores obtained every three months allowed the patient to be aware of the moments of the intervention when changes occurred, which were reviewed within the session. The SCL-90-R was passed before the start and after six months of treatment.

3. Results

Analysis of treatment effects was carried out using a single-case design, and statistical analyses were used to quantify the magnitude of the treatment effect, the reliability of the change, and its clinical significance (Jacobson & Truax, 1991). As seen in Figure 1, in Case 1 the CORE score began in a clinical range (1.3), it suffered a slight aggravation between sessions three and four, dropping below the pre-treatment score in session five and, as the treatment passes, progressively decreasing to 0.39 (non-clinical range). Consequently, there has been a reliable improvement, with a decrease of 0.5 points. A clinically significant change also occurred when the pre-treatment score decreased below the cut-off point of 1.00, thus meeting all clinical change criteria. With regard to Case 2, Figure 2 shows that it started with a score of 0.97, which, although not reaching the clinical range, zigzagged down to 0.17, also indicating a reliable improvement. The effect size on change obtained (Scruggs and Mastropieri, 1998) was 90.91% for Case 1 and 100% for Case 2, qualifying the treatment as very effective.

Figure 1. CORE scores for case 1.

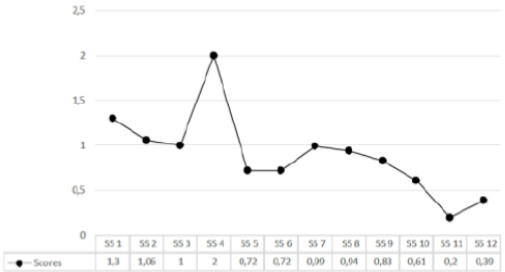
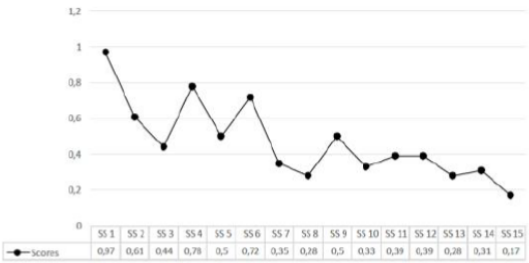


Figure 2. CORE scores for case 2.



As for the GSI of the SCL-90-R, Figure 3 shows that in Case 1 it went from 1.6 to 0.11 points, so there was a change of clinical significance. With regard to Case 2, it can be seen in Figure 4 that, although the pre-treatment score did not reach the clinical range, there was also a significant reduction in anxious-depressive symptoms.

Figure 3. SCL-90-R scores for case 1.

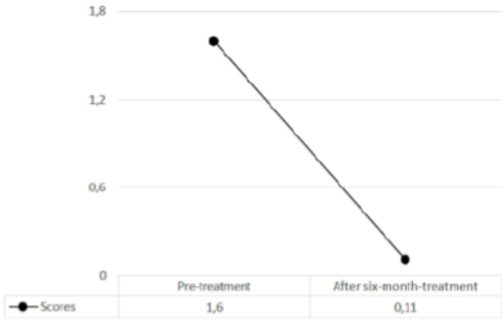
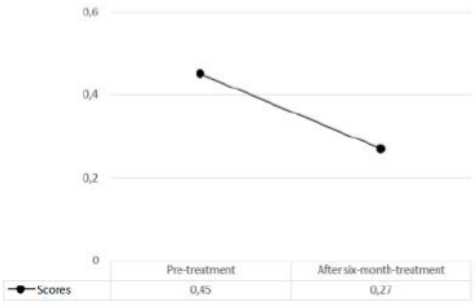


Figure 4. SCL-90-R scores for case 2.



4. Discussion

The results obtained on the CORE and SCL-90-R scores show that reliable and significant changes were produced through the use of ROM in both participants, with an effect size that qualified the treatment as "very effective." In light of our results, the use of ROM has been shown to be effective for intervention in people with anxious-depressive problems of different levels of severity. However, future studies are required that compare the intervention carried out with the usual treatment used without the inclusion of ROM and feedback, which would allow us to conclude on the specific contribution of these strategies to the treatment results. In conclusion, the findings of this study underscore the importance of continuous feedback in the therapeutic relationship as a means of improving treatment outcomes.

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MANY LANGUAGES, ONE VOICE: MENTAL STRENGTH THROUGH DIVERSITY

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Abstract

This exploratory study investigates whether language-switching behavior in adolescence is used to conceal thoughts and its relationship with mental stability in adulthood among multilingual individuals. The theoretical framework suggests that language-switching, particularly in response to negative stimuli, may enhance emotional regulation and cognitive flexibility. Language-switching, also known as code-switching, is a common phenomenon among multilingual individuals, where they alternate between languages depending on the context, audience, or emotional state. Previous research has indicated that bilinguals and multilinguals often switch languages to better express their emotions or to align with the emotional context of a conversation. This study aims to extend this understanding by examining the long-term effects of language-switching on mental stability. Data collection for this empirical study is complete. Participants were recruited through Amazon Mechanical Turk, resulting in a sample of 155 multilingual adults (N_{Males} = 124, M_{Age} = 34.12 years, SD_{Age} = 5.95). Participants were selected based on their experience with language-switching and multilingualism. The survey included self-assessment Likert scale questions designed to measure the frequency and context of language-switching to conceal thoughts during adolescence, and the ability to maintain calmness and control in pressure situations as indicators of mental stability in adulthood. The independent variable, language-switching to conceal thoughts, was defined as the conscious choice to change languages during a conversation to hide one's thoughts from the interlocutor. The dependent variable, mental stability, was defined as the ability to remain calm and composed in stressful situations, measured through a self-assessment questionnaire. Data were analyzed using SPSS, and the results revealed a statistically significant positive correlation between language-switching and mental stability ($r = 0.314$, $p < 0.01$). This suggests that individuals who frequently switched languages to manage their emotions during adolescence tend to exhibit better mental stability in adulthood. The findings support the hypothesis that language-switching in adolescence is linked to better mental stability in adulthood. The positive correlation indicates that multilingual individuals who engage in language-switching as a strategy to conceal thoughts and manage emotions may develop enhanced emotional regulation skills over time. The study underscores the importance of multilingualism in fostering emotional and cognitive flexibility, offering valuable insights for future research on multilingualism and mental health. By understanding the benefits of language-switching, psychologists and educators can better support multilingual individuals in leveraging their linguistic abilities for improved emotional regulation and mental well-being.

Keywords: *Language-switching, emotion regulation, adolescence, adulthood, mental stability.*

1. Background

As a second-generation immigrant, unique challenges are faced in navigating two languages. At home, the author personally spoke their native language with family members, while outside, they communicated in English. This bilingual environment created a dynamic where I could switch languages depending on the context. This language-switching strategy was used to conceal thoughts and opinions from parents, who had limited English proficiency. This behavior helped to avoid conflict and process situations more effectively. Over time, this practice contributed to the ability to regulate emotions and maintain mental stability in adulthood. Thus, highlighting the significance of language-switching in development and its potential impact on emotion regulation.

2. Methods

Participants: The study recruited 155 adults through Amazon Mechanical Turk, ensuring that participants had experience with language-switching and spoke more than one language. The final sample included participants aged 24-61, with a mean age of 34.12. Most participants were male (80%) and identified as White (94.8%). The majority spoke two languages, while a smaller percentage spoke three or more languages.

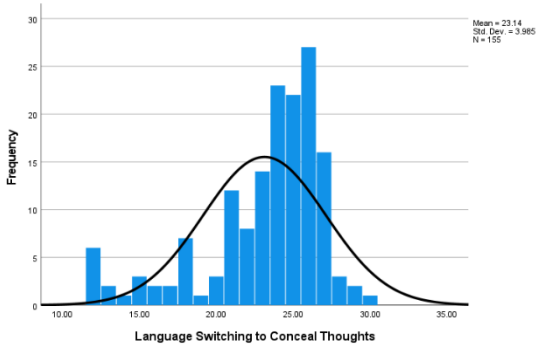
Data Collection: Data was collected via a Qualtrics survey, focusing on language-switching to conceal thoughts and mental stability. The independent variable was defined as the conscious choice to switch languages to hide thoughts, while the dependent variable was measured through a self-assessment Likert scale questionnaire. The survey included attention checks and honesty checks to ensure the quality of responses.

Data Analysis: SPSS was used for data analysis, with Cronbach's alpha indicating good internal consistency for survey items (0.808 for the independent variable and 0.772 for the dependent variable). The analysis included descriptive statistics, histograms, and Pearson Correlation Coefficient to measure the strength of the linear correlation between the two variables.

3. Results

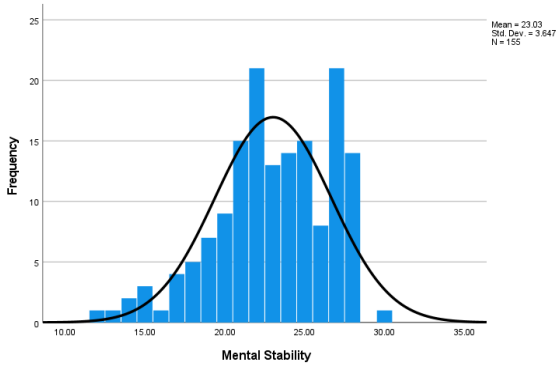
Language-Switching to Conceal Thoughts: The results showed a negatively skewed distribution, with most participants scoring high on language-switching items. This indicates that many participants frequently engaged in language-switching to conceal thoughts during adolescence. The mean score for language-switching was 23.14 (See Figure 1).

Figure 1. Frequency of Language Switching to Conceal Thoughts Scores.



Mental Stability: Similarly, the results for mental stability showed a negatively skewed distribution, with most participants scoring high on mental stability items. This suggests that many participants demonstrated good mental stability in adulthood. The mean score for mental stability was 23.03 (See Figure 2).

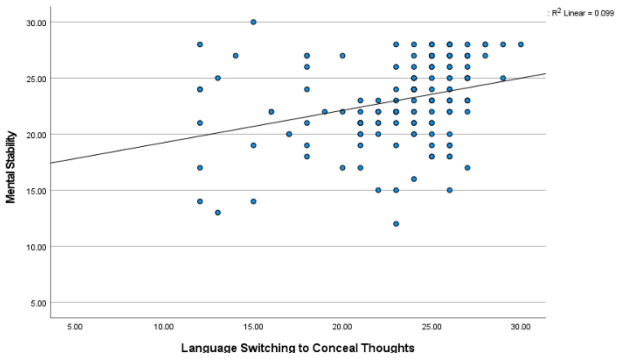
Figure 2. Frequency of Mental Stability Scores



Correlation: A Pearson Correlation Coefficient of 0.314 ($p<0.01$) indicated a statistically significant but weak positive correlation between language-switching to conceal thoughts and mental

stability. The scatterplot showed that most participants fell in the upper-right quadrant, indicating high scores on both variables. (See Figure 3).

Figure 3. *Scatter plot of Combined Scores on IV and DV for each participant.*



4. Discussion

The findings support the hypothesis that language-switching to conceal thoughts in adolescence is related to better mental stability in adulthood. This suggests that multilingualism can enhance emotion regulation, with language-switching serving as a strategy to manage emotional states across different contexts. The results align with Liu (2023), Dewaele (2010), and Schulte-Nahring (2018), who found that language-switching is influenced by emotional intensity and cultural context. This highlights the importance of considering cultural factors and emotional contexts in understanding language-switching behavior.

5. Limitations and future directions

The study's limitations include the weak correlation, the need for a larger sample size, the absence of a comparison group, and potential reliability issues due to participants recalling information from different developmental periods. Future research should address these limitations to strengthen the findings and explore whether the language-switching component specifically contributes to better mental stability. Additionally, future studies could benefit from focusing on a single developmental period (either childhood or adolescence) to improve the reliability of the results.

6. Conclusion

The study concludes that adolescents who use language-switching to conceal thoughts tend to exhibit better mental stability in adulthood. This highlights the critical role of multilingualism in emotion regulation and suggests that changing languages in conversations can be a valuable strategy for managing emotional states. The findings provide insights into the potential benefits of bilingualism and language-switching for emotional well-being.

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PROFESSIONAL PRACTICES AND INTERCULTURAL COMPETENCE: CHALLENGES FOR PSYCHOLOGISTS DEALING WITH CULTURAL DIVERSITY IN FRENCH-SPEAKING BELGIUM

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Abstract

The rapid rise in cultural diversity worldwide is a result of extensive migrations. While it is essential for professionals to integrate the cultural specificities of their patients into their clinical practices, a review of the scientific literature reveals a significant training deficit in cultural competencies. Scientific literature indicates that individuals from various cultural backgrounds often receive inadequate care and face barriers in accessing healthcare services. This study aims to provide an overview of the situation in the French-speaking part of Belgium. We investigate how psychologists consider the cultural specificities of patients with different linguistic and cultural backgrounds in their clinical practice to provide adequate care.

Keywords: *Cultural diversity, practices, psychologists, assessment.*

1. Introduction

For several decades, migration has enriched the cultural diversity of the Belgian population. As a result, more than a third of the population is not of Belgian origin (Statbel, 2024). Our country's healthcare professionals increasingly had to work with patients from various linguistic and cultural backgrounds. Research indicates that patients from diverse backgrounds often receive inadequate care and encounter barriers when accessing healthcare services (Licata & Heine, 2012). Moreover, most psychometric tests psychologists use has been designed and standardized for individuals living in a Western, monocultural, and monolinguistic context. Consequently, employing such tools with patients from different cultures can lead to misdiagnosis or inappropriate treatment (Brunnet, Davanture & Derivois 2022; Sabri, Bosse & Roulin, 2022). To ensure the same healthcare rights for all (Verrept & Coune, 2016), professionals need to adapt their practices to the cultural specificities of their patients, whether working with children or elderly adults.

2. Methodology: research objectives, instrumentation and sample

This study aims to provide an overview of the situation in the French-speaking part of Belgium. We investigate how psychologists consider the cultural specificities of patients with different linguistic and cultural backgrounds in their clinical practice to provide adequate care. To collect our data, we invited the participants to complete an online survey of open-ended and close-ended questions focusing on their experiences with patients (difficulties, challenges, training needs, and experiences). Participation in the survey was voluntary and open from January to May 2024 for all psychologists in French-speaking Belgium who meet, at least occasionally, patients from different cultures. We sent the questionnaire electronically to the professionals or through institutional secretariats (hospitals, nursing homes, medical homes, etc.) and distributed it via social networks (Facebook, LinkedIn). A total of 188 practitioners responded to our questionnaire. We combined statistical analysis of general trends with a more in-depth exploration of individual opinions and experiences.

3. Results

3.1. Descriptive characteristics of the sample

Our sample comprises 188 psychologists working with two distinct groups: children (group A, N = 111, 59%) and elderly adults (group B, N = 77, 41%). On average, they are 37.3 years old and have 11.6 years of professional experience. The data show that 142 respondents (75.5%) work with patients from

different cultures at least once a week. Only 8 (4.3%) meet such patients less than once a month. A large part of the sample (166, 88.3%) experienced almost a consultation with a patient who did not speak French, and 103 (54.8%) assessed their patients using standardized psychological instruments.

3.2. Main results

Professionals in both groups (A and B) overwhelmingly stated (184, or 97.9%) that they were aware that culture influences how individuals perceive healthcare, including illness, treatment, and access to care. Moreover, 164 psychologists (87.2%) ask about their patients' cultural origins during consultations.

As shown in Table 1, professionals' opinions vary widely on using standardized tests with patients from culturally diverse backgrounds. For 60/188 (31.9%), it is possible to use these tools with all the patients who speak the same language of the test (in our case, French), regardless of their culture. Others (50/188, 26.6%) believe that they can use such tools only with patients with the same culture and the same language as the test; 52/188 (27.7%) thought they could work regardless of patients' cultural or linguistic characteristics, and 26/188 (13.8%) did not express an opinion on the subject.

More specifically, we observed divergences between the two groups of professionals. If 42/111 psychologists (37.8%) from Group A considered that the tests can be administered to everyone, regardless of language or culture, 29/77 psychologists (37.7%) from Group B declared that they prefer to use them only with patients from the same cultural and linguistic background than the test.

Table 1. Opinions about using standardized tests with patients from culturally diverse backgrounds.

		All the patients		Same language, regardless of culture		Same language + same culture		No opinion		**Total**	
		N	*%*	N	*%*	N	*%*	N	*%*	**N**	***%***
Psychologists	Children patients (Group A)	42	*37.8*	33	*29.7*	21	*18.9*	15	*13.5*	**111**	***100***
	Elderly patients (Group B)	10	*12.8*	27	*35.1*	29	*37.7*	11	*14.3*	**77**	***100***
	Total	**52**	***27.7***	**60**	***31.9***	**50**	***26.6***	**26**	***13.8***	**188**	***100***

In their work habits, 103/188 (54.88%) psychologists use standardized tests. However, only 29 of them (28.2%) are aware that the patient's language and culture are two factors that can lead to interpretation bias. On the other hand, only 26 of the 52 (50%) psychologists who declared that it was correct to use standardized tests with all patients are effectively employing them. This mismatch between opinion and practice shows that psychologists need to receive more sensitization about this issue.

Professionals faced various difficulties in intercultural situations, such as verbal communication with patients and/or families who are nonfluent in French (142/188, 75.5%). More than half (102/188, 54.2%) said they had to deal with difficulties related to representations of mental health, which can differ from one culture to another. Psychologists from Group A report that some parents struggle to understand and accept their children's unhappiness because their culture has more difficulty recognizing depression. They also highlighted that some religious parents are resistant to therapeutic or medical treatment for their children because they believe that prayer could improve their condition. The professionals from Group B explained that the symptoms of neurodegenerative diseases are sometimes confused with normal aging in these families. As a result, the relatives don't always seek to take advantage of access to care.

Professionals expressed three main types of need: they would like to dispose of standardized tools, which they can use with all patients regardless of their language and culture (82/188, or 43.6%). Most also called for more supervision (75/188, 39.9%) and training (70/188 or 37.2%) with professionals well-trained in cultural diversity management.

When we asked psychologists about their initial training in interculturality (see Table 2), only a third of the sample asserted to have received such training (65/188, 34.6%). Of the 123 others, only 83 (67,5%) said they had been a little sensitized to this issue. Furthermore, we found that more professionals claim to have been trained in Group A than in Group B (43/111, 38.7% vs. 22/77, 28.6%), while the latter are more likely than the former to say they are neither trained nor sensitized (21/77, 27.3% vs. 19/111, 17.1%). Finally, many (147/188, 78.2%) would like to complete more in-depth training in intercultural management.

Table 2. Initial training in interculturality.

	Group A		Group B		**Total**	
	N	*%*	N	*%*	**N**	***%***
Trained	43	*38.7*	22	*28.6*	**65**	***34.6***
Only sensitized	49	*44.1*	34	*44.2*	**83**	***44.1***
Neither trained nor sensitized	19	*17.1*	21	*27.3*	**40**	***21.3***
Total	**111**	***100***	**77**	***100***	**188**	***100***

4. Discussion and conclusion

Today, culturally-adapted healthcare represents a significant societal challenge. Results indicate that 166/188 psychologists (88.3%) frequently work with patients who do not speak French fluently. Both groups report experiencing difficulties related to cultural perceptions of illness, with 102/188 (54.3%) acknowledging this issue. They also express a need for standardized tools to assess patients from diverse linguistic and cultural backgrounds, even if their opinions on using psychometric tests designed for Western populations vary within the sample. Our findings confirm Nielsen et al. (2011), who highlighted a lack of intercultural information and training for psychologists. Yet, these professionals must exercise caution when interpreting the results obtained from these instruments to avoid diagnostic errors (Sabri, Bosse & Roulin, 2022). In light of this situation, participants have requested more supervision and training to enhance their ability to support and assess patients from different cultures. That indicates an awareness of the risks associated with the importance of considering cultural diversity in their practices.

In conclusion, linguistic and cultural backgrounds significantly influence healthcare and cultural context is a key aspect of the anamnesis process. However, in Belgium, many professionals received inadequate training during their studies, hindering their ability to integrate cultural specificities into their practice. Moreover, our participants also encounter difficulties with the tests used with these patients. They desire to enhance their skills, including those who have received initial guidance in cultural diversity. Consequently, there is an urgent need for improved training opportunities within healthcare institutions.

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EMOTIONAL INTELLIGENCE AND COPING STRATEGIES IN FUTURE SCHOOL COUNSELLORS

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Abstract

Introduction: The emotional intelligence (EI) of school counsellors is currently of particular relevance due to the increasing number of emotional problems affecting their mental well-being. This not only affects their professional performance, but also has repercussions on their personal lives. To date, training programmes seem to ignore this fact. *Objectives:* 1) to obtain information on the need to include EI in training programmes; 2) to determine whether the meta-knowledge of the three emotional dimensions assessed: attention (feeling/expressing their emotions appropriately); clarity (understanding their emotions well) and emotional repair (regulating their emotions appropriately) is adequate; 2) to assess whether they have the appropriate coping strategies to manage and solve emotional problems in their daily lives; 3) to analyse whether there is a significant correlation between the emotional dimensions and the coping strategies applied. *Method:* this is a non-experimental (ex post facto), descriptive and survey-based study, with non-probabilistic sampling of the incidental or accessibility type. Data collection to assess emotional intelligence was by self-report, applying the Trait-Meta-Mood Scale for the Assessment of Emotion Expression, Management and Recognition (TMMS-24). Data on the strategies used to solve everyday emotional problems were obtained by applying the Coping Strategies Inventory [CSI]. They were analysed using descriptive statistics, comparison of means and Spearman's correlation coefficient. The sample consisted of 36 subjects. *Results:* the results allow us to identify the emotional intelligence profile in the three dimensions evaluated, obtaining that between 66%-69% have an adequate profile and between 31%-34% need to improve by defect or excess. As for the coping strategies, four of them are within the average range and another four above the average, with respect to the normal population. There is a positive correlation between the emotional dimensions and the total CSI score. *Conclusions:* From the results obtained, we conclude that, although the sample of this study shows acceptable levels of EI, it is essential that emotional intelligence occupies a prominent place in the training programmes of these professionals, as a percentage of the total CSI score is higher than that of the normal population.

Keywords: *Emotional intelligence, coping strategies, school counsellor, master's degree in education, TMMS-24.*

1. Introduction

Currently, school counsellors must face increasingly complex professional demands (Martínez Juarez et al., 2018) that they must manage as efficiently as possible, otherwise this profession can be a source of emotional tension (Fernández & Malvar, 2020) and have repercussions on their mental well-being, leading to work incapacity due to the stress, anxiety or depression that they may develop as a consequence (Morales & Martínez, 2023). Therefore, school counsellors must strengthen their emotional intelligence in order to understand, regulate and apply their emotions appropriately, minimising their negative impact (Barrutia, 2009). This leads us to consider the fact that educational administrations should be more involved in the initial and ongoing training of school counsellors, as proposed by Anaya et al. (2011), while basing their training on the European framework of higher education. Different studies consider emotional intelligence as a protective factor against the occurrence of stress (Extremera et al., 2010) and as an enhancer of a positive mental state (Alvarez-Ramirez et al., 2017). On the other hand, the study by Cejudo (2016) provides evidence on the predictive validity of EI as a trait, considering it a relevant indicator of mental health.

2. Method

This is a non-experimental (expo-facto), descriptive and survey-based study, with non-probabilistic sampling of the incidental or accessibility type. The sample consisted of 36 subjects (see Table 1). Data collection to assess emotional intelligence was by self-report, applying the Trait-Meta-Mood Scale for the Assessment of Emotion Expression, Management and Recognition (Trait-Meta-Mood Scale [TMMS-24]) in an adaptation by Fernández-Berrocal et al. (2004) of the original Trait-Meta-Mood Scale [TMMS-48] by Salovey et al. (1995). It consists of 24 items, Likert-type from 1 to 5 points and can be passed collectively and individually. It takes about 5 minutes to administer. It assesses perceived intrapersonal emotional intelligence (attention to emotions, emotional clarity and emotional repair). The coping strategies have been extracted with the Coping Strategies Inventory [CSI], by Cano-García et al. (2007) from the original Coping Strategies Inventory by Tobin et al. (1989). It consists of 40 items, Likert-type from 0 to 4 points. It assesses 8 dimensions: problem solving, self-criticism, desiderative thinking, social support, cognitive restructuring, problem avoidance and social withdrawal. It consists of a first part where a problematic experience is recorded and how the student solves it and what strategies he/she applies. It is graded in centiles.

Table 1. Sample data.

Number of subjects	Mean age	Standard deviation	Sex	
N	M	DE	Males	Females
36	24,83	4,74	3(8,3%)	33 (91,7)

3. Results

The results obtained in terms of the profile obtained in the three key emotional dimensions are shown in Table 2, Table 3 and Table 4. The data obtained in the Coping Strategies Inventory [CSI] were analysed by applying a comparison of means using Student's t-test at 95% confidence. The mean of the sample (n=36) was compared with the reference value given by the inventory (μ=335) for each of the variables (Molina Arias et al., 2020). The results are shown in Table 5.

Table 2. Profile in Emotional Care.

	Frequency	%
Needs improvement	5	13,9
Adequate	24	66,7
Excellent	7	19,4
Total	36	100

Table 3. Emotional Clarity Profile.

	Frequency	%
Needs improvement	5	13,9
Adequate	25	69,4
Excellent	6	16,7
Total	36	100

Table 4. Profile in Emotional Repair.

	Frequency	%
Needs improvement	8	22,2
Adequate	25	69,4
Excellent	3	8,3
Total	36	100

Table 5. Comparison of the sample mean(n) with the mean in the normal population (μ).

Variable	Sample mean $\bar{x}$	Normal population mean μ	Student's T-interval (95%)
REP_problem solving	13,5*	14,25	12-14,9
AUC_self-criticism	7*	5,1	5,1-8,81
EEM_emotional expression	13,5**	8,98	12,1-14,8
PSD_desiderative thinking	12,5*	11,6	10,6-14,4
SSA_social support	15,05**	10,93	13,3-16,7
REC_cognitive restructuring	11,6**	10,17	11,6-14,7
EVP_problem avoidance	6,5*	8,81	4,9-8
RES_social withdrawal	5,7**	3,93	4,4-7

*Within the mean of the normal population
** Above the mean of the normal population

The results obtained regarding the correlation between the variables of the TMMS-24 scale and the total score of the CSI inventory are shown in Table 6.

Table 6. TMMS-24/CSI correlation.

	TMMS_24 /CSI_TOTAL		
	Attention	Clarity	Repair
Rho de Spearman	.25	.39*	.42*

*Correlation is significant at the .05 level.4.

4. Conclusions

From the results obtained, it is concluded that training programmes for school counsellors should be improved by including EI in both initial training (Clemente-Rocolfe & Escribá-Pérez, 2013) and ongoing training (Fernández & Malvar, 2020). This idea is reinforced by the results obtained in other studies, and according to data from the Institute of Emotional Intelligence and Applied Neuroscience, 94% of practising teachers surveyed think that their teaching practice would improve if they received training in emotional intelligence. On the other hand, according to the study by Pérez-Escada et al. (2019), university students are increasingly requesting this type of training, with 83% of university students agreeing to receive it, a fact that is currently not reflected in either bachelor's or master's degree studies. The different studies carried out show that emotional intelligence is therefore a quality that guarantees the professional development of teachers in the 21st century (García-Domingo & Pérez-Bonet, 2024). On the other hand, given the significant correlation at 0.05 between the total score of the CSI Inventory and the variables of emotional clarity and emotional attention of the TMMS-24, coping strategies in the face of everyday problems are also considered as they should be incorporated into the training programmes of school counsellors, despite the fact that the results in this study show that emotional intelligence is a quality that should be incorporated into the training programmes of school counsellors (García-Domingo & Pérez-Bonet, 2024).

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POSITIVE SELF-TALK: PROMOTING CONSTRUCTIVE AND GOAL-DIRECTED SELF-CRITICISM. PROPOSAL FOR A NEW PROTOCOL OF INTERVENTION

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Abstract

Self-criticism is associated with various mental disorders and can negatively impact relationships, performance, and goal achievement. However, self-criticism can also be adaptive when it promotes realistic and constructive reflection, fostering personal improvement and goal attainment. Many interventions aim to reduce self-criticism by encouraging self-compassion; however, it has been demonstrated that self-criticism and self-compassion are distinct processes that can coexist. Moreover, most interventions overlook the adaptive function of self-criticism and, despite its negative impact on goal achievement, often fail to integrate strategies that enhance goal-directed behavior. Therefore, this study presents the development of a novel intervention designed to reduce dysfunctional self-criticism while fostering a constructive and goal-oriented approach. An extensive literature review and expert consultations were conducted to analyze theoretical models and existing treatments. The prevalence of maladaptive self-criticism was considered to identify the target population. Various delivery formats were evaluated to ensure the intervention was scalable, accessible, and cost-effective while maintaining efficacy. As a result of this structured development process, "Positive Self-Talk" was created as a preventive tool aimed at healthy individuals, recognizing that even in non-clinical populations, internal dialogue is often dominated by self-critical content. The intervention integrates techniques from Positive Psychology, third-wave Cognitive-Behavioral models, and the Nonviolent Communication model. Designed as an online guided self-help program, it ensures broad accessibility, scalability, and cost-effectiveness while overcoming common barriers associated with traditional therapy. Positive Self-Talk comprises six structured modules combining psychoeducation, self-monitoring tools, and practical exercises. These modules help users identify dysfunctional self-criticism, explore its underlying motivations, and transform it into a more constructive and adaptive process. Functional imagery techniques are incorporated to reinforce learning and facilitate goal achievement. Moreover, participants receive support from a trained Tutor, a psychologist who fosters motivation, commitment, and personal goal attainment through activity monitoring and online guidance. Positive Self-Talk is hypothesized to reduce dysfunctional self-criticism, enhance psychological well-being, and support pursuing meaningful goals. Future steps include evaluating its efficacy through empirical studies, with plans to adapt and extend its application to clinical populations.

Keywords: *Self-criticism, guided self-help intervention, prevention, goal-oriented behavior, psychological well-being.*

1. Introduction

Self-criticism is a negative self-evaluation process characterized by chronic self-blame and self-disapproval, feelings of inadequacy, self-disgust or self-hate, and comparisons to personal or external standards (see Zaccari et al., 2024 for a meta-review). Growing evidence indicates that self-criticism contributes to functional impairments by hindering goal progress (Powers et al., 2007), lowering self-esteem, fostering interpersonal difficulties, and promoting maladaptive coping strategies. Furthermore, self-criticism contributes to the onset and maintenance of a wide range of mental disorders, such as mood disorders, anxiety disorders, and eating disorders (see Werner et al., 2019 for a review).

While most existing literature conceptualizes self-criticism as unhealthy and destructive, its potential benefits are often overlooked. Evidence suggests that healthy levels of self-criticism can be adaptive and functional if it promotes realistic and constructive self-reflection and self-feedback, helping individuals identify necessary changes to achieve their goals (Holm-Denoma et al., 2008).

Therefore, reducing negative self-evaluations alone is insufficient; for self-criticism to be constructive, it must provide clear insights into what is wrong and how to improve. When it lacks this clarity, it becomes maladaptive and destructive, offering little guidance for self-improvement (Bergner, 2008).

Cognitive-behavioral therapies (CBT) address self-criticism through different approaches. Traditional CBT focuses on modifying negative self-critical thoughts, while third-generation methods emphasize taking distance from these thoughts or fostering self-compassion, often considered an antidote to self-criticism (Werner et al., 2019). However, despite advances in treatments to reduce self-criticism, some limitations persist. First, research shows that self-criticism and self-compassion can coexist rather than function as opposites (Longe et al., 2010), challenging the assumption that increasing self-compassion automatically reduces self-criticism. Additionally, interventions rarely promote adaptive self-criticism, which can facilitate self-improvement and goal achievement without leading to self-devaluation. Lastly, while self-criticism can hinder personal growth (Powers et al., 2007), most interventions fail to investigate whether reducing it enhances goal achievement.

The present study aims to develop a novel intervention to reduce maladaptive and destructive self-criticism in favor of adaptive, constructive, and goal-oriented self-criticism. This shift would improve goal achievements and promote psychological well-being.

2. Method

The intervention was developed through a structured, evidence-based process aligned with the best practices in psychological intervention design. First, using different databases (e.g., Psycinfo, PsycArticle, PubMed, Google Scholar), an extensive bibliographic review was conducted to explore theoretical perspectives on self-criticism, assess theoretical models and existing interventions, and identify standardized assessment tools. Following this, a team of specialists in the field was consulted to refine the intervention's theoretical approach, structure, and feasibility. Successively, the most suitable population was identified based on prevalence rates of maladaptive self-criticism and the potential benefits of intervention. Additionally, multiple formats—including individual and group sessions and self-help programs—were evaluated to select the most scalable, cost-effective, and accessible delivery method while maintaining efficacy.

3. Results

Following the structured development process, a novel intervention has been developed: Positive Self-Talk. This intervention aims to reduce dysfunctional and maladaptive self-criticism in favor of adaptive, constructive, and goal-oriented self-criticism.

3.1. Delivery method

The intervention was specifically designed as an online guided self-help program to provide an effective yet accessible method that overcomes the obstacles of traditional therapy (e.g., high costs, limited availability, and stigma-related concerns). Moreover, this format ensures scalability and cost-effectiveness while maintaining efficacy. Guided self-help was chosen over pure self-help as it enhances effectiveness, fosters autonomy, and reduces dropout rates (Kazdin, 2018).

3.2. Theoretical background and target population

Positive Self-Talk integrates Positive Psychology (Seligman & Csikszentmihalyi, 2000), third-wave CBT, and Nonviolent Communication (NVC; Rosenberg & Chopra, 2015) techniques. The NVC method helps people observe without judgment, connect with feelings and needs, and make clear and constructive requests. CBT techniques are used to explore personal values, challenge negative thoughts, and, alongside Positive Psychology, promote competence acquisition.

Although self-criticism is common even in healthy individuals (Morin et al., 2011), Positive Self-Talk was designed as a preventive tool rather than a clinical treatment. Targeting those prone to self-criticism, it serves as an indicated prevention intervention to reduce distress, lower the risk of mental disorders, and enhance psychological well-being.

3.3. Protocol development

The intervention adopts a multicomponential and modular approach to provide a structured yet flexible experience. A multicomponential design integrates various evidence-based techniques, while the modular structure ensures each component functions independently while remaining interconnected. This step-by-step framework balances adaptability with consistency, making the intervention tailored to individual needs (Chorpita et al., 2005). Positive Self-Talk comprises six structured online modules

combining psychoeducation, self-monitoring tools, and practical exercises. The first module introduces the program, encourages self-reflection on personal goals, and examines the pros and cons of modifying self-criticism. The second module provides psychoeducation on self-criticism's forms and functions, helping individuals recognize their patterns and challenge underlying dysfunctional beliefs. The third module helps users identify what they seek to achieve through self-criticism, demonstrating how alternatives can be more effective, less harmful, and less emotionally distressing while assisting them in reaching their goals. Moreover, values are explored to ensure their goals align with intrinsic motivation. The fourth module introduces the Nonviolent Communication techniques to foster adaptive and constructive self-criticism, with exercises for practical application. The fifth module provides structured exercises to practice adaptive self-criticism, incorporating functional imagery techniques to reinforce learning and support goal achievement. Lastly, the sixth module focuses on integrating these skills into daily life through continued self-monitoring for long-term sustainability. Users receive guidance from a Tutor, a psychologist who fosters commitment, gives support, and provides feedback.

4. Discussion

Combining evidence-based strategies, interactive exercises, and personalized support, Positive Self-Talk offers a structured approach to cultivating constructive and adaptive self-criticism. The intervention is hypothesized to reduce dysfunctional self-criticism, enhance psychological well-being, and support goal pursuit. The next steps include a study to assess its feasibility and efficacy, and future adaptations will extend its application to clinical populations, broadening its potential impact.

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ADOLESCENT WELL-BEING: THE ROLE OF GENDER, MENTAL HEALTH ATTITUDES AND HELP-SEEKING BEHAVIORS IN SLOVENIAN STUDENTS*

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Abstract

Well-being is shaped by a range of factors, including personal characteristics (e.g., gender, age), internal factors (e.g. individual needs, emotions and traits) and external influences such as family and peer support systems. Given the notable decline in well-being during adolescence - particularly among girls and those from economically disadvantaged backgrounds (Michel et al., 2009; Yoon et al., 2023) - it is crucial to identify and understand its predictors. This study aimed to investigate the predictors of well-being among a sample of 39 Slovenian primary school students (M_{age} = 14 years; 48.7% male). Specifically, the role of gender, attitudes towards mental health, help-seeking intentions and perceived barriers to help-seeking were examined. Participants completed the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMBS), the Mental Health Literacy Scale (MHLS), the General Help-Seeking Questionnaire (GHSQ) and the Barriers to Adolescent Help-Seeking (BASH). Hierarchical regression analysis, with mental well-being as the dependent variable, revealed that gender was a significant predictor in model 1, accounting for 15.2% of the variance. However, when two dimensions of attitudes towards mental health were included in model 2 (attitudes towards people with mental health problems; general attitudes towards mental health problems and help-seeking), the explained variance did not increase significantly and none of the predictors reached statistical significance. Model 3, which also included help-seeking intentions and belief-based barriers, explained the largest proportion of variance (R^2 = .540, $p < .001$) and identified general attitudes toward mental health problems and help-seeking, help-seeking intentions, and belief-based barriers to help-seeking as significant predictors. The results suggest that while gender is initially associated with mental well-being, attitudes and behavioural intentions have a more substantial impact. Higher help-seeking intentions were associated with better well-being, whereas perceived barriers to help-seeking negatively predicted well-being. The negative association between positive mental health attitudes and well-being suggests a complex relationship that requires further investigation (e.g., possible moderating factors: personal experience with mental health issues). These findings suggest that further research is needed to explore these dynamics in more detail, particularly in relation to interventions that promote positive attitudes and help-seeking behaviours in young people. Future research should address the study's limitations using larger and more diverse samples, longitudinal designs, and mixed methods approaches.

Keywords: *Well-being, adolescents, mental health, help-seeking, gender.*

1. Introduction

Well-being is shaped by a range of factors, including personal characteristics (e.g. gender, age), internal factors (e.g. individual needs, emotions and traits) and external influences such as family and peer support systems. Given the notable decline in well-being during adolescence - particularly among girls and those from economically disadvantaged backgrounds (Michel et al., 2009; Yoon et al., 2023) - it is crucial to identify and understand its predictors. This study explores the predictors of well-being among Slovenian primary school students, focusing on gender, attitudes toward mental health, help-seeking intentions, and perceived barriers to seeking help.

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2. Methods

This study is part of the Erasmus+ project me_HeLi-D: Mental Health Literacy and Diversity, which aims to develop a digital program to promote mental health and mental health literacy among students aged 12 to 15 from Austria, Slovenia, and Poland. The project uses a participatory approach to tailor the programme to students' needs and preferences, enhancing their well-being through digital tools. For this study, we present data from 39 Slovenian primary school students in the 8th and 9th year of schooling (M_{age} = 14 years; 48.7% male). After obtaining informed parental consent, students completed an online battery of questionnaires assessing mental health, mental health literacy, and demographic variables. This study focuses only on selected measures. Specifically, we used the Short Warwick-Edinburgh Mental Wellbeing Scale (SWEMBS; Stewart-Brown et al., 2009), the Mental Health Literacy Scale (two scales: Attitudes towards people with mental health problems [e.g., "A mental illness is not a real medical illness"]; General attitudes towards mental health problems and help-seeking (e.g., "How willing would you be to make friends with someone with a mental illness?"], MHLS; Krohne et al., 2022), the General Help-Seeking Questionnaire (GHSQ; O'Dea et al., 2019), and the Barriers to Adolescent Help-Seeking (BASH; Wilson et al., 2002). Reliability analyses confirmed acceptable internal consistency for all scales (SWEMBS: α = .83, MHLS: α = .80, GHSQ: α = .81, BASH: α = .68). Reliability tests, descriptive statistics, correlations, independent samples t-tests and hierarchical multiple regression analysis (method: Enter) were calculated with IBM SPSS Statistics 30.

3. Results

Means, standard deviations, and correlations for the scales are presented in Table 1. Well-being is significantly positively correlated with help-seeking intentions, and negatively with attitudes towards mental health problems and help-seeking and belief-based barriers to help-seeking. Independent samples t-tests conducted to examine gender differences revealed females (M = 31.47, SD = 3.19) had significantly more positive general attitudes towards mental health problems and help-seeking than males (M = 26.89, SD = 3.40), $t(36) = 4.29$, $p < .001$. Similarly, females (M = 26.05, SD = 5.08) reported more positive attitudes towards people with mental health problems than males (M = 22.21, SD = 5.21), $t(36) = 2.30$, $p = .027$. On the other hand, males (M = 27.05, SD = 4.29) reported significantly higher levels of mental well-being than females (M = 22.00, SD = 3.46), $t(36) = -3.99$, $p < .001$. No significant differences were found in help-seeking intentions or barriers to help-seeking.

Table 1. Descriptive statistics and correlations.

Scale	*M*	*SD*	1	2	3	4
1. Attitudes Towards Mental Health Problems and Help-Seeking	29.33	4.05				
2. Attitudes Towards People with Mental Health Problems	24.28	5.45	**0.43****			
3. Help-seeking intentions	46.21	12.37	0.12	0.22		
4. Belief-based barriers to help-seeking	29.59	7.85	-0.19	-0.11	**-0.39***	
5. Well-being	24.36	4.68	**-0.39***	-0.20	**0.45***	**-0.34***

*Notes: ** p ≤ 0.01; * p ≤ 0.05. M = mean, SD = standard deviation*

Hierarchical regression analysis (see Table 2) with mental well-being as the dependent variable revealed that gender was a significant predictor in model 1, accounting for 15.2% of the variance. However, when two dimensions of attitudes towards mental health were included in Model 2 (attitudes towards people with mental health problems; general attitudes towards mental health problems and help-seeking), the explained variance did not increase significantly and none of the predictors reached statistical significance. Model 3, which also included help-seeking intentions and belief-based barriers, explained the highest proportion of variance (R^2 = .540, $p < .001$). The final step showed that higher help-seeking intentions were positively associated with well-being, suggesting that adolescents more willing to seek support report better well-being. In addition, those who perceived greater barriers to help-seeking reported lower well-being. An unexpected finding was that more positive general attitudes toward mental health problems and help-seeking translated into lower well-being.

4. Discussion and conclusions

Our study identified general attitudes toward mental health problems and help-seeking, help-seeking intentions, and belief-based barriers to help-seeking as significant predictors. The results

suggest that while gender is initially associated with mental well-being, attitudes and behavioural intentions have a more substantial impact. Higher help-seeking intentions were associated with better well-being, whereas perceived barriers to help-seeking negatively predicted well-being. The negative association between positive mental health attitudes and well-being suggests a complex relationship that requires further investigation (e.g., possible moderating factors: greater awareness of problems, personal experience with mental health issues). These findings suggest that further research is needed to explore these dynamics in more detail, particularly in relation to interventions that promote positive attitudes and help-seeking behaviours in young people. Although this study provides valuable insights into the well-being of adolescents, several limitations must be acknowledged (e.g., small sample size, focus on a specific age group and a specific country). Future research should address these limitations using larger and more diverse samples, longitudinal designs, and mixed methods approaches.

Table 2. Hierarchical multiple regression analysis of variables that predict well-being.

	Well-being					
	Model 1		Model 2		Model 3	
	B	*β*	*B*	*β*	*B*	*β*
Step 1:						
Gender	3.29	**0.39***	2.31	0.27	2.21	0.26
R^2		**0.152***				
Step 2:						
Attitudes Towards Mental Health Problems and Help-Seeking			-0.32	-0.27	-0.40	**-0.34***
Attitudes Towards People with Mental Health Problems			-0.01	-0.02	-0.09	-0.11
ΔR^2				0.065		
Step 3:						
Help-seeking intentions					0.15	**0.39****
Belief-based barriers to help-seeking					-0.18	**-0.31***
ΔR^2						**0.322*****
R^2		**0.152***		0.218		**0.540*****
F for ΔR^2		**6.645***		1.464		**11.567*****

*Notes. *** p ≤ .001; ** p ≤ .01; * p ≤ .05 (significant ß's in bold); B = estimated value of raw regression coefficient; β = estimated standardized value of regression coefficient; R^2 = percentage of explained variance; Δ=change*

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STUDENT-TEACHER RELATIONS OF IMMIGRANT BACKGROUND STUDENTS: INSIGHTS FROM SLOVENIA AND CROATIA

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Abstract

Student-teacher relationships play a critical role in supporting students' academic success and psychological well-being. However, perceptions of these relationships can vary, with students from immigrant backgrounds often at risk for less positive interactions compared to their native peers. Challenges such as language acquisition and cultural adjustment may contribute to these challenges (Ialuna et al., 2024). Positive student-teacher relationships can serve as a key mechanism for immigrant students to adapt to their school environment, fostering inclusion, social engagement, and a sense of school belonging. The ICCS 2022 study provides a valuable framework for exploring the dynamics of student-teacher relationships, particularly through variables related to civic and citizenship education. This paper investigates how predictors such as openness in classroom discussions, influence on school decision-making, and participation in civic activities are associated with student-teacher relationships among students with an immigrant background in Slovenia and Croatia. The study utilizes representative data from the ICCS 2022 cycle of which 21 % of students from Slovenia and 6 % from Croatia reported to have an immigrant background. Descriptive statistics, correlation coefficients, and linear regression models were calculated using RALSA (Mirazchiyski, 2021). The findings reveal both commonalities and differences in the factors predicting student-teacher relationships among immigrant students across the two neighboring countries. Findings are discussed through the view of democratic school and classroom culture with considerations of practical implications.

Keywords: *Student-teacher relations, immigrant background, students, ICCS 2022.*

1. Introduction

Student-teacher relationships are central to students' educational success, impacting academic performance, engagement, and motivation (Zheng, 2022). However, as students represent a heterogeneous group, these relationships are not uniform for all students. In the contemporary context of increased immigration, students with an immigrant background present a unique opportunity to study variations in student-teacher relationships. Given that immigration introduces cultural and linguistic differences, these students may develop distinct relationships with their teachers compared to their native peers.

Positive student-teacher relationships serve as a protective factor for the well-being of immigrant-background students, fostering social development (Peguero & Bondy, 2011), school belonging (Štremfel et al., 2024), and adaptation to new educational environments (Archambault et al., 2024). From this perspective, schools play a vital role in supporting the successful integration of immigrant-background students into diverse societies.

In this study, we define immigrant-background students as those who were either born abroad or have at least one parent born outside the country of schooling, consistent with the definition used in the IEA's International Civic and Citizenship Education Study 2022 (ICCS 2022). According to ICCS 2022 data, approximately 21% of 8th-grade students in Slovenia reported having an immigrant background, with historical migration trends mainly stemming from Yugoslavian countries and, more recently, from Ukraine. In contrast, only 6% of students in Croatia reported having an immigrant background according to data from ICCS 2022. Given these demographic differences, our study aims to identify similarities and differences in the predictors of student-teacher relationships in these two neighboring countries.

ICCS 2022 provides a framework for examining student-teacher relationships within the broader context of civic and citizenship education. As relationships between students and teachers form within classrooms and schools, they reflect the values, norms, and practices that constitute a democratic school culture (Yavuz Tabak & Karip, 2022). Schools promote democratic culture through civic and citizenship education, fostering students' development into active democratic participants (Tzankova et al., 2021).

While various factors shape student-teacher relationships, there is a research gap concerning how democratic school and classroom culture impact these relationships, particularly for immigrant-background students. Since democratic school culture is reflected in opportunities for open discussion and student participation in decision-making processes (Tzankova et al., 2021), these variables may also contribute to immigrant students' perceptions of student-teacher relationships.

Based on this, we pose the following research question: How are factors related to democratic school and classroom culture associated with students' perceptions of student-teacher relationships in Slovenia and Croatia? Specifically, we aim to identify similarities and differences in the predictors of student-teacher relationships for immigrant-background students in these two countries.

2. Method

2.1. Participants

In Slovenia, the ICCS 2022 sample consisted of 4958 (50.12 % male; 21 % of students reported to having an immigrant background. The sample for Croatia consisted of 2776 students (52.09 % female; 6 % of students reported to being of an immigrant background).

2.2. Instruments

Variables from the international ICCS 2022 database were used in the present analyses. All variables are taken from the ICCS 2022 student-background questionnaire. Students' perceptions of student-teacher relations at school (S_STUTREL) was the main variable of interest and taken as an indicator of student-teacher relationships. Other variables from the international database included perceptions of openness in classroom discussions (S_OPDISC), perceptions of student interaction at school (S_INTACT), reports about civic learning at school (S_CIVLRN), beliefs about student influence on decision-making at school (S_INFDEC), student participation in civic activities at school (S_SCHPART) and student gender (S_GENDER). Lastly, a dichotomous index was derived to describe students' background (native and immigrant) and to perform analyses for immigrant background students.

2.3. Procedure

Participants are from the student sample of the ICCS 2022 study. The data was collected during the main ICCS 2022 field trial. All analyzed data is available openly from the ICCS 2022 website. Data analysis was conducted in RALSA (Mirazchiyski, 2021), a statistical package for R.

3. Results

Descriptive statistics and correlations between the variables are presented in Table 1. The correlation coefficients for immigrant students in Slovenia are shown below the diagonal, while the correlation coefficients for immigrant-background students in Croatia are displayed above the diagonal.

Table 1. Descriptive statistics and correlations between variables.

		M	*SD*	*M*	*SD*	1	2	3	4	5	6	7
1	S_STUTREL	47.02	10.77	49.48	10.05	1.00	0.45	0.50	0.39	0.09	0.51	0.12
2	S_OPDISC	45.88	11.76	49.82	11.18	0.19	1.00	0.26	0.45	0.19	0.40	0.28
3	S_INTACT	46.17	10.78	47.34	10.72	0.63	0.15	1.00	0.26	0.12	0.36	-0.02
4	S_CIVLRN	51.17	12.47	45.23	10.31	0.26	0.29	0.23	1.00	0.22	0.50	0.21
5	S_SCHPART	48.51	11.02	49.58	8.03	0.01	0.20	0.06	0.14	1.00	0.13	0.16
6	S_INFDEC	49.26	10.40	47.70	9.14	0.59	0.18	0.53	0.32	0.11	1.00	0.22
7	SD_GENDER	1.47	0.50	1.52	0.50	0.02	0.27	-0.03	0.07	0.06	-0.03	1.00

Notes: Means and standard deviations for Slovenia are in the first two column followed by means and standard deviations for Croatia.
** $p \leq 0.01$; * $p \leq 0.05$.

Two linear regression models were conducted to examine the predictors of student-teacher relationships among students with an immigrant background in Slovenia and Croatia. In both models, gender was included as a control variable, while all continuous predictors were entered simultaneously.

The model for Slovenia accounted for 49% of the variance in students' perceptions of student-teacher relationships. Students' beliefs about the influence on decision-making at school (S_INFDEC; $\beta = 0.35$, $p < 0.05$) and student interaction at school (S_INTACT; $\beta = 0.44$, $p < 0.05$) were significant positive predictors, whereas student participation in civic activities at school (S_SCHPART; $\beta = -0.08$, $p < 0.05$) emerged as a negative predictor. In Croatia, the model explained 41% of the variance, with S_INFDEC ($\beta = 0.31$, $p < 0.05$), S_INTACT ($\beta = 0.30$, $p < 0.05$), and openness in classroom discussions (S_OPDISC; $\beta = 0.20$, $p < 0.05$) all serving as positive predictors. No other variables demonstrated significant predictive power in either model.

4. Conclusions

The present study examined the influence of civic and citizenship education variables on student-teacher relationships among immigrant-background students in Slovenia and Croatia. The findings indicate both similarities and differences in the predictors across the two countries. Students' perceived influence on decision-making at school emerged as a significant predictor in both contexts, highlighting the role of democratic school and classroom culture in shaping positive student-teacher relationships (Tzankova et al., 2021). It is likely that teachers who encourage student participation in decision-making processes are perceived as more supportive, thereby strengthening student-teacher relationships. Additionally, student interaction at school was a significant positive predictor, emphasizing the role of peer relationships in fostering positive student-teacher interactions, consistent with prior research (Kiuru et al., 2015). However, country-specific differences were observed. Openness in classroom discussions was a significant predictor only in Croatia, while participation in civic activities was a significant predictor only in Slovenia, suggesting that contextual factors may shape the mechanisms through which democratic school culture is associated with students' perceptions of student-teacher relationships. These findings reinforce the importance of both democratic school practices and peer interactions in promoting positive relationships between immigrant-background students and their teachers.

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RELATIONS BETWEEN PERSONALITY TRAITS AND PARENTING STYLES ASSESSMENT IN STUDENTS[1,2]

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Abstract

Personality traits play an important role in almost all aspects of an individual's functioning and are one of the bases for assessing the way parents raise children. Therefore, the question arises as to how young people with different personality traits perceive their parents and what their experience of closeness, emotional warmth/coldness, and set boundaries is. The aim of the research reported here was to examine whether personality traits and gender can be a basis for predicting parents' educational styles. The ZKPQ (Zuckerman-Kuhlman Personality Questionnaire) (Zuckerman et al., 1999) questionnaire was chosen to measure the following basic personality traits: activity, aggressiveness, sensation seeking, neuroticism, sociability. The Parenting Styles Measurement Questionnaire - PSDQ (Robinson et al., 2001) was used to operationalize four educational styles: authoritarian father, authoritarian mother, authoritative father, and authoritative mother. The sample was convenient and consisted of 291 students (N_{female} = 72.5%), aged 18 to 24 years (M = 19.19; SD = 1.37). The respondents were high school students and first and second-year students of the Faculty of Philosophy in Niš, Serbia. The collected data were statistically processed using the regression analysis procedure, and the main results are as follows. The students personality traits could explain 9.5% total variance in the authoritarian parenting style of fathers (R^2 = .09, $F_{5,207}$ = 4.36, p = .001) while significant predictors were aggressiveness (β = .26, t = 3.73, p < .001) and neuroticism (β = .17, t = 2.41, p < .017). Neuroticism was also found to be a significant predictor of the mother's authoritarian parenting style (β = .14, t = 2.09, p = .037). Gender was a significant predictor of the father's authoritative parenting style (β = .13, t = 1.97, p = .049). The results obtained are considered from the perspective of the theoretical framework of this research and the existing empirical evidence. Possible educational and other implications of the findings of this study are also outlined.

Keywords: *Personality traits, parenting styles, gender differences, students.*

1. Introduction

Personality traits are relatively stable and enduring internal characteristics that describe or determine an individual's behavior across a range of situations, i.e., that imply consistency in responding in the same or similar situations (VandenBos, 2007). They represent stable patterns of thoughts, emotions, and behaviors that influence various aspects of an individual's life, including their interpersonal relationships and perceptions of social interactions. Among these relationships, the parent-child dynamic is of particular importance, as it significantly shapes a young person's psychological and emotional development. Given that personality traits affect cognitive and affective processing, it is reasonable to assume that they also play a role in how individuals perceive their parents' educational styles. The following personality traits were examined in this study: Activity (general need for activity and work activity), Aggression-hostility (verbal aggression, rudeness, recklessness, malice, vindictiveness, and impatience), Impulsive Sensation Seeking (impulsive reactions and a need for excitement and novelty), Neuroticism-anxiety (emotional distress, tension, worry, fearfulness, and sensitivity to criticism) and Sociability (propensity to socialize and party, tolerance to social isolation) (Zuckerman et al., 1999).

The parenting style reflects the emotional climate in which the interaction between parents and children takes place. It develops in early childhood and continues throughout an individual's youth. Diane Baumrind (Baumrind, 1966), the author of one of the most widely accepted models, identifies three parenting styles: authoritarian, authoritative, and permissive. The authoritarian parenting is characterized by a high level of parental control and a low degree of warmth. Parents do not encourage open

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discussions, believing that children should unquestioningly accept their authority (Baumrind, 1966). Compliance is expected, and disciplinary methods often include punishment and strict measures. They articulate clear rules that they expect to be followed (Estlein, 2016). The authoritative parenting style, on the other hand, balances high expectations with emotional warmth and support. While setting clear behavioral rules, authoritative parents also explain the reasoning behind them This style fosters an environment of respect, emotional security, and a sense of belonging, where children feel valued by their parents. Although this style exhibits neither a coercive nor a permissive disciplinary approach, it is, unlike both styles, sensitive and demanding, confrontational and supportive of autonomy (Baumrind, 2013). The permissive parenting is defined by high emotional warmth but low parental control. Permissive parents have little control over interactions with their children and often give in to their children's wishes and requests (Estlein, 2016). Such parents set few clear boundaries or behavioral guidelines, instead allowing children to act freely, make their own choices, and self-regulate their activities (Baumrind, 1966).

2. Method

2.1. Objective

The aim of the research was to examine whether personality traits and gender of the respondents could be the basis for predicting the educational styles of their parents.

2.2. Sample

The sample was convenient and consisted of 291 respondents (N_{male} = 80 (27.5%), N_{female} = 211 (72.5%)), aged 18 to 24 years (M = 19.19; SD = 1.37). The respondents were high school students and first and second-year students of the Faculty of Philosophy in Niš, Serbia.

2.3. Instruments

Personality traits were measured using **Zuckerman-Kuhlman Personality Questionnaire** - 50 – CC (ZKPQ-50-CC; Aluja et al., 2006); which is a cross-cultural shortened form of the ZKPQ, consisting of 50 true/false statements. It contains five scales: activity (α = .70); aggressiveness (α = .62); impulsive sensation seeking (α = .62); neuroticism (α = .74); sociability (α = .74).

The Parenting Styles Measurement Questionnaire (PSDQ), (Robinson, Mandleco, Olsen & Hart, 2001) consists of 32 items that form three subscales: authoritarian, authoritative, and permissive style. Respondents were asked to separately assess the parenting style of their father and mother, on a five-point Likert-type scale. The reliability of authoritarian and authoritative style was α = .8, and α = .86. Due to low reliability, the permissive style subscale was not included in further data processing.

3. Results

In the following, the basic descriptive statistical results are presented first.

Table 1. Descriptive statistics.

Variables	AS	SD	Min	Max	Sk	Ku
Authoritative father	3.12	.93	1.00	4.93	-.19	-.89
Authoritative mother	3.67	.77	1.33	5.00	-.57	-.23
Authoritarian father	1.87	.74	1.00	5.00	1.99	6.57
Authoritarian mother	1.91	.77	1.00	5.00	1.49	2.09
Activity	3.99	2.21	0.00	9.00	.13	-.74
Aggression-hostility	4.41	2.32	0.00	10.00	.18	-.63
Impulsive Sensation Seeking	5.10	2.30	0.00	10.00	.09	-.58
Neuroticism	5.07	2.48	0.00	10.00	-.03	-.94
Sociability	4.38	2.53	0.00	10.00	.14	-.89

Table 2 presents the results of the regression analysis.

Table 2. Regression analysis.

	Authoritarian parenting of father				Authoritarian parenting of mother			
	β	t	p		β	t	p	
Activity	-.03	-.43	.666	R^2 = .095 F = 4.36 p = .001	.05	.67	.504	R^2 = .039 F = 1.81 p = .111
Aggression-hostility	.26	3.73	.000		.10	1.43	.154	
Impulsive S. Seeking	-.07	-.92	.360		-.05	-.69	.491	
Neuroticism	.17	2.41	.017		.14	2.09	.037	
Sociability	.10	1.29	.200		-.04	-.53	.596	

Personality traits explained 9.5% total variance in the authoritarian parenting style of fathers, while significant predictors were aggressiveness and neuroticism. Neuroticism was also found to be a significant predictor of the mother's authoritarian parenting style. Gender was a significant predictor of the father's authoritative parenting style ($\beta = .13$, $t = 1.97$, $p = .049$).

4. Discussion and conclusion

The results showed that personality traits have a significant, but not a large contribution to the assessment of parenting styles in our sample. Many factors influence the assessment of parenting styles, such as personal experience, cultural factors, living together or apart from parents, etc. In our research, we did not obtain satisfactory reliability of the traits of aggressiveness and the impulsive sensation seeking, which casts doubt on the findings concerning these personality traits. The trait of aggressiveness significantly contributes to students' perception of parenting as authoritarian and restrictive. Parents, according to students who are more aggressive, do not justify their educational demands enough, are demanding when it comes to obedience and behavior control, and are not perceived as emotionally warm. High neuroticism contributes to greater sensitivity to the mother's authoritarianism. Neuroticism contributes to lower frustration tolerance, so the mother's parental prohibitions and lack of reasoning are perceived as the mother's authoritarianism. Greater irritability and violent reactions to stress contribute to the perception of mother's upbringing as more restrictive and controlling. Finally, gender significantly contributes to the perception of the father's parenting style as authoritative, warm, controlling, but also supportive (it is true for the female subsample). It is important to note that parental behavior is also affects the parenting style: cooperative, motivated and responsible teenagers encourage an authoritative parenting style in their parents, while uncooperative and irresponsible teenagers encourage an authoritarian or neglectful parenting style (Kopko, 2007). In addition, recent research in our region shows that the prevailing parenting style contributes to the development of self-esteem in adolescents (Todorović, 2005) and the interaction between parents and children should be viewed from the perspective of the functionality of family relationships and competent parenting (Matejević and Todorović, 2012). Finally, we emphasize that respondents assess that their parents practice an authoritative parenting style to a greater extent than an authoritarian and permissive one, which is considered suitable for their development.

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THE EFFECT OF WORD LENGTH ON ITS RECOGNITION AMONG CHILDREN WITH DIFFERENT READING SPEED LEVELS

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Abstract

When acquiring reading skills, a child must be able to decode the visual properties that characterize each letter, as well as the letters and written words as a whole. Phonological encoding enables recognition and construction of the sound structure of written symbols and word as a whole (Vellutino et al., 2004). When reading unfamiliar words, they are initially processed sequentially, letter by letter or syllable by syllable, through phonological processing. To successfully recognize a word, at least 10–20 ms is required for the perception and identification of each letter. This word recognition model is primarily used when attempting to recognize an unfamiliar or new word or when learning to read. In contrast, an experienced reader uses their accumulated knowledge of word forms, vocabulary, and meaning, processing graphemes in parallel through lexical processing (Coltheart et al., 2001). The main aim of the study was to investigate how word length affects its recognition in different groups of readers, categorized by their reading speed. Twenty-eight second-grade and twenty-seven third-grade children completed a word recognition test with 105 words of varying length and phonetic complexity, selected by the school speech therapist based on consonant cluster properties. The words consisted of 4-10 letters. For each word length, 15 words were presented in random order for 533 ms each. The analysis used the percentage of correctly answered words for each corresponding word length. Based on reading speed, the second-grade children were divided into two groups: one with an average reading speed of 50±5 wpm (n=14) and the other with an average reading speed of 78±4 wpm (n=14). The third-grade children were divided into a group with an average reading speed of 67±7 wpm (n=13) and a group with an average of 113±6 wpm (n=14). The results indicate that word length affects word recognition accuracy. This relationship is described by linear regression analysis. A more significant relationship is observed in the slower-reading groups. The slope coefficients of the relationship differ significantly between faster and slower readers - in the second-grade group ($p<0.012$), and in the third-grade group ($p<0.001$).

Keywords: *Reading speed, word recognition, school-age children.*

1. Introduction

In Latvia approximately 15-20% of school-aged children are with reading difficulties (Tūbele, 2006). Recent studies suggest that the proportion of children with reading difficulties may reach as high as 28% of the child population (Serpa et al., 2023). There are many neural processes which participate in text decoding during reading such as processing rate, verbal short-term memory, phonological processing and visual processing, word identification, word memory and text comprehension (Laycock et al., 2006). Research indicates that a child's vocabulary at the age of 4-5 plays a crucial role in the initial stage of literacy acquisition. i.e., the larger the child's vocabulary, the more successful the literacy acquisition will be, and the child will be a more successful reader when starting school (Dickinson et al., 2019).

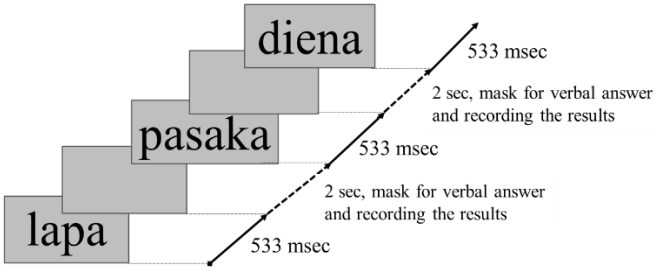
Scientists argue that reading a text for the second time offers a different experience. During the first reading, attention is focused on events and stories. However, during the second reading, emotions are rekindled, providing a deeper emotional benefit (Gibson & Gibson, 1655; Nazir et al., 2004). The aim of the study was to determine differences in visual word recognition for different length words shown in a short interval of time for children with different reading speed levels and to evaluate perceptual learning effect with repetition using long term and short-term memory.

2. Design and methods

Fifty-five children took part in the study. Thirteen children in Grade 3 (9-10 years old) and fourteen children in Grade 2 (8-9 years old) had a reading speed less than average in class, in Grade 3 91±6 wpm,

in Grade 2 62±3 wpm. These groups will be called children with lower word recognition speed, others - children with higher word recognition speed. The length of the words varied from four to ten letters. Each word length appeared 15 times in the 105-word stimulus set, with each word displayed on a computer for 533 ms. The answers were expected verbally and correctly/incorrectly named words were recorded (2 s) (Figure 1). Letter size corresponded to 6cycles/degree. Word samples for this research were selected by the school speech therapist. The approximate duration per child for one test session was 11 minutes. The test was repeated three times: the first for immediate recall, the second after 1–2 weeks to assess long-term memory, and the third to evaluate short-term memory. A short break is provided between the second and third session to allow for rest and maintain focus. The word samples stay equal for all three times.

Figure 1. Schematic slide show on monitor center with variable word length and mask between them.

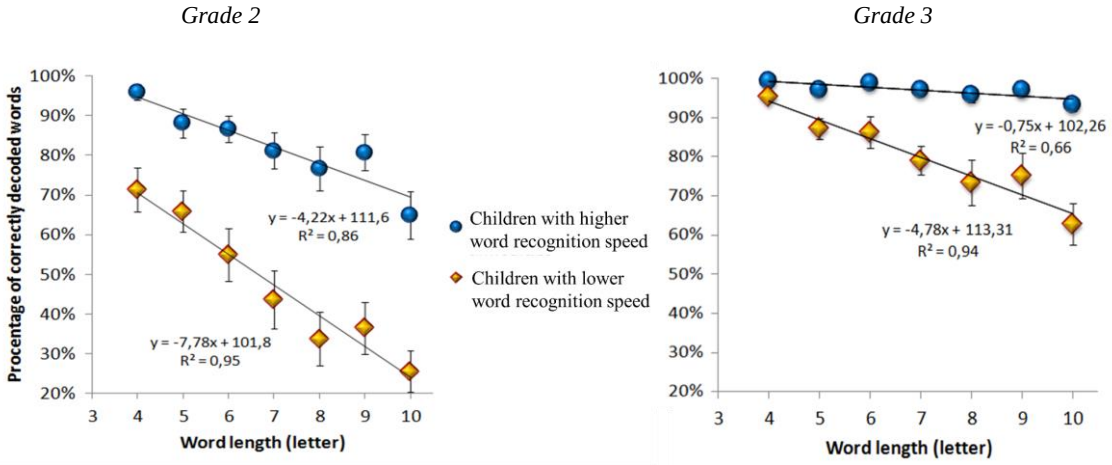


3. Results

Based on mean reading speed, the second-grade children were divided into two groups: one with an average reading speed of 50±5 wpm (n=14) and the other with an average reading speed of 78±4 wpm (n=14). The third-grade children were divided into a group with an average reading speed of 67±7 wpm (n=13) and a group with an average of 113±6 wpm (n=14).

Average data of correctly named words for children with different reading speed differed significantly ($p<0.05$; Welch's t-test) in both groups for all word lengths (Figure 2). When comparing the effect between word length and the percentage of correctly decoded words, the linear regression slope coefficients are substantially different between the different reader groups and the age groups ($p <0.05$), except for group with higher word recognition speed in Grade 2 and group with lower word reading recognition speed in Grade 3 the difference is not significant ($p = 0.64$).

Figure 2. The effect of word length on its recognition among children with different reading speed levels at Grade 2 and Grade 3 in Latvia.



Two weeks after the first measurement, a repeated measurement was conducted to assess long-term memory in groups with reduced reading speed. In Grade 2 (n=14), the slope coefficient for the first measurement was -7.77, while the second measurement showed a slope coefficient of -8.08, indicating a strong correlation and a trend towards a 10% improvement in word recognition. Comparing the first and the second measurements, recognition for 4-letter words improved from 71.37±5.51% to 83.53±6.16%, and for 9-letter words, it increased from 36.47±6.52% to 47.84±7.33%. All word groups showed an upward trend, indicating improved word recognition. In Grade 3 (n=13), the slope coefficient for the first

measurement was -4.78, and the second measurement showed -3.99, with the greatest improvement for 10-letter words (from 62.86±5.26% to 72.38±5.45%).

For short-term memory in Grade 2 students with slower reading speeds, the slope coefficient for the second measurement was -8.08, and the third measurement was -7.47, with a notable improvement in longer word groups, especially 8-letter words (+10.58%). A similar trend was observed in Grade 3 students with slower reading speeds, with slope coefficients of -3.99 and -2.64.

4. Discussion and conclusion

The study confirms that children with reduced reading speed decode words more slowly than children with above-average reading speed. This could be explained by the fact that these children have different reading patterns – non lexical route, but the graphemes of a word are decoded into phonemes one- by-one, in serial way (Martens & De Jong, 2006). The results also indicate that word recognition improves with age and lexical experience, with differences in processing speed and attention between age groups. For example, in Grade 2, faster readers had a recognition rate of 95.93±1.95% for 4-letter words, while Grade 3 students with faster reading speeds achieved 99.3±0.48%. For slower readers, Grade 2 students recognized 25.49±5.15% of 10-letter words, whereas Grade 3 students recognized 62.86±5.26%, with a statistically significant difference ($p<0.05$). Repeated training for both short-term and long-term memory showed similar slope coefficients, with no significant differences. However, a consistent trend in word recognition improvement was observed. These findings suggest that the method of repeated word presentation and tasks to recognize them can be effectively utilized to enhance word recognition and facilitate word integration into a child's lexicon, for both short-term and long-term memory. It is already known that exercises aimed at improving phonemic awareness and decoding skills can significantly enhance not only overall reading accuracy and comprehension but also spelling abilities (Forné et al, 2022).

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CAN SOCIO-DEMOGRAPHIC FACTORS EXPLAIN PARENTAL OVERPROTECTION?

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Abstract

Background: Parental overprotection is a form of overparenting, parental behaviour that is not developmentally appropriate for the child's age. It may include the following: excessive physical and social contact from the parent, an exaggerated fear for the child, a tendency to protect them from minor dangers, and solving problems on their behalf. Factors predicting this behaviour are not well explored yet. Aim: This paper aims to determine whether socio-demographic factors (gender, age, marital status, education, monthly income, living area, and number of children) can predict parental overprotection. Methods: The participants of this study consisted of 738 parents (mean age 46.4, 80.42% female). Multiple regression analysis between parental overprotection and seven socio-demographic factors was conducted using Jamovi software. Results: Out of the seven variables, two were statistically significant – education ($p = .006$) and monthly household income ($p = .029$). Therefore, it can be expected that a lower level of education, as well as a lower average monthly household income, is associated with a higher level of overprotection. The regression model explained 4.6% of the variance of the dependent variable. The observed sociodemographic variables are only slightly related.

Keywords: *Parental overprotection, socio-demographic factors.*

1. Introduction

Parental overprotection, a form of overparenting, has garnered increasing research attention in recent years (Venard et al., 2023; Brenning et al., 2017). Overprotection involves behaviour that is inappropriate for a child's developmental level, such as excessive physical or social contact, overconcern, shielding the child from minimal risks, solving problems for them, or overreacting to minor challenges. Specific manifestations vary with the child's age (Brenning et al., 2017; Holmbeck et al., 2002).

In general, the socio-demographic factors are significantly related to parenting. For example, one study detected statistically significant relationships between all factors explored (age, gender, family income, place of residence, and level of education) and the parenting styles that parents adopt (Hadjicharalambous & Demetriou, 2020). However, less is known about how specifically overparenting is associated with various socio-demographic factors.

2. Objectives

The main purpose of the current study is to explore the relationship between parental overprotection and socio-demographic factors (gender, age, marital status, education, monthly income, living area, and number of children). Building on prior research, it is hypothesized that some socio-demographic factors may play a role in parental overprotection. The objective of the current study is to expand knowledge regarding the role of socio-demographic factors in prediction of parental overprotection in adolescents' parents. Studying these variables helps determine whether overprotection is linked to broader societal and demographic trends rather than purely individual traits.

3. Methods

3.1. Participants

The current study is a part of research project SafeSorry, which seeks to understand parenting in a changing social world in diverse cultures. The participants of the study consisted of 738 parents of adolescents, with a mean age of 46.4 years; the majority were female (80.42%). Secondary schools in Slovakia were contacted to distribute information to parents about the possibility of joining the research. Parents who agreed to participate completed an online questionnaire, with the option to be entered into a lottery to win a voucher redeemable at an online store. Data collection was conducted at the turn of years 2023 and 2024. The study received approval from the local university ethics committee under the number FIL005340/2023.

3.2. Measures

This study employed a quantitative cross-sectional design. The dependent variable, parental overprotection, was assessed using Multidimensional Overprotective Parenting Scale (MOPS) that was adapted from the child to the parents' perspective (Brenning et al., 2017; Kins & Soenens, 2013). The 10 items measure on a 5-point scale ranging from "strongly disagree (1)" to "strongly agree (5)". A higher score is equal to higher overprotection. The Cronbach alpha for this sample was $\alpha = 0.824$.

The independent variables, socio-demographic factors – gender, age, marital status, education, monthly income, living area, and number of children were chosen because they represent factors influencing parental behaviour, reflecting personal, economic, and environmental conditions that are supposed to shape the level of overprotection.

3.3. Statistical analysis

Multiple linear regression analysis between parental overprotection and seven socio-demographic factors was conducted using Jamovi software (version 2.4.14).

4. Results

The findings of the study reveal that out of the seven sociodemographic variables examined, only two — education ($p = .006$) and monthly household income ($p = .029$) — demonstrated a statistically significant association with parental overprotection (Table 1). Specifically, lower levels of education and lower monthly household incomes were linked to higher levels of overprotective behaviours. However, the regression model accounted for only 4.6% of the variance in overprotection, indicating that sociodemographic factors play a relatively limited role in explaining this complex parenting behaviour.

Table 1. Multiple linear regression analysis of independent variables.

Model coefficients – overprotection

Predictor	Estimate	SE	t	p
Intercept	24.7511	1.4391	17.1995	< .001
Gender	-1.0093	0.5399	-1.8694	0.062
Age	-0.4162	0.4021	-1.0350	0.301
Income	-0.2076	0.0946	-2.1939	0.029
Living area	-0.1273	0.2271	-0.5605	0.575
Education	-0.5401	0.1955	-2.7620	0.006
Marital status	0.0118	0.1796	0.0657	0.948
Number of children	-0.1121	0.1906	-0.5884	0.556

5. Discussion

In the current study, lower family income and lower education of parents were negatively correlated to parental overprotection. These results partially align with existing theoretical perspectives, suggesting that socio-demographic and/or socioeconomic factors may influence parenting styles (Hadjicharalambous & Demetriou, 2020; Bhaskar & Komal, 2015). However, a huge body of work shows the opposite, where lower socioeconomic status (income and education) is associated with lower levels of such parenting behaviours (Wang et al., 2016). Other studies also show no significant correlation between the two (Gagnon, 2019). Possible reasoning for the negative correlation in this study can be explained by

parental stress. Lower socioeconomic status is linked to higher stress levels (Ponnet, 2014), which are in turn linked to overprotective behaviours (Kim et al., 2024).

The current study indicates that socio-demographic factors play only a minor role in the development of overprotection, suggesting that it may be better explained by other factors, such as personality traits of parent and child (Segrin et al., 2013) or macro-contextual factors, such as social pressure perceived from one's environment (Zimmermann et al., 2022).

6. Implications for practice

The significant findings related to education and income provide a starting point for further research into socio-economic influences on parenting. However, the overall weak relationship observed between sociodemographic variables and overprotection underscores the multifaceted nature of parenting practices and highlights the need for further research to explore additional determinants.

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VOCATIONAL TEACHERS' PROFESSIONAL DEVELOPMENT IN LITHUANIA: THE ROLE OF MOTIVATION AND JOB SATISFACTION

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Abstract

Both teachers' motivation for professional development and their job satisfaction have been widely studied by many researchers in recent decades. However, the motivation for professional development and job satisfaction of teachers in vocational education institutions are insufficiently assessed compared to teachers in other educational levels. Perhaps for the first time in Lithuania, this study explores the links between teachers' motivation for professional development and their job satisfaction by conducting research with 426 teachers from 27 vocational education institutions. The purpose of this study is to identify factors related to professional development that have significant predictive value for vocational teachers' job satisfaction. Vocational teachers' motivation for professional development was measured using the Questionnaire of Motivational Factors in Predicting Academic Achievement (Pang, Lee, 2013). Participants were also asked to assess their overall job satisfaction, the peculiarities of participation in professional development activities (participation in professional development activities in the past 12 months, etc.) and to indicate sociodemographic characteristics. The results of this study suggest that teachers of vocational education institutions are motivated to grow professionally, and 78.2 percent of vocational teachers indicated that they are generally satisfied with their work. A statistically significant relationship was found between teachers' motivation for professional development and their job satisfaction, and significant differences in motivation for professional development and job satisfaction were also identified by gender, age, qualification category and seniority. Finally, regression analysis revealed that factors such as intrinsic motivation for professional development, qualification category, and time spent in professional development events have statistically significant prognostic value for vocational teachers' job satisfaction.

Keywords: *Motivation for professional development, job satisfaction, vocational teachers, vocational training institutions.*

1. Introduction

Professional development of teachers is imperative (Popova et al., 2022). It is critically important for teachers to constantly learn, improve and develop their competencies. They must adapt to the frequent updating of educational content, be able to apply innovative educational methodologies and technologies, consider the characteristics of modern students, and create favorable educational environments for them. How does such an obligation affect teachers' motivation to improve? How does it transform into satisfaction with the work they do? These questions are raised in this scientific research.

There have been studies on teachers' motivation for professional development (e.g., Baluyos et al., 2019) and the relationship with job satisfaction (e.g., Viseu et al., 2016), but there is a noticeable lack of research in the field of vocational education. The professional activities of teachers in vocational education institutions have specificity. Vocational teachers carry out initial and continuing professional training, i.e. they transmit the subtleties of the craft not only to young people experiencing late adolescence, but also to adults. Therefore, it is worth gaining insights into the motivation for professional development, as this has an inevitable impact on students and teaching effectiveness (Popova et al., 2022), and their job satisfaction is relevant both at the individual and school level (Zhang et al., 2021). Thus, this study aims to expand scientific knowledge related to teachers' motivation for professional development and their job satisfaction.

2. Methods

2.1. Sample and data collection

The study involved 426 teachers working in 27 vocational education institutions. The majority were women (73.7%), most were aged 50 and older (58.7%), and most had over 10 years of teaching experience (72.6%). The survey was conducted online. Participation was voluntary.

2.2. Measures

Teachers' motivation for professional development was measured using the Motivational Factors in Predicting Academic Achievement questionnaire by Pang and Lee (2013). Five motivational factors were assessed: personal development, career advancement, social pressure, social and communication improvement, and escapism. The items were rated on a five-point Likert scale (from 1 = no influence to 5 = very strong influence). The Cronbach's α coefficients ranged from .755 to .937.

The participants were also asked to rate their overall job satisfaction on a scale from 1 (very poor) to 10 (excellent), as well as to evaluate aspects of their participation in professional development activities, such as engagement in professional training events over the past 12 months, etc.

3. Results

The results of this study suggest that teachers of vocational education institutions are motivated to grow professionally. The intrinsic motivation for professional development (personal development) among vocational education teachers (M = 3.80, SD = .81) is more pronounced than extrinsic motivation; on the extrinsic motivation scale the most dominant factor is career advancement (M = 3.67, SD = .73), while the least expressed factor is escapism (M = 1.80, SD = .91). The majority of participants (76.3%) dedicated between 21-80 hours for professional development activities over the past 12 months, and 23.9 % engaged in professional development activities only to the extent required by law – up to 40 hours.

According to the participants' subjective assessment, overall job satisfaction was rated at 7.59 out of 10 (SD = 1.83). A total of 78.2 % of respondents rated their job satisfaction within the range of "fairly good" (7) to "excellent" (10).

Using *Pearson's correlation coefficient*, statistically significant relationships were found between job satisfaction and intrinsic motivation – personal development ($r = .265$, $p < .001$), as well as extrinsic motivation subscales: career advancement ($r = .280$, $p < .001$), social pressure ($r = .213$, $p < .001$), social and communication skills improvement ($r = .240$, $p < .001$).

Significant differences in motivation for professional development and job satisfaction were also identified by gender, age, qualification category and seniority. *ANOVA analysis of variance* revealed that intrinsic motivation for professional development was more pronounced for men than women ($F = 2.88$, $p = .002$), as well as for younger compared to older teachers ($F = 6.47$, $p < .001$); for those with less teaching experience compared to more experienced ($F = 3.21$, $p = .007$), and for those with a teacher qualification category compared to senior teachers (3.45, $p = .017$). Those with less work experience are more satisfied with their work at vocational training institution than those with more experience ($F = 2.71$, $p < .02$), and those with a teacher qualification are more satisfied with their work than those with qualification of methodologist ($F = 3.50$, $p < .02$).

Finally, *regression analysis* predicting job satisfaction of teachers in vocational education institutions was performed. The results are presented in Table 1.

Table 1. Regression characteristics predicting job satisfaction of teachers.

Variable	B	SE	Beta (β)	t	*p*
Personal development	.568	.105	.251	5.433	<.001
Qualification category	-.233	.102	-.106	-2.288	.023
Time spent for professional development	.189	.048	.181	3.918	<.001

Note. Constant = 5.069, $F(3,420) = 17.420$, $p < .001$, $R^2 = .111$. Statistically insignificant variables were removed.

The results of the regression analysis revealed that a lower qualification category, intrinsic motivation for professional development, and more time spent on qualification improvement events have statistically significant predictive value for teachers' job satisfaction.

4. Discussion and conclusions

Although research has been conducted on teachers' motivation for professional development, as well as on the job satisfaction of teachers, the relationship between job satisfaction and motivation for professional development has not been sufficiently investigated, especially among vocational teachers. This study aims to fill this research gap.

Summarizing the results, it can be stated that most teachers have more pronounced intrinsic motivation for professional development. These results support the findings of many other studies on teachers' professional development (Bottling et al., 2024; Daukilas et al., 2016; Engin, 2020; Handayani, 2016; Smet, 2021; Viseu et al., 2016; Yildiz et al., 2021; Zhang et al., 2021). This indicates a natural desire to satisfy intellectual curiosity, improve cognitive performance, and a desire to pursue knowledge for the sake of general enlightenment. The results of this study show that vocational teachers are satisfied with their work. This is consistent with the findings of other studies that many educators are satisfied with their professional activities (Baluyos et al., 2019; Daukilas et al., 2016; Skaalvik & Skaalvik, 2015).

This study found a significant positive relationship between motivation for professional development and job satisfaction of teachers in vocational education institutions. Several essential factors for teachers' job satisfaction can be distinguished. First, lower qualification category is associated with higher job satisfaction. These findings are also supported by studies of other researchers, who identify that teachers' motivation to improve their professional skills decreases with increasing professional experience (Engin, 2020; Handayani, 2016; Shegoleva et al., 2019; Smet, 2021; Yildiz et al., 2021; Zhang et al., 2021). Teachers who devote more time to professional development may feel more confident in their professional competence, which contribute to greater job satisfaction. And finally, teachers who are intrinsically motivated to develop their professional skills tend to experience greater job satisfaction because they see that their efforts have meaning and pay off. Zhang et al. (2021) study revealed that personal and school-level factors are related to motivation for professional development of Chinese teachers. Smet (2021) also found a significant positive relationship between job satisfaction and professional development needs in teaching SEN students, developing subject and pedagogical knowledge and skills.

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INTERNATIONAL COMPARISONS OF THE BEHAVIORAL IMMUNE SYSTEM IN JAPAN, MALAYSIA AND THE PHILIPPINES

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Abstract

The purpose of this study was to examine the characteristics of the human behavioral immune system (BIS) by comparing its properties in three Asian countries (Japan, Malaysia, and the Philippines). A total of 1,142 university students completed paper-and-pencil questionnaires, including the Perceived Vulnerability to Disease questionnaire (PVD-Q), the Death Anxiety Scale, and a rating of their current subjective health status. Bayesian analyses were conducted on the valid data provided by 1,055 undergraduate students. Women were found to score higher than men on the germ aversion subscale of the PVD-Q (unpleasant feelings induced in contexts of a high potential for pathogen transmission), regardless of their nationality. In addition, participants from the tropical countries (Malaysia and the Philippines) scored higher in germ aversion compared to those from Japan, which is mostly in the temperate climate zone. No such significant sex and regional differences were observed on the other PVD-Q subscale (perceived infectability: beliefs about the susceptibility to infectious diseases). Perceived infectability was strongly associated with current health status, but less closely associated with fear of death, whereas germ aversion was highly associated with fear of death but not associated with health status. These associations between fear of death or health status and the PVD subscales were generally consistent across all three countries. The implication of these findings is that perceived infectability reflects an individual's proximate health-related beliefs or condition, while germ aversion rather reflects the ultimate evolutionary process of adaptation internalized in his or her mind. Anyway, both functions of the BIS seem to provide proactive defenses against pathogens in different ways.

Keywords: *Behavioral immune system, disgust avoidance, death anxiety, sex difference, geographic difference.*

1. Introduction

Infectious disease has been an important threat to reproductive fitness in human evolutionary history. Activation of the physiological immune system is efficient, but costly, and its management of pathogenic threat is imperfect. Therefore, another defensive mechanism to reduce the threat of disease before the point of infection has evolved (Ackerman et al., 2018). The mechanism has been recently scrutinized under the name of the behavioral immune system (BIS; Schaller, 2006).

The literature documents a diverse array of factors that are associated with BIS. Sex is perhaps the best-studied demographic factor. For instance, women have consistently reported substantially higher disgust sensitivity than men (e.g., Curtis et al., 2004). A second prevailing factor relates to the region in which people live. It has been noted in the literature that if the threat of disease is highly salient, the reactivity of BIS is likely to be more pronounced (Schaller, 2006).

In addition to the demographic and geographic factors enumerated above, we can also deduce which additional personal characteristics might be important determinants of individual differences in the BIS. Health status is one of the most important of these determinants. Those who are vulnerable to disease are considered to feel more threatened than others (Schwarzer, 1994).

The present study had several aims based around examining the BIS-related characteristics of Asian cross-national samples recruited from Japan, Malaysia, and the Philippines. The first goal was to investigate demographic (sex) and geographic (cross-national) differences in the BIS among these countries. Based on previous findings related to this first purpose of the study, we hypothesized that women would score higher on measures of the BIS compared to their male counterparts. Similarly, we hypothesized that people who were living in the two tropical countries (Malaysia and the Philippines), in which the prevalence of infectious disease is high, would show tendencies to a more active BIS compared to those who were living in Japan, which is mostly in the temperate climate zone. The second goal was to investigate physical and psychological correlates (i.e., current health status and fear of death) of the BIS. Regarding the second

goal, we hypothesized that the worse an individual's health status, and the stronger their fear of death, the stronger their BIS would tend to be.

2. Methods

2.1. Participants and dataset

Data were collected from university students from three countries of Japan, Malaysia, and the Philippines. Altogether, 1,142 participants completed questionnaires measuring the BIS, fear of death, and current health status. Afterwards, participants supplied their demographic information, including sex and age. Participants who were graduate students, who were not of the same nationality as the country in which they were completing the survey (e.g., overseas students), and who did not answer all questions were excluded from the sample. Analyses were then conducted on the data from 1,055 valid undergraduate respondents. Of these, 410 were Japanese, 346 Malaysian, and 299 Filipino; 311 were men and 744 women (29.5% men); and ages ranged from 17 to 28 years (M = 19.98; SD = 1.75).

2.2. Instruments

Other than demographic measures (age, sex, etc.), participants completed the following measures:

1) Perceived Vulnerability to Disease questionnaire (PVD-Q; Duncan et al., 2009). The PVD-Q has two main subscales: Perceived infectability (beliefs about one's own susceptibility to the transmission of infectious diseases) and Germ aversion (emotional discomfort in contexts that connote a high potential for pathogen transmission). Participants rated how much these statements applied to themselves on a 7-point scale (1 = "strongly disagree"; 7 = "strongly agree"). The composite reliability estimates (Raykov, 1997) derived from this instrument in the present study were 0.83 (perceived infectability) and 0.61 (germ aversion).

2) Current health status. In this study, responses to the question ("In general, how would you rate your current health status?") were given on a 5-point Likert scale ranging from 1 = "very good" to 5 = "very bad." Responses were reversed-scored for analysis so that higher scores indicated better health.

3) Fear of Death. We used the Death Anxiety Scale (Templer, 1970) to measure individual differences in the fear of death, with a higher score indicating greater fear of death. The internal consistency of the scale reached an adequate level (0.67).

3. Results

3.1. Demographic and geographic differences of the BIS

Estimation of a posteriori and related posterior statistics for perceived infectability scores in each of the three countries implied that there was no significant main effect of sex or country, and no interaction between these two variables ($p > .10$), suggesting that there were no sex or regional differences in scores on this subscale of the PVD-Q. In contrast to perceived infectability, the same statistics for germ aversion estimation indicated a significant main effect of sex ($p < .001$). This implies that germ aversion was higher in women than in men, in all countries. A marginally significant ($p < .06$) main effect of the country was also detected. Post hoc comparisons revealed that Japanese participants indicated significant higher germ aversion score compared to Malaysian and Filipino participants.

3.2. Physical and psychological correlates of the BIS

Figure 1 illustrates the regressions of current health status and fear of death on perceived infectability. Regarding health status (upper panel), the estimated coefficients (B) were –0.37, –0.19, and –0.43 for the Japanese, Malaysian, and Filipino samples, respectively. The 95% HDI of all estimates did not include zero, suggesting, in all countries, the healthier the person, the lower their perceived infectability. In contrast, the estimated coefficients for the effect of fear of death on perceived infectability (lower panel) were 0.02, 0.01, and 0.06 for the Japanese, Malaysian, and Filipino samples, respectively. The 95% HDI of all estimates included zero except that of Philippines, suggesting that effect of fear of death to increase perceived infectability remained partial.

Figure 2 illustrates the regressions of health status and fear of death on germ aversion. Regarding health status (upper panel), the estimated coefficients (B) were –0.07, 0.00, and –0.07 in the Japanese, Malaysian, and Filipino samples, respectively. The 95% HDI of all estimates did include zero, suggesting current health status was not associated with germ aversion in all countries. In contrast, the estimated coefficients for the effect of fear of death on germ aversion (lower panel) were 0.05, 0.04, and 0.05 for the Japanese, Malaysian, and Filipino samples, respectively. The 95% HDI of all estimates did not include zero, suggesting, in every country, the higher an individual's fear of death, the stronger the person's germ aversion tended to be.

Figure 1. Regressions representing the association of health status (A) and fear of death (B) with perceived infectability in each of the three countries.

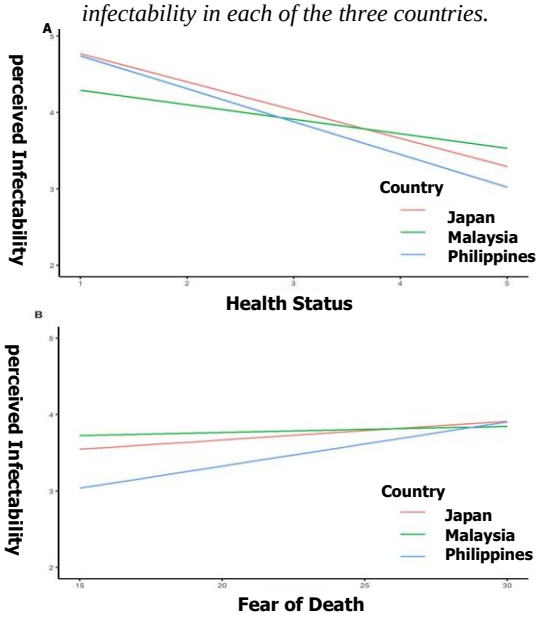
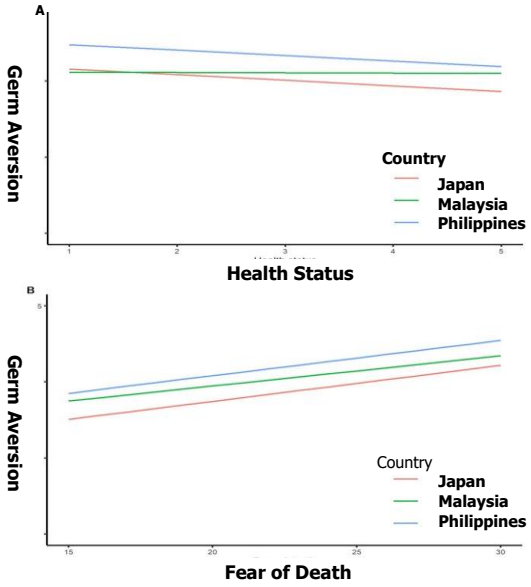


Figure 2. Regressions representing the association of health status (A) and fear of death (B) with germ aversion in each of the three countries.



4. Discussion

The results of the present study imply that perceived infectability tends to be associated with individuals' current health status. In contrast, germ aversion seems to be associated with their fear to death, as well as sex-specific attitudes and the region in which they live. In this sense, it might be possible to claim that perceived infectability reflects a person's proximate health-related beliefs or condition. Germ aversion, on the other hand, might reflect the ultimate evolutionary process of adaptation internalized in his or her mind. Anyway, both functions of the BIS seem to provide proactive defenses against pathogens in different ways.

Acknowledgments

The author would like to thank Oda, R., Hiraishi, K., Tan, S. A., Nainee, S., Salanga, M. G., and Aruta, J. J. B. R. for assistance with data collection. This work was supported by JSPS KAKENHI (15K04042) and the Waseda University Grant for Special Research Projects (2018K-082 and 2018B-039).

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SOCIALLY-PRESCRIBED PERFECTIONISM, MINDFULNESS AND DEPRESSION: THE MODERATING ROLE OF SOCIAL MEDIA SELF-CONTROL FAILURE

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Abstract

In the competitive society of South Korea, the prevalence of depressive symptoms among young adults has been observed to increase. Depression affects the psychological well-being of individuals, and socially-prescribed perfectionism (SPP), characterized by self-criticism and self-doubt, has been identified as a primary predictor of depression. SPP is a difficult personality trait to change. Mindfulness, however, can help individuals view themselves with greater objectivity, which may help reduce negative emotions. The proliferation of social media among young adults has created new avenues for information sharing and communication. However, it has also led to social comparison and idealization, which can have detrimental effects on individuals. It is noteworthy that social media self-control, defined as the ability to control social media use, may enhance internal locus of control and self-regulation, thereby mitigating the negative effects of SPP. The present study examined the mediating effect of mindfulness in the relationship between SPP and depression, moderated by social media self-control failure. The study included 747 South Korean adults who participated in an online survey. The data were analyzed using SPSS 29.0 and Process Macro 4.2. First, the mediating effect of mindfulness in the relationship between SPP and depression was examined. The results indicated that SPP was negatively related to mindfulness and that mindfulness was negatively related to depression. In addition, SPP was positively linked to depression, with the mediation effect being statistically significant. Second, the moderated mediation effect of mindfulness and social media self-control failure was supported. The results indicated that social media self-control failure had a significant influence on the pathway to mindfulness, and the interaction between socially prescribed perfectionism and social media self-control failure also influenced the pathway to mindfulness. This study provides empirical support that social media self-control ability can mitigate the pathway from SPP to depression via mindfulness. Interventions aimed at enhancing this ability may promote psychological well-being and prevent depression among young people in South Korea.

Keywords: *Socially-Prescribed Perfectionism, mindfulness, depression, social media self-control, South Korean adults.*

1. Introduction

Since the COVID-19 pandemic, the incidence of depressive symptoms among young adults has increased significantly (Kim, 2023). Particularly in South Korea's achievement-oriented culture, socially prescribed perfectionism (SPP) has emerged as a key personality trait influencing the mental health of young people. SPP exposes individuals to constant pressure to meet the expectations of others, leading to self-criticism and negative emotions, which can lead to depression (Lee, Ham, Bae, & Cheon, 2015).

To address these mental health challenges, mindfulness has received considerable attention in recent years. It helps individuals view themselves with greater objectivity and tranquility, which can reduce negative emotions (Neff, 2003b). However, in today's digital era, young adults spend a substantial amount of time on social media. While social media is an essential tool for communication, excessive use can lead to social comparison and idealization, which may have a detrimental effect on one's self-perception (Qiao & Oh, 2023).

Despite this, there is still a lack of research on how to effectively regulate social media use in South Korea. This study aims to contribute to the development of interventions that promote psychological well-being among young adults by investigating how controlling social media use can help mitigate the negative effects of SPP on depression through mindfulness, thus providing valuable insights for promoting mental health among South Korean youth.

2. Design

This study used a cross-sectional design to examine the moderating role of social media self-control failure in the relationship between socially-prescribed perfectionism, mindfulness, and depression.

3. Objectives

The purpose of this study is to examine the mediating effect of mindfulness in the relationship between socially-prescribed perfectionism and depression among South Korean young adults, with a particular focus on how social media self-control failure moderates this relationship. Specifically, the hypotheses are as follows:

1. Mindfulness will mediate the relationship between SPP and depression.
2. Social media self-control will moderate the relationship between SPP, mindfulness, and depression.
3. Social media self-control will moderate the mediated effect of SPP on depression through mindfulness.

4. Methods

The study included 747 South Korean adults, aged 19 to 34 years(370 men and 377 women, mean age: 27.9 years), following the standards of the Basic Youth Act in South Korea. Participants were recruited through an online survey platform. The online survey included the following questionnaires, and Cronbach's alpha values ranged from .77 to .88 for all variables.

(a) the SPP subscale of the Korean adaptation of Hewitt multidimensional perfectionism scale (Hewitt & Flett, 1991)
(b) the Social Media Self-Control Failure Scale(Du, van Koningsbruggen, & Kerkhof, 2018)
(c) the mindfulness subscale of the Korean adaptation of Self-Compassion Scale(Neff, 2003b)
(d) the depression subscale of the Brief Symptoms Inventory-18(Park, Woo, & Chang, 2012).

The study was reviewed and approved by the Institutional Review Board prior to data collection. The data were analyzed using SPSS 29.0 and Process Macro 4.2 as follows. First, Cronbach's alpha values were calculated for internal consistency and correlation analysis was conducted between the variables. Next, Hayes' models 4 and 7 were applied sequentially to assess both mediation and moderated mediation effects. Statistical significance was determined using a bootstrap procedure with 5,000 resamples and a confidence interval (CI) of 95%. A *p*-value of less than 0.05 was considered statistically significant for all analyses.

5. Results

According to the correlation analysis, SPP was positively correlated with social media self-control failure (SMSCF) and depression and negatively correlated with mindfulness. Depression was positively correlated with SMSCF and negatively with mindfulness. SMSCF and mindfulness was the only one that showed no significant correlation. Next, the mediating role of mindfulness between SPP and depression was examined. SPP negatively predicted mindfulness (B = -.178, p < .001), and mindfulness negatively predicted depression (B = -.167, p < .001), whereas SPP positively predicted depression (B = -.616, p < .001). The statistical significance of the mediation effect was confirmed by bootstrapping, with the 95% confidence interval (CI[.0108, .0543]) not including 0, thereby supporting the significance of the mediation effect (B = .0297). In addition, the moderated mediation effect indicated that the pathway from SMSCF to mindfulness was significant (B = -.111, p < .001), and the interaction between SPP and SMSCF negatively predicted mindfulness (B = -.380, p < .001). Finally, the bootstrap analysis of the moderated mediation index yielded a value of -0.019, and the 95% confidence interval (CI[-.040, -.002]) did not include 0, confirming the statistical significance of the moderated mediation effect.

Overall, the study examined the mediating effect of mindfulness in the relationship between SPP and depression, as well as the moderated mediation effect of SMSCF.

6. Discussion

This study examined the relationship between socially-prescribed perfectionism (SPP), mindfulness, and depression, focusing on the moderating effect of social media self-control failure

(SMSCF). The aim was to highlight the importance of improving media self-regulation to increase mindfulness and reduce depression among young adults in South Korea.

The study found that mindfulness mediated the relationship between SPP and depression. SPP, characterized by unrealistic external expectations, may negatively affect mindfulness and make it difficult for individuals to maintain an objective self-view. Previous research has shown that self-compassion promotes psychological well-being, and its absence may contribute to depression (Ku & Jung, 2016). SPP has been strongly associated with depression in numerous studies (Lee et al., 2015; Park & Ahn, 2023). The study also found that SMSCF moderates this process. When SMSCF is high, the relationship between SPP and mindfulness is strengthened, increasing the likelihood of depression. However, when SMSCF is low, individuals better regulate their social media use, which mitigates the negative effects of SPP on mindfulness and depression. This suggests that improving social media self-control may help individuals with high SPP maintain mindfulness and prevent depression.

In conclusion, enhancing media self-control skills can buffer the negative effects of SPP and promote mental health by fostering a more balanced, internal focus.

7. Conclusion

This study examined the moderating role of SMSCF in the relationship between SPP, mindfulness, and depression in the competitive Korean society. Results suggest that social media self-control can mitigate the pathway from SPP to depression through mindfulness, highlighting the importance of media self-regulation interventions. These findings align with previous research on SPP, mindfulness, and depression (Lee & Yang, 2018) and support the recent trend of finding one's "sweet spot" in regulating social media use to promote well-being (Brailovskaia, Delveaux, John, Wicker, Noveski, Kim, Schillack, & Margraf, 2022). Future research should focus on developing programs to improve social media self-control, as regulating social media use is crucial to young adults' psychological well-being.

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SHARED CORTICAL ARCHITECTURE OF SPATIAL NAVIGATION AND PLANNING: A COMPREHENSIVE META-ANALYSIS

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Abstract

Planning is a crucial aspect of spatial navigation and visuospatial tasks, relying on both shared and distinct neural mechanisms, which are not yet fully understood. We conducted an Activation Likelihood Estimation (ALE) meta-analysis on fMRI studies examining active, goal-directed navigation and visuospatial planning tasks (i.e., the Tower of London paradigm). Conjunction and contrast analyses revealed a shared network encompassing bilateral frontal regions, including the superior frontal gyrus (SFG), middle frontal gyrus (MFG), anterior insula (INS), and clusters in the left supplementary motor area (SMA) and right inferior frontal gyrus (IFGtriang). Contrast analyses highlighted greater involvement of the hippocampus (HIP) and parahippocampal gyrus (PHG) in navigation, and posterior parietal and dorsolateral prefrontal regions in visuospatial planning. These findings elucidate the neural mechanisms involved in these processes, highlighting the common amodal regions that play a role in both visuo-spatial planning and spatial navigation. This study offers a deeper understanding of the fundamental deficits linked to neurodevelopmental disorders and brain injuries.

Keywords: *Human navigation, visuo-spatial planning, travel planning, ALE meta-analysis, fMRI.*

1. Introduction

Spatial navigation and visuo-spatial planning are intricate cognitive functions governed by interconnected yet distinct neural systems. Spatial navigation focused on mapping out routes to a destination, relying on the medial temporal and prefrontal regions of the brain for support (Spiers & Gilbert, 2015; Bonner & Epstein, 2017). Visuo-spatial planning, evaluated through tasks such as the Tower of London, engages the prefrontal cortex to orchestrate multi-step actions (Shallice, 1982). Despite differing domains, both processes involve goal representation and strategic decision-making, suggesting possible shared neural substrates (Nitschke et al., 2017).

2. Objectives

This study sought to uncover the shared and distinct neural substrates involved in spatial navigation and visuo-spatial planning through an ALE meta-analysis. By examining fMRI studies of goal-directed, first-person navigation alongside ToL-based planning, we aimed to identify areas of common activation and functional specialization. We hypothesized that there would be overlapping activity in the prefrontal regions, as well as distinct contributions from the medial temporal lobe specifically related to navigation (Kaplan et al., 2017).

3. Methods

In accordance with PRISMA guidelines, we carefully selected fMRI studies focused on active, goal-directed navigation and ToL planning. Only studies that used whole-brain analyses and reported MNI/Talairach coordinates in healthy adults were selected for inclusion. The ALE analyses were performed using Ginger ALE software with Family-Wise Error (FWE) correction (Eickhoff et al., 2012). Additionally, conjunction and contrast analyses were employed to compare patterns across the two domains.

4. Results

Spatial navigation analysis revealed bilateral activation in key brain regions, including the hippocampus, parahippocampal gyrus, fusiform gyrus, and prefrontal areas. In contrast, visuo-spatial planning analysis highlighted bilateral activation of the dorsolateral prefrontal and parietal cortices, alongside additional clusters in the anterior insula and caudate. A conjunction analysis revealed overlapping activity in the bilateral superior and middle frontal gyri, anterior insula, and left supplementary motor area (SMA; Figure 1). Navigation > Planning contrast highlighted medial temporal areas, while Planning > Navigation showed greater parietal and basal ganglia involvement (Figure 2).

Figure 1. Conjunction results showing shared activations between spatial navigation and visuo-spatial planning.

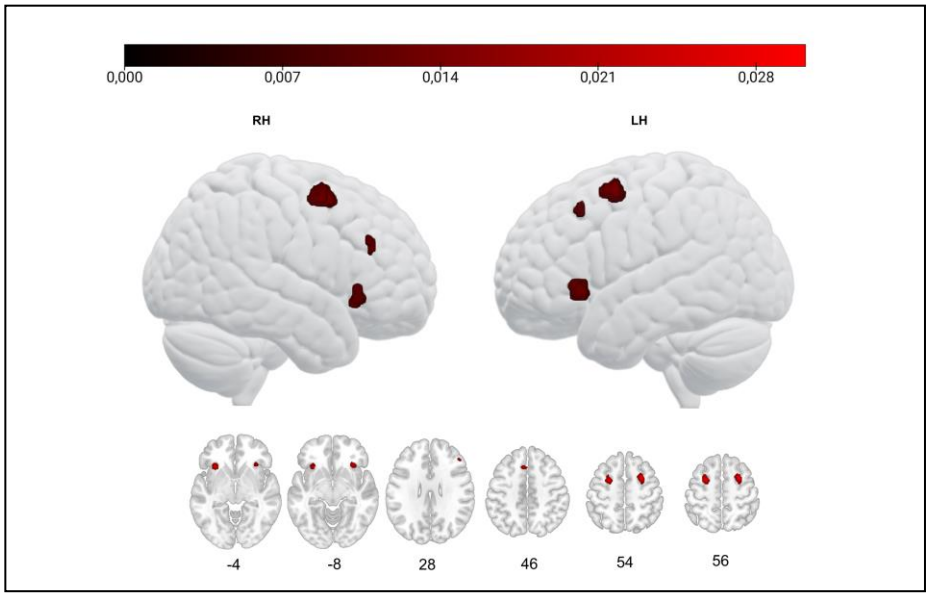
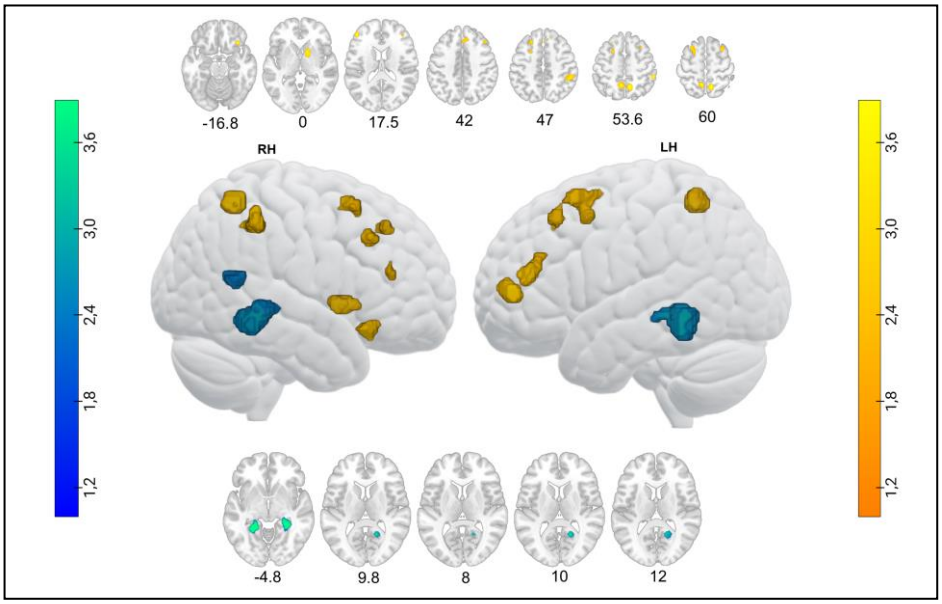


Figure 2. Contrast results showing spatial navigation > planning (blue) and planning > spatial navigation (yellow).



5. Discussion

Our findings indicate that spatial navigation and visuospatial planning activate a common neural network that includes the prefrontal cortex (PFC) and anterior insula (INS), which are critical for high-level cognitive regulation (Milner, 1982; Shallice, 1982; Spiers & Gilbert, 2015). Specifically, the dorsomedial (SFG/MFG) and right lateral PFC (MFG) support strategic planning and decision-making, aligning with models that connect the PFC to goal-directed behaviour and adaptive control (Ito, 2018). Additionally, the anterior INS, recognized for its role in processing sensory cues and directing goal-oriented actions, enhances a flexible and context-sensitive network (Craig, 2002).

Despite these shared areas, distinct activations emerged: spatial navigation mainly involved the medial temporal structures (HIP/PHG), crucial for visuo-spatial memory and spatial orientation (Burgess, 2000; Ito, 2018). In contrast, visuospatial planning engaged on fronto-parietal regions and the caudate, which aid in sequential reasoning and action selection (Nitschke et al., 2017; Kaplan et al., 2017). These findings underscore the hierarchical structure of the PFC, demonstrating its adaptability to a range of different cognitive tasks—from navigation to abstract planning—through a functional division of labor among its subregions (Patai & Spiers, 2021).

6. Conclusion and future directions

Our findings show that spatial navigation and visuospatial planning rely on a shared prefrontal-insular network, with the medial temporal lobe aiding navigation and fronto-parietal regions supporting planning. The prefrontal cortex plays a crucial role in goal-directed tasks, highlighting its significance in cognitive control. These results provide insights into the neural mechanisms that drive cognitive processes, revealing significant implications for disorders that impact spatial behavior and planning abilities. Clinical applications may involve personalized interventions for individuals with difficulties in navigation and planning deficits. Future research should focus on real-world tasks, the complexity of these tasks, and the influence of working memory, deepen our understanding of how these brain regions interact.

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EFFECTS OF ORIENTATION ON SYMMETRIC OBJECTS DETECTION ON NOISY BACKGROUND

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Abstract

Image contours correspond to objects' outlines, surface orientation changes, or texture features. Previous research indicates that detecting contours defined by separate elements depends on their closure and curvature. Closed contours are recognized more quickly, but this advantage diminishes when the contour curvature changes. However, more information is needed about how object recognition interacts with symmetry detection and the dynamics of this interaction. The present study aims to investigate the dynamics of detecting equilateral triangles embedded in noise, depending on their orientation. The stimuli consisted of 1,488 Gabor elements arranged in a hexagonal grid with 48 columns and 31 rows. The orientations of the elements were randomized, except for twelve elements aligned along the sides of an equilateral triangle, with a top element perpendicular to the triangle's base. The triangle was positioned randomly in successive trials, and its orientation could be left/right or up/down. Participants were required to identify the triangle's orientation by pressing a joystick button. Thirty-seven healthy observers (mean age 41 years, range 20-69 years; 23 males, 14 females) participated in the study. The temporal threshold for triangle detection was examined separately for the horizontal and vertical orientations. The results of our study revealed significant individual differences among subjects and a shorter detection time for left/right oriented triangles compared to those oriented up/down. The modeling results, obtained through a Bayesian hierarchical model, indicated significant differences in the probability of a correct response based on the orientation of the stimuli. The highest percentage of correct responses occurred when the triangle's apex pointed to the right, while the lowest - when the triangle's apex pointed downward. These results could not be explained by perceptual asymmetries related to the location of objects in the visual field or the orientation of the symmetry axis. They suggest that object recognition occurs in allocentric coordinates and precedes symmetry detection.

Keywords: *Contour integration, object recognition, symmetry, perceptual biases.*

1. Introduction

According to Gestalt principles (Westheimer, 1999), detecting objects requires the perceptual organization of a visual scene to distinguish the object from its background. The contours in the image often correspond to the object outline. Their detection in clutter scenes depends on the ability to group or integrate local elements, their closeness, and alignment (Field et al., 1993). Research indicates that closed contours are detected more rapidly than open-ended contours, but this advantage disappears when the contour suddenly changes direction (Kovacs & Julesz, 1993).

Symmetry is a critical feature of our vision that enhances the recognition and reconstruction of shapes and objects. Both symmetry extraction and contour processing are essential for object representation (Kovacs et al., 1998). Some studies suggest (e.g., Rainville & Kingdom, 1999) that symmetry coding occurs at relatively low levels in the visual hierarchy. Others imply that symmetry information integration requires about 1 second (Tyler et al., 1995). Still, little is known about the interaction dynamics between contour integration and symmetry coding for object recognition.

2. Objectives

The present study aims to investigate the dynamics of detecting equilateral triangles embedded in noise depending on their orientation.

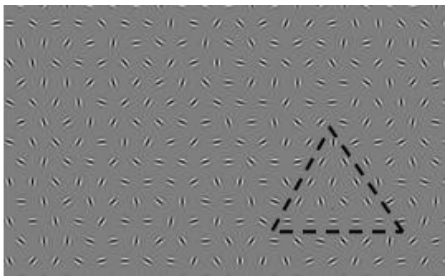
3. Methods and design

The stimuli were presented binocularly on a 20-inch NEC SpectraView 2090 computer screen, with a refresh rate of 60 Hz and a resolution of 1600 × 1200 pixels. They consisted of 1,488 Gabor elements arranged in a hexagonal grid with 48 columns and 31 rows. The orientation of the elements was randomized, except for twelve elements aligned along the sides of an equilateral triangle, with the apex element positioned perpendicular to the triangle's base (Figure 1). At the viewing distance of 57 cm, the sides of the triangle were four deg. long.

After a warning sound, a fixation point appeared in the center of the screen for 500 ms, followed by the stimulus. On every trial, the position of the embedded triangle appeared at randomly chosen positions, with its orientation either left/right or up/down. A custom program developed in Visual C++ and OpenGL controlled the experiments.

The initial stimulus duration was 1500 ms. It was decreased after two successive correct responses or increased after a wrong response by 10%, targeting a temporal threshold of 70.7% correct responses (a 2-down-1up staircase method). The experiment ended after 12 reversals or 100 trials.

Figure 1. An example stimulus with a target triangle oriented upwards marked with a dashed line.



3.1. Participants

Thirty-seven healthy observers (mean age: 41 years, range 20 - 69 years; 23 males and 14 females) with normal or corrected to normal vision participated in the study. They provided written consent for their participation. The experiments were conducted following the Declaration of Helsinki and approved by the Ethical Committee of the Institute of Neurobiology (protocol 48, June 6, 2023).

The participant's task was to detect the triangle and discriminate its orientation by pressing a joystick button. Each participant performed two experimental blocks depending on the triangle's orientation—horizontal (left/right) or vertical (up/down).

3.2. Statistical analyses

We used two approaches to analyze the data – the standard method of evaluating threshold in staircase methods based on reversal points and a Bayesian hierarchical model performed in R (R Core Team, 2021) and the brms package (Bürkner, 2017) to analyze the subjects' responses. The fixed factors in the model were the stimulus duration, the object orientation, and their interaction, while the subjects were regarded as random factors. We used a truncated normal distribution with a mean of 0 and a standard deviation of 10 as a prior distribution for the fixed factors and the Bernoulli distribution as the likelihood function since the subject responses were binary. We used Monte Carlo methods to estimate the posterior distribution, running 4 Markov chains with 6000 iterations (1000 warm-ups) each.

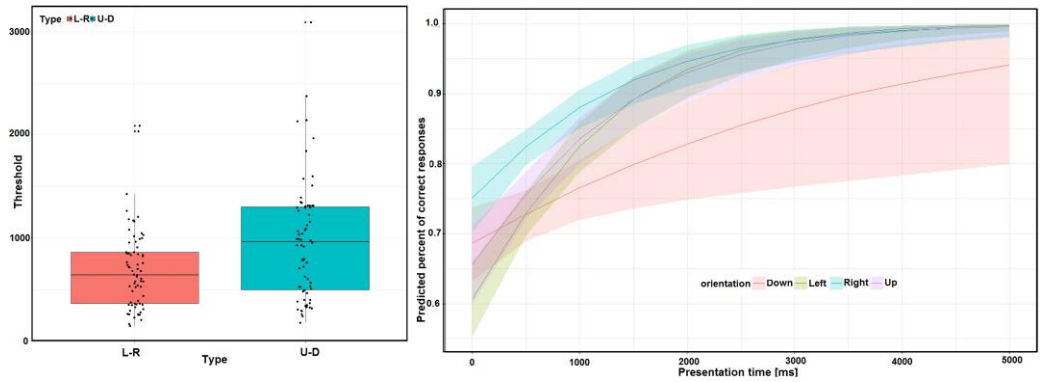
4. Results and discussion

The temporal threshold values showed a shorter detection time for left/right oriented triangles (median of 642 ms) than those oriented up/down (median of 965 ms) with significant individual differences in the threshold values (Figure 2, left). Applying a Bayesian hierarchical model to the responses allows us to evaluate whether there are not only differences between the horizontally and the vertically oriented triangles but also to obtain more detailed information on the effect of triangle orientation on its detection. The results show that the highest percentage of correct responses was observed when the triangle's apex pointed to the right, while the lowest percentage occurred when the apex pointed downward (Figure 2, right). Therefore, to achieve similar performance, the presentation time of the triangles significantly varies with their orientation.

The study results indicate that detecting an object embedded in noise precedes symmetry coding. If symmetry coding occurred first, we expect a performance advantage for the vertically oriented triangles since one of their symmetry axes is vertical and more prominent. Additionally, the symmetry axes of the

two vertically oriented triangles and those of the two horizontally oriented ones are parallel. Therefore, we would not expect any differences between the upward and downward-oriented triangles nor between the leftward and rightward triangles.

Figure 2. Left: Median temporal thresholds for the horizontal and vertical triangles. The individual data are also presented. Right: The predicted probability of correct responses depending on the stimulus orientation.



However, we have observed significant differences in the time required to detect triangles based on their orientation. The target stimuli positions were random within the visual field, which should eliminate any visual-field differences relative to the observer. Our results contradict previous results that show that the left and the lower visual fields have an advantage in different spatial tasks. One reason for this discrepancy may be that our task required determining the vertex's location relative to the triangle's base, i.e., in an object-based (allocentric) coordinate system. The asymmetry in the time course of detecting the triangles in different orientations may arise from the interaction between the egocentric and allocentric coordinate frames. Recent studies (Zhou et al., 2012; Wang et al., 2016; Zhou et al., 2017) have shown that inconsistencies between these two reference frames result in slower response times on the left side compared to the right and in the lower visual field compared to the upper visual field during position judgment tasks. These effects have been attributed to lateralized communication and interconnectivity between the two hemispheres, as well as a functional imbalance in their ability to resolve conflicts (Wang et al., 2016).

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INTEGRATIVE EXPLORATION OF MORAL JUDGEMENT: WHAT CAN WE LEARN FROM THE DUAL THOUGHT PROCESS?

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Abstract

Dual thought process is a central model in cognitive psychology. It determines two distinct cognitive systems to process information. “System 1” is fast, automatic, intuitive and emotional. “System 2” is slower, deliberative, analytical and logical. This dual thought process model has found applications in many areas, including the area of moral judgement. The duality of thought in moral judgement was objectified through psychological and neuroscientific methodology and determines two distinct processes: a first automatic, rapid affective process corresponding to deontology and emotionally motivated heuristics, and a second slow, laborious deliberative process corresponding to utilitarianism and rationality. These two processes are associated with functional activations of distinct brain regions/networks, highlighting a neurofunctional signature linked with psychological facts. We carried out a PRISMA literature review in order to explore the operationality of this link by identifying its neuroarchitectural and neurodevelopmental bases. We used APA search databases Psycinfos/psycnets, PubMed and Embase/Science Direct, with the keywords ‘moral judgement’ or ‘moral dilemma’ and ‘dual process’, from 2001 to publications of May 2023, in general population. Initially, 959 heterogeneous references were found, and from these, we led a selection process resulting in 16 final references. We found that a complex neuroarchitectural base supports the systems and involves different networks that activate and/or inhibit depending on the characteristics of the moral stimuli. This base has a chronological development and is linked to neurodevelopmental skills (theory of mind, moral emotions, maturation of executive functions including inhibitory control and memory). The latter are: at the origin of functionalities like perspective of justice/ prosocial behavior, react to situational factors in the moral stimulus, and mediate variabilities in the production of moral judgements. The limits of the model to be taken into account are cultural, conceptual and methodological. Thus, the duality of moral judgement appears to be integrative and relevant, and in this context, attention should be paid to neurodevelopmental status and to neurofunctional investigation tools to improve future research methodologies.

Keywords: *Moral judgement, dual process, neuroarchitecture, neurodevelopment, integrative*.

1. Introduction

The dual thought process is a central model in cognitive psychology. It is supported by the dual process theory, which involves two cognitive systems: heuristic (system 1) and deliberative (system 2). This dual model of thinking has found applications in many fields, including moral judgement (Greene et al., 2001). In this context, the duality of thought in moral judgement was objectified through psychological and neuroscientific methodology and determines two distinct processes: an automatic affective process (corresponding to deontology and emotionally motivated heuristics) and a laborious deliberative process (corresponding to utilitarianism and rationality) (Greene et al., 2008). These facts validate the reality of the dual process of moral judgement, and directs toward an operationality based on cerebral neuronal networks.

2. Objectives

We aimed to know more about the operationality and relevance of the dual heuristic and deliberative process applied to moral judgement. We therefore proposed two explicative hypotheses linked to the characteristics of these cerebral networks: a neuroarchitectural hypothesis based on topological and functional networks, and a neurodevelopmental hypothesis based on psychological skills corresponding to the level of cerebral development and serving as mediating variables.

3. Method

We carried out a literature review based on the PRISMA methodology. The inclusion criteria were articles published between 2001 and 2023 on heuristics and deliberations in moral judgement, in general population regardless of age. The exclusion criteria were specific clinical populations and/or specific and exclusive dimensions of moral judgement. The APA search databases Psycinfos/psycnets, PubMed and Embase/Science Direct were used with the keywords 'moral judgement' OR 'moral dilemma' AND 'dual process'. Initially, 959 heterogeneous references were identified, and the selection process led to 16 final references.

4. Results

4.1. Dual moral process neuroarchitecture

Topologically, there are common structures (prefrontal cortex and its sub-regions) and functionally shared structures (inhibition, emotions, theory of mind, etc.) involved in moral dual process. Topologically, structures involved in cognitive and emotional processes are recruited depending on the situation and witness the link between the intuitive and the deliberative networks: lateral prefrontal cortex (Barbey & Grafman, 2011), ventromedial prefrontal cortex (Holyoak & Powell, 2016), inferior frontal gyrus, amygdala, ventral striatum (Hallsson et al, 2018). Functionally, moral productions may result from brain areas involved in decision making and emotions (right dorsal lateral prefrontal cortex, amygdala, insula) (Hallsson et al., 2018) (Chapman & Anderson, 2013), theory of mind (right temporoparietal junction), conflict regulation (anterior cingulate cortex: ACC), inhibitory control (activation of right inferior parietal cortex, precuneus, bilateral anterior cingulate gyrus and ACC) (Buon et al., 2016).

4.2. Characteristics of the dual system of moral judgement

Moral and social heuristics are characterized by a deductive mechanism (Hoffrage & Marewski, 2015), by attribute substitution from generalized prototypical situations (Sunstein, 2005), they are reinforced by repetition, as well as by gratifying moral prosocial behaviors and mutual cooperation (Decety & Yoder, 2017). They are revisable, interact with the deliberative system (Sunstein, 2005), and generate "reflexive equilibrium" (consistency between judgments at all levels of generality) or "weak consequentialism" (taking into account both utilitarian consequences and deontological considerations in the overall assessment of what should be done) (Sunstein, 2005) or "quasi-rationality" responses of a dual nature (more or less equilibrium between deliberation and intuition) (Hoffrage & Marewski, 2015). Moral emotions such as empathy and moral disgust also vary the prosocial response and influence moral heuristics: empathy leads to a prosocial proximity and deactivates utilitarian moral judgement (Babcock et al., 2017) and disgust leads to a withdrawal behavior and influence the severity of moral judgement (Chapman & Anderson, 2013) (Russell & Giner-Sorolla, 2013).

4.3. The mediating variables in the duality of moral thought

The mediating variables could be associated with neurodevelopmental skills (theory of mind, maturation of executive functions, social experiences), while others are associated with the moral situation itself and the characteristics of the subject exposed to it. Theory of mind participates in conditioning the generalization of initial moral concepts with cognitive changes in children (Wainryb, 2004). Executive functions such as memory linked to an act of justice (Decety & Yoder, 2017) and planning (Kambam & Thompson, 2009) are necessary for certain intuitive judgements. Other developmental skills, such as the justice perspective (Decety & Yoder, 2017), activate deliberation or maintain heuristics, using justice-oriented memory and conceptual elaboration (Hallsson et al., 2018). Moral identity (Carlo & Padilla-Walker, 2020) is also necessary for mature moral judgement based on heuristics, and is shaped by prosocial behavior in adolescence. Other non-neurodevelopmental factors have influence such as moral framing (Sunstein, 2005) that alters moral intuitions and creates specific generalized aversion heuristics. Then, spontaneous sympathy for intuitive evaluations modifies moral decisions and the psychological distance between the individual and the event to be judged influence the deliberation (Hoffrage & Marewski, 2015). Lastly, situational factors, linked to the presentation of the situation or affecting the judge or observer lead to a variation of utilitarian moral judgements (Klenk, 2021).

4.4. Limits of the duality of moral thoughts

There are conceptual limitations such as the supposed universal nature of dual thinking (Sachdeva et al., 2011) and the "deontological coherence" (Holyoak & Powell, 2016), providing a simplistic conception of the dual moral thoughts. Methodological limitations (Malle, 2021) concern the use of binary oppositions between deontology and utilitarianism, or the restrictive use of moral dilemma scenarios, or on the failure to take into account the different categories of moral judgement. Finally, situational factors such as causal interactions could modify utilitarian moral judgements (Klenk, 2021).

5. Discussion and conclusion

This review mainly found data on heuristics and may contain a methodological bias (choice of key words) that may have limited access to more deliberative data. Despite this, the understanding of the operationality of the dual heuristic and deliberative process of moral judgement was improved. Both hypotheses: neuroarchitectural (topological and functional cerebral components) and neurodeveloppemental (dynamics of cognitive and emotional skills development for processing moral information) are necessary to make the process work. However, other complementary parameters had to be taken into account: the complex interactions between the two systems, non-neurodevelopmental mediating factors, and the cultural/methodological/conceptual limits. These findings provide a better view of the relevance of the dual process of moral judgement as a model for future studies and precautions to take when using it as a model in a context of integrative research methodology.

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PARALLEL SEMANTIC PROCESSING IN EARLY READING ACQUISITION: EVIDENCE FROM THE RAPID PARALLEL VISUAL PRESENTATION PARADIGM

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Abstract

This study investigates whether the "Parafoveal-on-Foveal" (PoF) and "Parafoveal Preview Effect" (PPE), effects observed in adults, also occur in children learning to read. These effects involve faster reading times and improved accuracy when semantic relatedness is present between foveal and parafoveal words. These semantic effects are explored in young readers through the administration of the Rapid Parallel Visual Presentation (RPVP). Forty-six children from 1st to 5th grade were divided into two groups based on the reading acquisition, defined based on literature. The group of beginner readers is composed of 12 children attending 1st and 2nd grade, while children attending from 3rd to 5th grade composed the group of experienced readers. Preliminary results show reduced reading times of the foveal word (PoF) and higher accuracy in reading the parafoveal word (PPE), suggesting that semantic parafoveal processing occurs already in the early stages of development.

Keywords: *Reading, semantic processing, rapid parallel visual presentation paradigm, parafoveal-on-foveal effect, parafoveal preview effect.*

1. Introduction

Reading acquisition in languages with transparent orthographies, such as Italian, generally begins around age six, with high reading accuracy achieved by third grade (Zoccolotti et al., 2009).

Readers typically adopt a serial strategy, moving their gaze word-by-word following a left-to-right direction. Studies on adult readers suggest that when two words are presented simultaneously in the central and peripheral regions, orthographic and lexical information can be processed in parallel (Grainger et al., 2014) and enhance reading fluency. However, whether semantic information can also be accessed remains debated (Schotter et al., 2012; Hohenstein et al., 2014).

The literature recognizes two effects: the "Parafoveal-on-Foveal" (PoF) effect, where reading times for a foveal word are faster when the parafoveal word is semantically related, and the "Parafoveal Preview Effect" (PPE), where accuracy for the parafoveal word improves with semantic relatedness. These effects are semantic markers in reading.

This study examines whether these effects, observed in adults, also appear in children learning to read. Specifically, we investigated the development of PoF and PPE effects in children.

2. Methods

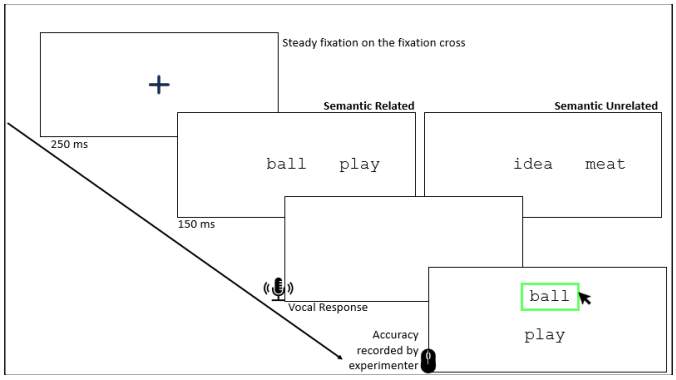
We administered the Rapid Parallel Visual Presentation (RPVP; Rusich et al., 2020) paradigm, presenting pairs of words simultaneously: one in the foveal region (W1), and the other one in the parafoveal region (W2), for 150 ms.

Stimuli included eighty pairs of Italian words, 40 semantically related word pairs (e.g., *PALLA GIOCO*; BALL PLAY) and 40 unrelated pairs (e.g., *IDEA CARNE*; IDEA MEAT), matched for word length and frequency.

Word pairs were presented randomly, and we recorded vocal reaction times (RTs) for the foveal word (W1) and accuracy for both words (W1 and W2).

The experimental procedure is graphically reported in Figure 1.

Figure 1. Procedure of the Rapid Parallel Visual Presentation (RPVP).



53 children from 1st to 5th grade were screened for reading (decoding and comprehension), fluid intelligence, perceptual integration, and metaphonological abilities. The final sample included 46 children with abilities within the normal range, as revealed by screening measures. All children achieved a W1 reading accuracy rate of at least 65 percent (1st grade: 68.9%; 2nd grade: 75.2%; 3rd grade: 81.6%; 4th grade: 86.1%; 5th grade: 87.5%).

Based on stages of reading acquisition, the sample was split into two groups: beginner readers (grades 1-2; N= 12) and experienced readers (grades 3-5; N=34).

3. Analysis

Accuracy on W2 and RTs on W1 were analyzed only for trials where W1 was accurately named, and trials with RTs higher or lower than 2.5 SD from the children's mean RTs were excluded from the analysis.

The PPE and the PoF effects were analyzed using two-way ANOVAs considering respectively the number of words in the parafoveal region correctly named and the mean vocal RTs as dependent variables. The group (e.g., Experienced *vs.* Beginners) and the semantic relationship (e.g., semantically related *vs.* semantically unrelated) between pairs of words were considered the independent variables.

Significant interactions were explored through post-hoc Tukey tests.

All analyses were run using Jamovi 2.6.19.

4. Results

The preview benefit effect (PPE) was analyzed considering the correct naming of parafoveal words (w2). The ANOVA showed a significant main effect of Group (F_{3013}=79.1; p <.001; η^2=.03) and semantic relationship between pairs of words (F_{3013}=69.3; p <.001; η^2=.02). The interaction Group x Semantic Relationship (F_{3013}=7.06; p <.01; η^2=.002) is significant too.

Post-hoc comparison shows that the accuracy of words in the parafovea (W2) is higher in the condition in which the foveal and parafoveal words are semantically related compared to the semantically unrelated pairs, in both beginners (0.29 ±0.02 *vs.* 0.18 ±0.03; p <.01) and experienced children (0.29 ±0.02 *vs.* 0.18 ±0.03; p <.01). Moreover, experienced children were more accurate in semantic related condition compared to beginner ones (0.53 ±0.01 *vs.* 0.29 ±0.02; p <.001).

Regarding the PoF effect, the ANOVA considering vocal RTs showed a significant effect of Group (F_{3013}=232.89; p <.001; η^2=.07). The effect of semantic relationship and its interaction with group is not significant (p >.05 in both cases). The post-hoc comparison shows that experienced readers are more rapid than beginners in naming W1 when the words are semantically related (1194 ±36.3 *vs.* 2109 ±66.1; p <.001).

5. Discussion and conclusions

Accuracy analyses showed that experienced readers more effectively extracted information from parafoveal words than beginners. Both groups showed higher accuracy for semantically related parafoveal words, with an advantage in experienced readers, indicating a PPE.

Vocal RTs for foveal words were faster in experienced readers, especially when words were semantically related, suggesting developmental growth in parallel processing.

For the PoF effect, RTs were faster when the parafoveal word was accurately identified, indicating that accurate parafoveal recognition facilitates foveal word processing.

These findings suggest a developmental trajectory in children's ability for parallel semantic processing, supporting the idea that such effects are fundamental to developing efficient reading strategies during acquisition.

6. Limits and future perspectives

The results of this study seem promising in trying to understand the developmental trajectories of parallel reading processes. However, it seems appropriate to point out some of its limitations. Indeed, the sample still too small to draw strong conclusions.

In addition, semantic processing in a developmental population may be related to the maturation of other cognitive components and correlation analysis should be performed after sample size will be sufficiently large.

For these reasons, the next steps of this *in-progress* work will focus on increasing the sample size and on exploring the role of other cognitive and perceptual mechanisms involved in the parallel semantic processing in children.

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EXPLORING COGNITIVE BIASES AND EXTERNAL FACTORS IN CRYPTOCURRENCY INVESTMENT THROUGH AN EXTENDED TAM FRAMEWORK

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Abstract

The growing interest in cryptocurrency investment is driven by the allure of high returns, often amplified by media narratives and technological novelty. However, this enthusiasm frequently overlooks significant risks such as market volatility, fraud, hacking, and regulatory uncertainty. Cognitive biases, including the Ostrich Effect (Galai & Sade, 2003) and Pro-Innovation Bias (Rogers, 1976), distort decision-making. This study investigates the psychological, social, and knowledge-based factors influencing cryptocurrency investment decisions and proposes strategies to mitigate risks through improved financial education. Using an extended Technology Acceptance Model (TAM), the research explores the roles of social influence, financial knowledge, future outlook, along with perceived usefulness and ease of use in shaping investment intentions. The findings highlight that social influence ($B = .378$, $p < .001$), financial knowledge ($B = .349$, $p < .001$), and optimism about the future of cryptocurrencies ($B = .199$, $p < .001$) significantly impact the willingness to invest. Additionally, perceived usefulness ($B = .265$, $p < .001$) strongly predicts investment choices, while ease of use ($B = .112$, $p > .05$) has a negligible effect. Higher levels of social influence, financial knowledge, and optimism are associated with a stronger intention to invest in cryptocurrencies. These results suggest that targeted financial education can help reduce cognitive biases, promote a better understanding of cryptocurrency risks, and encourage safer investment choices.

Keywords: *Cryptocurrency investment, cognitive biases, financial education, Technology Acceptance Model (TAM), social influence.*

1. Introduction

Cryptocurrencies have emerged as a disruptive innovation, attracting investors with promises of high financial returns and technological advancement. However, their intangible nature and market volatility expose investors to significant risks, which are often overlooked due to cognitive biases like the Ostrich Effect (Galai & Sade, 2003) and Pro-Innovation Bias (Rogers, 1976). These biases lead individuals to underestimate risks while overestimating benefits. Media narratives further distort this perception, fueling an optimistic view of potential profits and downplaying the associated dangers (Shahzad et al., 2022). This study aims to examine how psychological, social, and knowledge-based factors influence cryptocurrency investment intentions and to develop strategies for reducing investment risks through enhanced financial education.

2. Methods

Qualitative Phase: Two focus groups (Kitzinger, 1994) were conducted via online platform (Zoom) involved participants ranged in age from 22 to 36 years to explore the motivations, biases, and knowledge gaps related to cryptocurrency investment. The first group consisted of individuals with no prior experience (4 males, 4 females), while the second included experienced cryptocurrency investors (4 males, 4 females). Each session lasted approximately 120 minutes and was guided by semi-structured questions. Thematic analysis (Braun & Clarke, 2006) was used to identify key themes including:

- **Emotional Drivers**: Participants highlighted **fear of missing out (FOMO)** and **excitement** as dominant factors influencing their investment choices.
- **Sources of Knowledge**: Investors relied heavily on social media, online forums, and influencers, often leading to biased or incomplete information.

- **Perceived Risks and Regulation Awareness**: Many participants underestimated regulatory risks and market volatility, reinforcing the presence of cognitive biases such as overconfidence and the Ostrich Effect.

These themes informed the design of the survey questionnaire.

Quantitative Phase: The quantitative phase involved an online survey distributed to 306 participants (147 males, 159 females) aged 18-35. The survey collected data on sociodemographic variables, FOMO (Fear of Missing Out) (Przybylski et al., 2013), financial knowledge (both self-assessed and objective measures), and cryptocurrency confidence (adapted from Katona's Consumer Confidence Index, 1968). The survey also assessed Technology Acceptance Model (TAM) constructs such as perceived usefulness, perceived ease of use, and investment intentions using validated Likert-scale items (Davis, 1989). Data were analyzed using SPSS 28, and statistical techniques including correlations, regressions, t-tests, ANOVA, and mediation models were applied using PROCESS for SPSS (Hayes, 2022).

3. Results

The extended TAM model explained 49.4% of the variance in cryptocurrency investment intentions. Key findings include:

- **Social Influence:** A significant positive correlation ($r = 0.42$, $p < 0.001$) between social influence and perceived usefulness indicates that approval from peers and social networks enhances investment motivation (Venkatesh & Davis, 2000).
- **Financial Knowledge:** Self-assessed financial knowledge was positively correlated with investment intentions ($r = 0.47$, $p < 0.001$), although discrepancies between perceived and actual knowledge were evident. Higher objective financial literacy correlated with more cautious investment behavior ($r = -0.35$, $p < 0.01$) (Hastings et al., 2013; Zhao & Zhang, 2021).
- **Future Outlook:** Optimistic views on the future sustainability of cryptocurrencies strongly influenced investment intentions ($r = 0.51$, $p < 0.001$) (Katona, 1968).
- **Perceived Usefulness vs. Ease of Use:** While perceived usefulness ($r = 0.45$, $p < 0.001$) strongly predicted investment intentions, perceived ease of use had a negligible effect ($r = 0.12$, $p > 0.05$), highlighting the importance of perceived benefits over simplicity in decision-making (Davis, 1989).

4. Discussion

The findings highlight the critical role of both cognitive biases and external factors in shaping investment behavior. The qualitative phase revealed that overconfidence and emotionally driven decision-making were particularly evident in cryptocurrency investments, aligning with previous research on investors' optimistic bias despite historical market crashes (Galai & Sade, 2003). Additionally, social media and peer influence reinforced the Pro-Innovation Bias, leading investors to accept new technology uncritically while overlooking potential risks (Rogers, 1976). The quantitative phase highlighted the influence of psychological and external factors on investment decisions. Social influence enhanced perceived usefulness, which in turn increased investment intentions. Greater optimism about the future of cryptocurrencies also led to a higher willingness to invest. Perceived financial knowledge correlated with higher investment intentions, though higher objective literacy led to more cautious behavior (Hastings et al., 2013). Perceived usefulness was a stronger predictor than ease of use, emphasizing the importance of perceived benefits over simplicity.

These findings emphasize the need to bridge the gap between perceived and actual financial knowledge while addressing cognitive biases. As also partially highlighted in more recent studies (Shahzad et al., 2022), external factors such as media narratives and social influence significantly impact investment behavior. Financial institutions should develop targeted educational programs to enhance financial literacy and help mitigate these biases.

5. Limitations and future perspectives

This study has some limitations that warrant consideration. First, the sample is limited to individuals aged 18-36, which may not fully capture the investment behavior of older demographics who may have different risk tolerance and financial literacy levels. Future research could explore a broader age range to compare how different age groups perceive and react to cryptocurrency investment. Second, the reliance on self-reported data for financial knowledge and FOMO may introduce biases. Participants may overestimate their financial literacy or may not fully acknowledge the emotional drive behind their

investment decisions. Future research could employ a longitudinal approach to track changes in investor perceptions and behaviors over time. Future studies could also incorporate more objective measures of financial literacy and include longitudinal designs to assess changes in attitudes and behaviors over time. Lastly, while this study integrated external variables like social influence and financial knowledge into the TAM framework, other factors—such as regulatory awareness, media consumption patterns, and psychological traits—could provide additional insight into cryptocurrency investment intentions. Future research could extend this model by exploring these additional variables, as well as examining the role of regulation and investor protection in mitigating risks.

6. Conclusions

This study extends the Technology Acceptance Model by incorporating social influence, financial knowledge, and future outlook, providing a more comprehensive understanding of cryptocurrency investment intentions. The findings emphasize the need for financial education to mitigate cognitive biases and enhance decision-making. By addressing gaps in financial literacy and promoting a more balanced understanding of cryptocurrency risks, investors can make more informed and secure investment choices, relying less on emotions or impulsive decisions and more rational, knowledge-based assessments that lead to less risky investments. Future research could explore how these insights can be applied to develop more effective educational tools and interventions.

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RELATIONSHIP BETWEEN LONELINESS AND ATTENTION COMPONENTS IN RELATION TO MORNING OR EVENING CHRONOTYPES

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Abstract

Chronotype, an individual's natural inclination toward specific sleep-wake patterns, reflects biological rhythms influenced by factors such as age, environment, and societal norms. Research links chronotype to various cognitive and emotional aspects, yet its combined effect on attention and loneliness remains unexplored. This study examines the relationships between chronotype, attention, and loneliness, focusing on three attention components assessed by the Attention Network Test (ANT): alerting (maintaining readiness to respond), orienting (shifting attention to a target), and executive control (resolving conflicting information). To this end, A sample of 122 right-handed participants, aged 34-55, completed the Morningness-Eveningness Questionnaire, the UCLA Loneliness Scale, and the ANT. Results revealed a negative correlation between chronotype and loneliness, with evening types reporting higher loneliness levels. Surprisingly, morning chronotypes exhibited poorer executive control performance compared to evening types. While loneliness was not directly associated with attention, a moderation effect emerged in the orienting component, where morning types with low loneliness showed slower orienting performance. These findings underscore the interplay between biological rhythms, emotional states, and cognitive processes, suggesting tailored interventions addressing chronotype and loneliness. Future research should explore these dynamics across diverse populations to inform targeted strategies for improving mental and emotional health.

Keywords: *Chronotype, attention, loneliness.*

1. Introduction and objectives

Chronotype, which refers to an individual's natural sleep-wake cycle preference, significantly affects cognitive and emotional functioning, influencing peak alertness and efficiency throughout the day (Zou et al., 2022). While morning chronotypes generally align well with societal norms and structured schedules, evening chronotypes often experience misalignment, leading to adverse cognitive and emotional consequences (Valdez, 2019). Research has established links between chronotype and both attentional performance (Valdez et al., 2012) and loneliness (Luhmann & Hawkley, 2016) independently; however, their combined impact remains unexplored.

Loneliness is a psychological state resulting from a perceived lack of meaningful social connections, which has been linked to cognitive inefficiencies and attentional biases (Cacioppo & Hawkley, 2009). The cognitive framework of loneliness suggests that socially disconnected individuals exhibit heightened vigilance toward negative stimuli, affecting their ability to allocate attentional resources effectively (Cacioppo et al., 2016). However, despite these theoretical assumptions, empirical evidence linking loneliness to distinct attentional components—alerting, orienting, and executive control—remains limited.

This study was aimed to examine the relationships between chronotype, attentional performance, and loneliness. Specifically, it investigates whether loneliness moderates the relationship between chronotype and attentional performance. It was hypothesized that morning chronotypes will exhibit better attentional performance compared to evening, that evening chronotypes will report higher levels of loneliness, and that loneliness will be associated with poorer performance in all three attentional components. Furthermore, it is hypothesized that loneliness will moderate the relationship between chronotype and attention, with the difference between morning and evening types being most accentuated among not-lonely individuals.

2. Method

A total of 122 right-handed participants, aged 34 to 55 years (*M*=42.9, *SD*=5.29), were recruited via an online platform (Testable.org). Only native English speakers were included in the study. Participants completed a battery of cognitive and self-report assessments, specifically the Morningness-Eveningness Questionnaire (MEQ; Terman et al., 2001) to classify their chronotype, the UCLA Loneliness Scale (Russel, 1996) to evaluate their subjective loneliness levels, and the Attention Network Test (ANT; Fan et al., 2002) to assess their attentional performance. The ANT provided measures of alerting, orienting, and executive control by analyzing reaction times under different cueing and flanker conditions. The study employed a cross-sectional correlational design. Data was analyzed using ANOVA, multiple regression, and moderation analysis through PROCESS for JASP.

3. Results

The analysis revealed a significant negative correlation between chronotype and loneliness, indicating that individuals with an evening chronotype were more likely to report higher loneliness levels. In terms of attentional performance, results unexpectedly showed that morning chronotypes demonstrated poorer executive control compared to evening chronotypes. Loneliness was not associated with attentional performance. Further analysis using path modeling revealed that loneliness moderated the relationship between chronotype and orienting attention. Specifically, morning chronotypes with low loneliness levels exhibited reverse orienting performance—indicative of inhibition of return—while this effect was absent at moderate and high loneliness levels.

4. Discussion and conclusions

The findings of this study provide new insights into the complex relationship between chronotype, loneliness, and attentional performance. The observed negative correlation between chronotype and loneliness suggests that evening chronotypes are particularly vulnerable to social isolation. This could be attributed to their reduced engagement in morning-oriented social activities and increased difficulty in synchronizing with conventional work and school schedules. The moderation analysis demonstrated that, as expected, not-lonely morning individuals exhibited an adaptive control over attention orienting. This was expressed in their inhibition of return, which may be interpreted as a more efficient allocation of attention resources. This pattern was not evident among not-lonely evening types or among lonely individuals (regardless of their chronotype). Our findings challenge the notion that loneliness impedes attentional control. Moreover, this study stresses the importance of considering individual characteristics as chronotype in future studies of loneliness and attention.

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EXPLORING INDIVIDUAL DIFFERENCES IN VISUAL WORKING MEMORY: SHARED COGNITIVE MECHANISMS ACROSS CHANGE DETECTION AND DELAYED ESTIMATION TASKS

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Abstract

Understanding individual differences in visual working memory performance is critical for uncovering the cognitive mechanisms underlying memory formation and retrieval. In this study, we investigated how performance varies across two widely used tasks: the delayed estimation (DE) task and the change detection (CD) task. Across three experiments, we interspersed DE and CD trials with identical displays while manipulating task expectations to explore their influence on memory encoding and performance. Individual differences analysis revealed strong correlations in performance across tasks and expectations, indicating that both tasks rely on a shared underlying factor that varies between individuals. Additionally, participants who performed better in memory tasks also reported higher confidence, with significant correlations observed across all experimental conditions. These findings demonstrate that despite task-specific encoding differences, DE and CD tasks are underpinned by common cognitive mechanisms that drive individual differences in performance. This work highlights the importance of considering individual variability in visual working memory research and the influence of task type on memory strategies.

Keywords: *Working memory, individual differences, encoding, strategies.*

1. Introduction

Visual Working Memory (VWM) refers to the temporary retention and manipulation of visual information no longer present in the environment (Baddeley & Hitch, 1974). This ability underpins many everyday tasks and has been linked to educational achievement, fluid intelligence, and general intelligence (Engle et al., 1999; Fukuda et al., 2010; Johnson et al., 2013). Among the most widely studied paradigms to measure VWM are the delayed estimation (DE) task and the change detection (CD) task. Recent findings suggest that these two tasks influence how memories are formed and the precision with which information is encoded into VWM in different ways (Cohen-Dallal & Pertzov, 2023).

Although each task may involve distinct memory-encoding processes, it remains unclear whether there is an overarching mechanism that supports performance across both. VWM performance can be affected by a range of cognitive factors, including storage capacity, attentional control, and strategic approaches (Schor et al., 2020; Unsworth et al., 2021; Lin & Leber, 2024). It is therefore plausible that the DE and CD tasks rely more on separate processes than on common ones. To explore this possibility, we designed an experiment in which we manipulated not only which task participants would perform (DE vs. CD) but also their expectations about which task would follow. By doing so, we could directly compare estimation precision under conditions where participants encoded the memory array in anticipation of either a DE or a CD task.

2. Methods & results

2.1. Participants

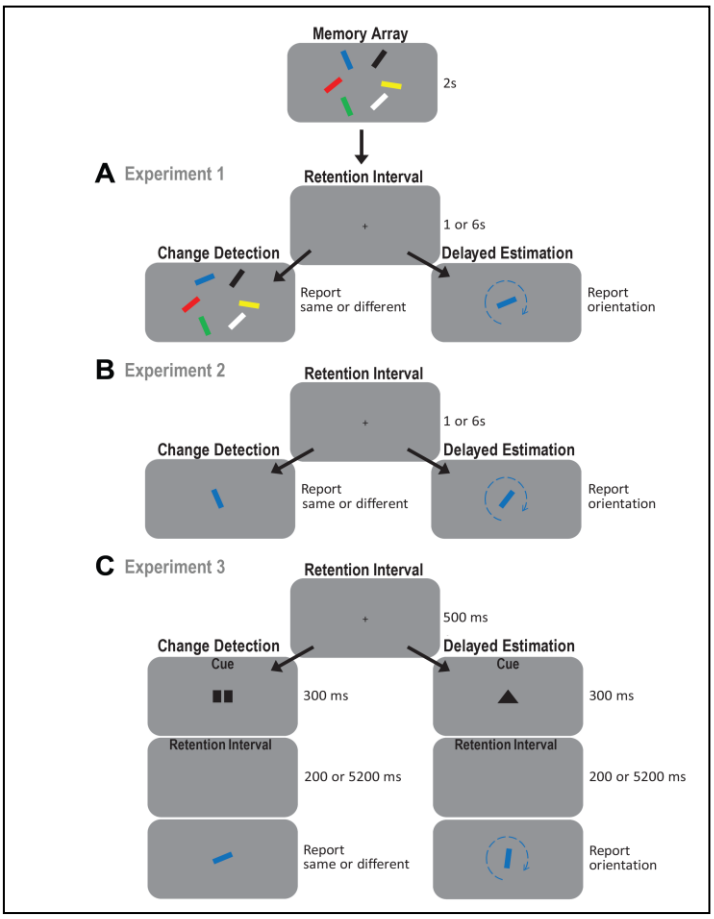
Forty-eight neurologically normal participants participated in these study (age range 19-31 years, mean 23.29 ± 2.56, 34 females). This experiment consisted of three experiments; 16 participants participated in each experiment. This study is part of a larger research project that aimed to understand the adaptiveness of visual working memory. This study was approved by the ethics committee of the Social Sciences Faculty at the Hebrew University of Jerusalem, Israel. All participants reported normal or corrected-to-normal visual acuity and had normal color vision.

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2.2. Procedure

See Figure 1 for the experimental procedure. All trials started with the presentation of a memory array consisting of 6 oriented bars in random orientations and different colors for 2000 ms. After a blank retention interval with variable durations, a probe appeared. In the DE task the probe consisted of one bar and participants were required to rotate it to match the orientation of the target bar. In the CD task the probe consisted of all the bars in the memory array in Experiment 1, or a single bar in experiments 2 and 3. Experiment 3 included a cue that appeared after the memory array indicating the upcoming task on this trial (CD or DE). Next, a blank retention interval was introduced for 1000 or 6000 ms (the delay length was randomly assigned in each trial). If the trial was a DE trial, at the end of the retention interval a single bar (probe) was presented in the center of the screen in a random orientation and participants were required to adjust its orientation to match the bar with the same color from the memory array. In the CD condition, participants were required to report whether the second memory array was identical to the original memory array or not, by pressing the left or right keys of the mouse. The display appeared until the mouse was pressed. A confidence report appeared at the end of each trial. Participants were required to report their confidence in their response on a scale of one to six. The experiment was divided into two sessions conducted on different days, where one session included 85% CD trials (main trial type) and one session had 85% DE trials. The order of the sessions was counterbalanced across participants. At the beginning of each session the participants were informed which one of the trial types would be more frequent. Each session included four blocks with 52 trials. Of the 52 trials in each block, 44 were from the main trial type. Each block started with eight consecutive trials of the main trial type, to encourage participants to form the appropriate encoding strategy. Two trials of the infrequent trial type did not appear consecutively, apart from cases where they appeared at the end of the block. Each session started with four consecutive practice trials on each trial type separately. Participants were encouraged to do their best; they were informed at the end of each block of their achievement and received bonus payment for good achievements.

Figure 1. Experimental procedure for Experiments 1, 2 and 3.



Memory performance was analyzed separately for the CD and DE trials. The dependent variable in the DE analysis was the angular error between the reported orientation and the correct orientation of the target bar. The dependent variable in the CD trials was the proportion of incorrect responses. We investigated whether individual differences in memory performance would correlate across both tasks and

expectations. Therefore, we conducted Pearson correlations on participants' DE and CD task performance within the two main trail type (MTT) conditions. Across the three experiments, we observed some variability in how strongly performance on the two tasks correlated. In Experiment 1**,** the correlations between CD an DE trail types were not significant. In Experiment 2**,** the correlations reached statistical significance, when MTT:CD (r = .71, p < .001), and between MTT:DE-TT:DE and MTT:CD-TT:CD (r = .55, p < .05). Finally, in Experiment 3**,** we observed robust correlations within both MTT conditions (MTT:CD, r = .59, p < .001, MTT:DE, r = .72, p < .001) and also across MTT conditions (MTT:DE-TT:DE and MTT:CD-TT:CD, r = .50, p < .001; MTT:DE-TT:CD and MTT:CD-TT:DE, r = .54, p < .001). To receive a general picture across experiments we conducted a partial correlation analysis in which experiment was added as a covariate. The results show strong correlations in all comparisons. The only insignificant correlation was between DE performance when MTT was CD and CD performance when MTT was DE (see Table 1). We also found significant correlations between performance and confidence in all experimental conditions.

Table 1. Partial correlations between performance across experiments.

		MTT		CD	
MTT	Trial Type	CD	DE	CD	DE
CD	CD	1			
	DE	**.53****	1		
DE	CD	**.25***	.20	1	
	DE	**.47****	**.63****	**.36***	1

* Significant at p < .05, ** Significant at p < .001
MTT- main trail type; DE- Delayed Estimation: CD- Change detection

3. Discussion

These findings demonstrate that despite eliciting task-specific encoding and memory precision differences, a shared cognitive mechanism underlies individual differences in performance in the two tasks. Moreover, the data suggest that when the tasks become more alike, their performance correlations increase. Notably, Experiment 2 showed higher correlations than Experiment 1, while Experiment 3 outperformed Experiment 2. These findings are significant because they offer clearer insight into how the interplay of task demands influences memory performance, emphasizing both the convergent and divergent processes at work. In conclusion, recognizing this combination of task-specific and shared factors is crucial for advancing our understanding of the cognitive processes that underlie visual working memory and for refining future experimental designs to better capture the nuances of memory processes.

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COOKING THERAPY TOOL FOR PSYCHOLOGICAL WELL-BEING: A NEW METHOD TO FIND YOURSELF

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Abstract

The objective of Cooking Therapy protocol is to build a tool within the reach of children, adolescents, adults and the elderly who could rediscover well-being in the kitchen of their home. Combined with specific psychological techniques, it can be used by psychologists as a complementary therapy. Following studies and research in various fields of psychology combined with the skills acquired as a psychologist and psychotherapist of relational systemic training; sharing the theoretical assumptions and some techniques of Mindfulness in 2017 the Cooking Therapy protocol is developed. The protocol is based on the premise "I'm sick so I cook", which has now become "I cook to feel good". Through 7 main stages of preparation: fastening the apron, reading the recipe, weighing the ingredients, kneading, seasoning, decorating, sharing, Cooking Therapy acts on four dimensions of the person: physical, cognitive, social, intra-personal. Each session sees the participation of a small group, lasts 90 minutes and occurs twice a week. It sees the preparation of 5 basic recipes that will be modified to achieve specific objectives. The pandemic and the lockdown have changed the way of conducting and participating from face-to-face to online and later mixed, allowing the protocol to be known and used throughout Italy and other countries. From the growing demand, from the constant participation especially of children, from the attention paid by professionals to the protocol and training, we can deduce a sufficient interest useful to continue using the tool and to build protocols useful for the management of specific discomforts or disturbances.

Keywords: *Wellness, psychology, cooking therapy, mindfulness, health.*

1. Introduction

Cooking Therapy by Dr. Roccaro is an innovative project that was born in September 2017 in Syracuse after studies and research in the sector. The idea developed over the years was to be able to use an ancient and daily act, such as cooking, as a tool to regain psycho-physical well-being, thus ensuring that preparing food, in addition to being a daily action, took on a therapeutic value. Build a tool within everyone's reach that can become an intervention strategy for the recovery of specific discomforts or simply to pay attention to oneself in a path of "awareness".

Cooking Therapy is a new discipline but one that uses something that is very ancient, cooking and preparing for oneself and for others, as a tool for care and well-being. Cooking becomes not just a daily act, but is equivalent to taking care of the mind, body and soul. It means recalling one's traditions and family ties through smells and flavors, it means giving shape to one's creativity, strengthening self-esteem, taking care of one's body.

Cooking with and for others represents a tool for regaining possession of one's daily life after periods of suffering, it turns out to be a way to treat more or less serious disorders related to stress, anxiety and depression in a creative and non-medicalized way.

Cooking allows you to rediscover yourself and relate to others, recovering confidence and instinct for sociability.

2. Theoretical assumption

Cooking Therapy, as it was born, is based on a founding principle, namely "I feel bad, therefore I cook", overturning the principle "I feel bad therefore I eat" on which Comfort food and eating disorders are based.

“I'm sick so I cook” means recovering one's mental well-being through the preparation of a dish. Cooking means: increasing self-esteem, refining manual skills, expressing creativity, strengthening cognitive skills, rediscovering conviviality, activating old and new communication processes, managing anxieties and fears, evoking memories, rediscovering family ties.

From the direct observation of the experience of the Cooking Therapy laboratories according to the Dr. Roccaro protocol, the hypothesis of revising the principle "I feel bad therefore I cook" into "I cook to feel good" was born. This principle would allow us to integrate the concept of cooking as a therapeutic tool related to illness and give strength to the importance for human beings of taking care of their own psycho-physical well-being even in a condition of non-illness. Cooking would also be a tool for primary prevention and a healthy lifestyle, as is eating healthy or practicing physical activity.

Cooking Therapy acts therapeutically on the 4 dimensions of man: physical dimension, cognitive dimension, social dimension, intra-personal dimension.

Physical dimension: when cooking, shoulders, hands, wrists, elbows and neck are involved in finding good overall balance, energy and muscular strength.

Cognitive dimension: All senses are activated, time management skills improve, versatility, memory and concentration are refined.

Social dimension: creating special foods for friends or family promotes the sharing of sensory experiences and facilitates contact and communication.

Intra-Personal Dimension: the creation of a dish is the expression of one's creativity.

3. Methods

A facilitator leads a small group of max 5-6 people, homogeneous with respect to the variable considered, for example age, life cycle, discomfort. Each session has an average duration of 90 minutes and usually occurs fortnightly.

All laboratories are divided into at least 5 of the 7 processing phases identified and studied and which constitute the true essence of the Cooking Therapy protocol by Dr. Roccaro. The phases are:

1) Wearing the apron: this is the phase that marks the beginning, if not the entire time frame, of the session. The action of wearing the apron was born as a ritual, the apron represents the symbolic object. This can all be translated into “I'm starting to take care of myself”. It allows you to become aware of your existence and your need for well-being.

2) Read the recipe: this is the moment in which concentration and cognitive functions are activated.

3) Weighing the ingredients*:* weighing implies the activation of concentration and memory, it gives the possibility of acting on mathematical calculation activities by activating the various cognitive functions.

4) Kneading: when we cook and mainly when we knead our hands, wrists, arms, shoulders move. Through coordinated muscular movement, control of the energy and force exerted while kneading, you acquire awareness of both the various parts of the body involved in the action and of your own breathing. Kneading allows you to release both physical and emotional tensions, make contact with emotions such as anger and sadness and then process them or transform them into so-called positive emotions.

5) Seasoning: choosing between the various condiments or fillings is used metaphorically to gain awareness and decide, facing fears and insecurities if necessary

6) Decorate*:* decorating allows you to leave room for imagination and creativity and to bring out the child in each of us. In this phase, through metaphors and visualizations it is possible to access one's own relational experiences and family ties.

7) Sharing: it is the last phase; sharing begins the process of socialization in the group and will develop along a continuum that leads to sharing within the family.

4. Conclusions

To date, numerous workshops have been conducted with children, adolescents and adults; workshops for the management of anxiety and stress, for health emergencies during the pandemic, workshops with people with cancer and in the management of burnout of healthcare workers.

From the growing demand, from the constant participation especially of children, from the attention paid by professionals to the protocol and training, we can deduce sufficient interest to continue using the tool and building protocols useful for managing specific discomforts or disorders. Scientific study and experimentation continues.

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ONE SIMPLE QUESTION PREDICTS WELL-BEING IN RADIATION THERAPY: THE ROLE OF DESIRE FOR PSYCHOLOGICAL INTERVENTION AND PERCEIVED SOCIAL SUPPORT

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Abstract

Radiation therapy (RT) is a critical part of cancer treatment often accompanied by heightened anxiety, depression, and reduced life satisfaction. Although psycho-oncological (PO) interventions and social support can alleviate distress, it is unclear whether patients' desire for PO intervention reflects temporary or ongoing distress and whether all patients benefit from social support or only those seeking help. In this study we examined whether the desire for PO during the start of RT predicted anxiety, depression, and life satisfaction at the start and end of RT and whether perceived social support moderated these effects. One-hundred-and-forty-six patients completed questionnaires at three time-points (pre-treatment, first treatment, last treatment). Results showed that patients desiring PO intervention reported higher anxiety and depression at the start and end of RT. Higher perceived social support predicted lower depression and improved life satisfaction but only for patients expressing a desire for PO. Screening for psychological distress is standard in oncology but often limited by time and resources during RT. The current study findings suggest that a single, straightforward question at the start of RT could identify at-risk patients, enabling proactive intervention. Moreover, fostering perceptions of social support may help mitigate negative outcomes in the absence of professional intervention.

Keywords: *Anxiety, depression, life satisfaction, psycho-oncological intervention, social support, radiation therapy.*

1. Introduction and objectives

During cancer treatment, up to two-thirds of patients undergo radiation therapy (RT), which often leads to emotional distress, including anxiety, depression, and lower life satisfaction (Dilalla et al., 2020). Emotional challenges are significant, with up to 25% of patients discontinuing RT due to distress (Clover et al., 2011).

As distress levels fluctuate throughout RT (Hess & Chen, 2014), it remains unclear whether an initial desire for psycho-oncological (PO) intervention during RT reflects ongoing distress or temporary early-stage challenges. Moreover, perceived social support from family, friends, and healthcare professionals also plays a critical role in reducing distress. However, its effectiveness depends on how well it meets the patient's actual needs (Zee et al., 2020).

This study had two aims: (1) to examine whether patients' desire for PO is associated with greater distress and lower life satisfaction at the beginning and end of RT, and (2) to determine whether the relation between perceived social support and reduced distress and improved life satisfaction at the end of RT is stronger for patients desiring PO compared to those who do not.

2. Method

2.1. Materials and procedure

The study targeted cancer outpatients treated at the Department of Radiology, Assuta Medical Center, Ashdod, Israel, between January 2022 and September 2023. From 1,862 patients treated during this period, 223 were eligible and invited to participate, with 66 declining (29.6%), resulting in 146 participants

(58.7% recruitment rate). Of these, 32 withdrew by Time 2 or 3, leaving 114 participants who completed all three rounds of questionnaires (21.9% attrition).

Participants completed self-report questionnaires at three points: Time 1 (Pre-Treatment): The Hospital Anxiety and Depression Scale (HADS), Satisfaction with Life Scale (SWLS), and a question about interest in scheduling a psychologist session (yes/no). Time 2 (First Radiation Session): The Multidimensional Scale of Perceived Social Support (MSPSS). Time 3 (End of Treatment): HADS and SWLS. Demographic data included age, gender, education, and family status. Clinical data included tumor type and stage, surgery (yes/no), chemotherapy (yes/no), Karnofsky Performance Scale (KPS), number of radiation sessions**,** family cancer history, and comorbidities.

3. Results

Fifty percent of participants reported a desire for PO intervention. MANOVA showed a significant main effect for group (PO vs. non-PO), $F(4,95) = 3.91$, $p = 0.006$, partial $\eta^2 = 0.141$. As expected, patients wanting PO intervention had higher anxiety and depression levels at T1. The second MANOVA showed a main effect for group, $F(3,76) = 5.08$, $p = 0.003$, partial $\eta^2 = 0.167$, with similar results for anxiety and depression at T3.

Three hierarchical regressions examined whether the PO group and perceived social support predicted anxiety, depression, and life satisfaction at T3. The interaction between PO group and social support significantly influenced depression and life satisfaction at T3, after accounting for satisfaction T1 levels. Moderation analysis showed that PO group moderated the relationship between social support and depression ($b = -.19$, $p = .002$) and life satisfaction ($b = .38$, $p < 0.001$). For the PO group, social support was significantly associated with lower depression and higher life satisfaction, while no significant effects were found for the non-PO group.

4. Discussion and conclusions

The findings suggest that a simple written question at the start of RT can effectively identify patients at risk for anxiety and depression, potentially replacing more complex screening. Additionally, perceived social support was associated with lower depression and better life satisfaction, but only for patients wanting PO intervention. These patients may be more receptive to support and proactive in managing emotional well-being. However, perceived social support did not predict anxiety reduction, suggesting that anxiety requires more targeted interventions.

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PERSONALITY TRAITS AND MENTALIZATION AMONG ADOLESCENTS AS PREDICTORS OF STRESS COPING STRATEGIES[1,2]

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Abstract

Stress has many consequences for our well-being, both physically and psychologically. While stress helps us to overcome challenges and to achieve our goals, stress can also have many detrimental health consequences if it continues for a long time (Tollenaar, & Overgaauw, 2020). More knowledge is warranted about differential sensitivity to stressful situations to predict how people will respond to (socially) demanding contexts (Romić, & Ljubetić, 2021). The aim of the research was to examine whether personality traits (activity, aggressiveness/hostility, impulsive sensation seeking, neuroticism/anxiety, sociability) and mentalization (mentalization of self, mentalization of others, motivation for mentalization) can predict stress coping strategies (task-focused coping, emotion-focused coping, avoidance-focused coping) among emerging adults. The sample was convenient and consisted of 291 respondents (N_{female} = 72.5%), high school students and students in Niš, Serbia. The ages of the respondents ranged from 18 to 24 years (M = 19.19 years, SD = 1.37). The following instruments were used to operationalize the aforementioned constructs: The ZKPQ questionnaire for measuring basic personality traits, UM mentalization scale and the Coping Inventory for Stressful Situations (CISS). For task-oriented coping with stress, the model explained 18% of the total variance. Significant predictors were activity (β = .21, *t* = 3.08, p = .002) and motivation for mentalization (β = .29, *t* = 3.42, p = .001). The model within emotion-focused coping explained 40% of the variance (*p* < .001), while the significant predictors were aggressiveness (β = .16, *t* = 2.92, p = .004), neuroticism (β = .56, *t* = 10.25, p < .001) and mentalization others (β = .14, *t* = 1.93, p = .050). For avoidance-oriented coping, the model explained 12% of the variance (*p* < .001). Significant predictors were impulsive sensation seeking (β = .23, *t* = 3.06, p = .002) and sociability (β = .16, *t* = 2.17, p = .031). Activity and the need to understand the needs and intentions of others contribute to constructive solutions in stressful situations. On the other side, neuroticism contributes to the greatest extent to the less desirable strategy of overcoming stress that is focused on emotions, which is logical because a disturbed person first tries to regulate emotions, and this does not necessarily lead to a constructive solution, but to the consumption of drugs, withdrawal or self-preoccupation. Considering that the tendency to neuroticism makes it difficult to successfully overcome stress, its regulation through counseling and therapeutic work can significantly contribute to better coping with stress.

Keywords: *Adolescence, personality traits, mentalization, stress coping strategies.*

1. Introduction

Stress is an inevitable part of life, influencing individuals in various ways. While moderate levels of stress can enhance performance and facilitate adaptation to challenges, excessive or prolonged stress can have detrimental effects on both mental and physical health. Given that individuals do not experience or manage stress in the same way, understanding the psychological factors that contribute to differences in stress responses is essential. Identifying the mechanisms underlying stress coping strategies is particularly important during adolescence, a period characterized by significant psychological and social changes that can heighten vulnerability to stress.

Personality traits play a key role in shaping how individuals perceive and respond to stressors. Certain traits may predispose individuals to more adaptive coping strategies, while others may increase susceptibility to maladaptive responses. For the purposes of this research, we decided to examine personality traits within the framework of the Zuckerman-Kalman five-factor model of personality. The dimensions of this model are: *Activity* - general need for activity, as well as anxiety in situations where there is no possibility to satisfy this need, and the tendency towards difficult and challenging jobs

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(work activity); *Aggressiveness* - verbal aggression, rude, reckless behavior, malice, vindictiveness, and impatience; *Impulsive Sensation Seeking* - impulsive reactions and a need for excitement and novelty; *Neuroticism/anxiety* - emotional distress, tension, worry, fearfulness, and sensitivity to criticism; *Sociability* - propensity to socialize and party, and tolerance to social isolation (Zucerman et al., 1999).

In addition to personality, the ability to mentalize—that is, to understand one's own and others' mental states—may also influence stress regulation. The concept of mentalization was defined by Fonagy and Bateman as a mental process during which someone implicitly or explicitly interprets their own or other people's actions as meaningful based on intentional mental states such as desires, needs, feelings and intentions (Bateman & Fonagy, 2004). Mentalization facilitates emotional self-regulation and social interaction, which are crucial aspects for effective coping. However, the extent to which personality traits and mentalization jointly contribute to stress coping strategies remains an open question.

Coping strategies play a vital role in helping adolescents adapt to these challenges. Personality traits are key factors that influence how adolescents cope with stress. Stress coping strategies can be presented as a process of investing cognitive and behavioral efforts with the help of which the external or internal demands placed on the person are reduced (Lazarus & Folkman, 1987). Parker and Endler (1992) identified three primary coping strategies: *Problem-focused coping:* Addressing the source of stress through problem-solving, seeking information, planning, taking action, and cognitive reconceptualization; *Emotion-focused coping:* Managing negative emotions associated with stressors and *Avoidance-oriented coping:* Avoiding stressful situations through social diversion or distraction.

2. Method

2.1. Objective

The aim of the research was to examine whether personality traits and mentalization can predict stress coping strategies among adolescent.

2.2. Sample

The sample was convenience and consisted of 291 respondents (N_{Female} = 72.5%), high school students and first and second year students at the Faculty of Philosophy in Niš, Serbia. The average age was 19.19 years (SD = 1.37), while the age range was from 18 to 24 years (M = 19.19; SD = 1.37).

2.3. Instruments

Personality traits were measured using **Zuckerman-Kuhlman Personality Questionnaire** - 50 - CC (ZKPQ-50-CC; Aluja et al., 2006) contains 50 true and false statements, and 5 subscale. In this research measures of reliability were: activity α = .70, aggressiveness α = .62, sociability α = .74, impulsive sensation seeking α = .62, neuroticism α = .74.

The Questionnaire for Mentalization Assessment - QM (MentS; Dimitrijević, Hanak, Altaras-Dimitrijević, & Jolić-Marijanović, 2017). The questionnaire contains three subscales (28 items): mentalizing one's own states, mentalizing others' states and motivation for mentalizing. In this sample, the scale has satisfactory internal consistency reliability of the measurement (mentalization of self: α = 0.74; mentalization of others: α = 0.82; motivation to mentalize: α = 0.67).

CISS - Coping Inventory for Stressful Situations (Endler & Parker, 1990). The questionnaire has 48 items divided into three subscales: problem-focused strategies, emotion-focused strategies, and avoidance-focused strategies. The reliability of the problem-focused strategy scale is α = .85, the emotion-focused strategy scale is α = 0.85, while the reliability of the avoidance-focused strategy scale is α = 0.83.

3. Results

In the following, the basic descriptive statistical results are presented first.

Table 1. Descriptive statistics.

Variables	AS	SD	Min	Max	Sk	Ku
Activity	3.99	2.21	0.00	9.00	.13	-.74
Aggression-hostility	4.41	2.32	0.00	10.00	.18	-.63
Sensation Seeking	5.10	2.30	0.00	10.00	.09	-.58
Neuroticism	5.07	2.48	0.00	10.00	-.03	-.94
Sociability	4.38	2.53	0.00	10.00	.14	-.89
Mentalization of self	29.70	7.00	12.00	45.00	-.15	-.49
Mentalization of others	38.21	7.51	17.00	50.00	-.64	.15
Motivation for mentalizing	32.07	5.34	15.00	45.00	-.26	.23
Task-focused	55.75	9.79	16.00	80.00	.13	-.74
Emotion-focused	46.22	11.39	18.00	79.00	.18	-.63
Avoidance-focused	46.47	11.98	21.00	75.00	.09	-.58

The results of the regression analysis follow.

Table 2. Regression analysis.

	β	t	p	
Task-oriented coping				$R^2 = .18$, $F_{8,221} = 7.16$, $p < .001$)
Activity	.21	3.08	.002	
Motivation for mentalization	.29	3.42	.001	
Emotion-oriented coping				$R^2 = .40$, $F_{8,220} = 18.33$, $p < .001$
Aggressiveness	.16	2.92	.004	
Neuroticism	.56	10.25	.001	
Mentalization others	.14	1.93	.050	
Avoidance-oriented coping				$R^2 = .12$, $F_{8,221} = 3.86$, $p < .001$
Impulsive sensation seeking	.23	3.06	.002	
Sociability	.16	2.17	.031	

For task-oriented coping with stress, the model consisting of personality traits and mentalization explained 18% of the total variance. Significant predictors were activity and motivation for mentalization. The model within emotion-focused coping explained 40% of the variance, while the significant predictors were aggressiveness, neuroticism and mentalization others. For avoidance-oriented coping, the model explained 12% of the total variance. Significant predictors were impulsive sensation seeking and sociability.

4. Discussion and conclusion

The aim of the research was to examine whether personality traits and mentalization can predict coping strategies with stress. The results showed that neuroticism, which is characterized by emotional distress, tension, anxiety, fear, and sensitivity to criticism, contributes most to an emotion-focused coping strategy, as expected. The overflow of unpleasant emotions should first be remedied and then focused on other strategies. However, given the overflow of negative emotions in various stressful situations, a person may avoid everything that threatens emotional balance, even for the development of positive, albeit stressful stimuli, such as exam situations, speaking up in a broader social context, etc. (Schneider, 2004). Aggression also contributes to this coping strategy, because it also leads to an unpleasant emotional imbalance. Mentalizing others helps us predict the intentions and reactions of people around us and thus avoid or prepare for unpleasant situations and reduce stress. Enjoying company distracts us from serious situations, provides us with social support and alleviates the consequences of stress. The search for new excitement makes it difficult to focus on the problem if we find ourselves in a stressful situation, but it also distracts us from potentially mitigating the effects of stress. However, it also distracts us from seeking more mature actions that can help us overcome stress. Activity and initiative direct efforts to deal with stressful situations and reflect a proactive attitude towards reality. Of course, people who are characterized by pronounced activity probably do not have such a pronounced palette of negative emotions, which are experienced by a person with pronounced neuroticism. Finally, the motivation for mentalization is also a reflection of a kind of proactive attitude towards people, and the environment and as such facilitates focus on problem solving in stressful situations.

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THE MEANINGS OF VERBAL MESSAGES ABOUT THE RISK OF SIDE EFFECTS

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Abstract

Cultural changes are reshaping the doctor-patient relationship, highlighting the importance of shared decision-making in treatment. This process requires physicians to present statistical data on treatment effectiveness and potential side effects. However, understanding numerical risk can be difficult for patients, often making verbal descriptors necessary. The way these labels are interpreted influences risk perception and treatment choices. This study explored how people perceive words describing the frequency of side effects and evaluated their unambiguity. A total of 175 participants assigned percentage values to 13 verbal labels and assessed their clarity. The results revealed how verbal labels were understood and perceived in terms of unambiguity. Discrepancies emerged between laypeople's interpretations and the official European Medicines Agency. These findings highlight the need for further research to improve risk communication in medical settings.

Keywords: *Risk perception, shared decision-making, side effects, verbal labels.*

1. Introduction

In recent years, more and more patients want to actively participate in the medical decision-making process, working together with their doctors to choose the appropriate treatment (Chewning et al., 2012). This shift stems from growing patient awareness and the need for greater autonomy in health-related matters. As a result, physicians are expected to not only present available treatment options but also provide reliable information on their effectiveness and potential risks. This requires clear communication, often involving the presentation of statistical data in a way that is understandable to patients. Effectively conveying this information is crucial for shared decision-making, influencing both patient trust and satisfaction with the treatment process.

Presenting risk using numerical data is a more effective way of communicating risk than relying on verbal labels (Büchter, Fechtelpeter, Knelangen, Ehrlich, & Waltering, 2014). When informing patients about the uncertainty associated with the side effects of a particular treatment, numerical data are recommended as they provide a more neutral presentation. In contrast, verbal labels often carry implicit values and can significantly shape patients' perceptions (Knapp et al., 2009). However, in medical practice, there are situations where verbal risk expressions are necessary. This occurs when patients have low numeracy and may struggle to analyze data. Even patients with strong numerical skills may feel overwhelmed by emotions during medical consultations, which can make it more difficult for them to interpret statistical information. Moreover, conversations about health risks often involve elderly patients, who may face age-related cognitive decline. In these situations, verbally labeling numbers is one method of simplifying the data. Rather than saying, "This side effect occurs in fewer than 1 in 1,000 people," a physician can say, "This side effect is rare." Everyday conversation naturally incorporates verbal risk expressions and people commonly describe events as "common" or "rare". In conclusion, despite the challenges associated with verbal risk expressions, they remain an integral part of medical practice. It is essential to understand how people understand the meaning of verbal risk labels to ensure effective risk communication with patients.

The theoretical framework for the study was Fuzzy Trace Theory (FTT) (Reyna & Brainerd, 1995). FTT posits that in response to a stimulus, people encode multiple mental representations of their experience at the same time. These representations range in specificity from low (gist representations) to high (verbatim representations). A verbatim representation is a mental representation of exact details (e.g., the word, number, or color), reflecting its literal value (e.g., 7%) and playing a crucial role in analytical reasoning. In contrast, a gist representation is a fuzzy impression of the general meaning of information supporting

intuitive thinking. The fundamental premise of FTT is that when evaluating a situation, people rely more on the gist representation and the underlying meaning of the communicated message rather than on its literal wording. In a verbal message, the representation of the gist is linked to the semantic connotations of the expressions used. Consequently, the recipient's lifetime exposure to the particular verbal term influences the primary message they comprehend. For example, if a person processes a message stating that a particular side effect is common, it activates associations with the word 'common'.

2. Design

This study employed a cross-sectional survey design using an anonymous, self-administered questionnaire. The study was part of a larger project on best practices for communicating risk to patients (Olchowska-Kotala, 2021).

3. Objectives

The goal of this study was to find out how people understand words referring to the frequency of a side effect of medical treatment. Furthermore, the respondents' perceptions of the unambiguity of these verbal risk labels were assessed. Considering that no previous research in Poland has examined the semantic connotations of words used to describe side effects, the study was exploratory in nature.

4. Methods

Respondents were asked to adjust percentages for 13 verbal labels (never; hardly ever; very rare; rare; unlikely to occur; uncommon; may occur; moderate risk of occurrence; probably; likely; common; very common; certainly) related to the frequency of a side effect, i.e., headache, and to indicate how unambiguous they found the verbal label. Unambiguity was assessed using a bipolar scale with numerical indicators at both endpoints ranging from 1 to 5, the higher the number the more unambiguous the term. The order of the verbal labels to which percentage values and clarity were appended was rotated.

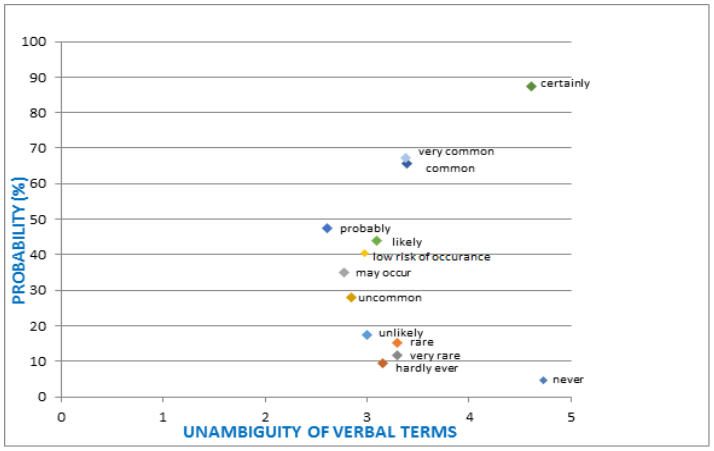
4.1. Participants

The survey was conducted in Poland with a convenience sample of participants who were recruited from a population of adults attending outpatient clinics by trained research assistants. A total of 175 respondents (102 women and 73 male) aged 40-90 years (M_{age}=56.4; *SD*=11.7) participated in the study. Participants' educational level was as follows: 19% had basic/vocational education, 37%, completed secondary school and 44% had graduated from college or university. To be eligible for the study, participants had to be: (a) aged 40 and over, (b) literate (individuals with signal difficulties in reading or interpreting questions were excluded), and (c) lacking any medical condition that would affect their ability to participate. All participants were informed about the purpose of the study and provided informed consent.

5. Results

The study revealed the semantic connotations of verbal terms used to describe potential side effects of treatment. The observed standard deviations indicate how much individuals differ in their interpretation of a given verbal expression (never: *M*=4.23; *SD*=17.35; hardly ever: *M*= 9.59; *SD*=12.23; very rare: *M*= 11.79; *SD*=11.97; rare: *M*=15.33; *SD*=14.27; unlikely to occur: *M*=17.41; *SD*=14.33; uncommon: *M*=27.97; *SD*=17.46; may occur: *M*=34.91; *SD*=18.40; moderate risk of occurrence: *M*=40.54; *SD*=13.95; probably: *M*=44.01; *SD*=23.39; likely; *M*=47.49; *SD*=13.95 common; *M*=65.60; *SD*=25.23; very common: *M*=67.21; *SD*=22.58; certainly: *M*=87.51; *SD*=24.83). The words used to describe potential risk of a side effect also differed in the degree to which they were unambiguous to the subjects. The study enabled the creation of a 'map' (Figure 1) to illustrate what the various verbal labels of risk mean to respondents and how clear they appear to them.

Figure 1. A map of verbal labels. X-axis: unambiguity; Y-axis: attributed frequency of side effect.



6. Discussion

How patients interpret the words is important, because verbal risk labels appear not only in the case of side effects, but also when taking a history and making recommendations to the patient. Verbal risk labels appear during almost every medical consultation. The study revealed how far the numerical values people assign to verbal risk statements differ from the recommendations made by the European Medicines Agency (EMA). For instance, according to patients' mean indications, a headache is "common" if it occurs in more than 65% of cases; however, the EMA recommendations and descriptions on Polish medication pamphlets define "common" as a side effect that occurs in less than 10% of patients. Researchers conducting studies on populations from other countries have come to similar conclusions about the discrepancy in the EMA's recommendations and the meaning patients assign to words (Knapp et al., 2009).

The study found that people have different understandings of verbal determinations of the frequency of side effects. When informing the patient about the risk of treatment with verbal terms, it is essential to take into account this difference in interpretation. Using the terms of fuzzy trace theory, it can be said that the same word can lead to varied traces of meaning resulting from experience with a given verbal term. The experience accumulated during life determines the range of meaning of such terms as ‘rare’ or ‘common’.

7. Conclusions

Words describing the frequency of a side effect may be understood differently by laypeople. The demand for more research on this topic has been revealed. A deep analysis of the meaning of the words used to describe the risk of potential side effects of treatment is needed. It seems advisable for linguists and psychologists to conduct joint research to identify words or verbal descriptors that most closely correspond to the presented numerical values. Such studies need to be conducted independently in each country due to the semantic and cultural connotations of the given language.

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Virtual Presentations

THE RELATIONSHIP BETWEEN DARK TRIAD, ATTACHMENT STYLES AND DEPRESSIVE SYMPTOMS: LAWYER SAMPLE

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Abstract

This cross-sectional study examines the relationship between attachment styles (avoidant and anxious), the Dark Triad (Machiavellianism, narcissism, and psychopathy), and depressive symptoms among Turkish lawyers aged 22–65. The sample is being collected via snowball sampling through online channels. Participants complete a sociodemographic form, the Experiences in Close Relationships Inventory, the Abbreviated Dark Triad Scale, and the Beck Depression Scale via Survey. Data collection is ongoing, and analysis will be conducted using SPSS 21. Findings indicate that Dark Triad traits predict each other, with professional satisfaction also playing a role, while attachment styles and depression do not predict Dark Triad traits. Given that lawyers frequently interact with perpetrators and victims, their psychological resilience, depressive tendencies, and relationship attitudes may be influenced. Understanding these dynamics could contribute to the literature.

Keywords: *Dark triad, attachment styles, depression, forensic psychology, criminology.*

1. Introduction

Psychologists have explored the link between legal careers and personality, identifying a distinct "lawyer personality." Richard (2002) describes lawyers as skeptical, autonomous, and judgmental, with traits like argumentativeness, introversion, and impatience. Successful lawyers are often competitive, resilient, and ego-driven (Daicoff, 2004), emotionally detached, materialistic, and principled in decision-making (Daicoff, 2004). Compared to psychology students, law students show higher levels of Dark Triad traits—Machiavellianism, narcissism, and psychopathy (Vedel & Thomsen, 2017). Lawyers rank second in psychopathy after CEOs (Dutton, 2013).

The Dark Triad reflects emotional coldness and dishonesty (Paulhus & Williams, 2002). Machiavellianism entails manipulation and detachment (Al Aïn et al., 2013), narcissism involves grandiosity and fragile self-esteem (Borráz-León & Rantala, 2021), while psychopathy is marked by impulsivity and low empathy (Paulhus & Williams, 2002). These traits are linked to short-term mating and relationship issues (Jonason & Buss, 2012; Koladich & Atkinson, 2016).

Attachment theory associates Machiavellianism and psychopathy with insecure attachment and low parental care (Connor et al., 2020; Jonason et al., 2014; Bailey & Shelton, 2014), while narcissism's connection to attachment anxiety remains complex (Jonason et al., 2010).

Dark Triad traits also impact mental health, though inconsistently. Psychopathy and Machiavellianism have mixed links to depression (Stinson et al., 2005; Al Aïn et al., 2013; Beck et al., 1996), while narcissism is tied to both well-being and distress (Rose & Campbell, 2004). A meta-analysis found all three traits correlated with poor mental health and interpersonal problems, especially psychopathy (Muris et al., 2017). Gender may moderate these effects, with women reporting more distress (Međedović et al., 2018). Grandiose narcissism is linked to depression, while lower narcissism may be protective (Marčinko et al., 2014). These findings suggest a multidimensional approach is essential to understanding the Dark Triad's role in mental health.

2. Materials and methods

This cross-sectional study examines the associations between attachment styles (anxious and avoidant), the Dark Triad traits (Machiavellianism, narcissism, psychopathy), and depressive symptoms in 62 Turkish lawyers aged 22–65. Data were collected via an anonymous online survey using snowball

sampling between December 2024 and February 2025. Ethical approval was granted by the Fatih Sultan Mehmet Vakıf University Ethics Committee (Date: 05.12.2024, No: 42/08), and informed consent was obtained.The Short Dark Triad scale assessed Machiavellianism (α = .79), narcissism (α = .70), and psychopathy (α = .79; Özsoy et al., 2017). Attachment styles were measured using the ECR-II (α = .86 for anxiety, .90 for avoidance; Selçuk et al., 2005). Depressive symptoms were evaluated with the Turkish version of the Beck Depression Inventory (α = .80, .74; Hisli, 1989).

Data analysis was conducted using SPSS 26.0. Frequencies described nominal data, and means or medians were reported for quantitative variables based on distribution. Group comparisons used independent samples T-tests or Mann-Whitney U tests. Hierarchical regression analyses identified predictors of depression, with significance set at $p < .05$ (two-tailed).

3. Findings

A frequency analysis showed that participants (N = 62) had a mean age of 31.95 (SD = 7.90); 66.1% were female and 56.5% were single. Most held a university degree (82.3%), and the majority (59.7%) had 0–5 years of professional experience. Regarding socioeconomic status, 61.3% identified as middle class. Over half (58.1%) had received psychological support. Job satisfaction was mostly neutral (53.2%), with smaller proportions reporting high or low satisfaction.

Mean scores for the Dark Triad traits were as follows: Machiavellianism = 28.58 (SD = 5.75), narcissism = 27.10 (SD = 5.83), and psychopathy = 19.94 (SD = 5.83), with a total mean score of 75.61 (SD = 11.70). Anxious attachment averaged 3.79 (SD = 1.34), avoidant attachment 2.87 (SD = 1.07), and Beck Depression Inventory scores indicated mild to moderate depressive symptoms (M = 17.17, SD = 10.65).

Normality testing (Kolmogorov-Smirnov) revealed non-normal distributions for psychopathy and anxious attachment ($p < .05$), leading to Spearman's correlation analysis. Significant positive correlations were observed among the Dark Triad traits: psychopathy ($r = .604$), narcissism ($r = .766$), and Machiavellianism ($r = .711$), all $p < .01$. Additionally, narcissism and Machiavellianism ($r = .264$, $p < .05$), depression and anxious attachment ($r = .536$, $p < .01$), and psychopathy and anxious attachment ($r = .252$, $p < .05$) were positively correlated.

An independent samples t-test revealed that single participants scored higher in Machiavellianism than married participants ($p < .05$). A Mann-Whitney U test showed individuals with a history of psychological support had significantly higher anxious attachment ($p < .05$). ANOVA results indicated that Machiavellianism differed by professional experience, with higher scores among those with 10–15 years of experience compared to 5–10 years ($p < .05$). Depression levels also varied by job satisfaction, with those reporting very low satisfaction scoring highest ($p < .05$).

Hierarchical regression analysis showed that: Machiavellianism was negatively predicted by age ($\beta = -.285$, $p < .05$) and positively predicted by psychopathy ($\beta = .364$, $p < .05$). Demographics, attachment, and other traits together explained 44% of the variance. Narcissism was primarily predicted by psychopathy ($\beta = .434$, $p < .05$), while other variables were not significant. Total explained variance was 40%. Psychopathy was significantly predicted by both Machiavellianism ($\beta = .274$, $p < .05$) and narcissism ($\beta = .297$, $p < .05$), with the final model accounting for 45% of the variance.

In summary, Dark Triad traits were closely linked to one another, and psychopathy consistently emerged as a key predictor of both Machiavellianism and narcissism. Attachment styles and depression did not significantly predict Dark Triad traits, though anxious attachment was associated with higher depression. Demographic factors had limited effects, with some influence from age and professional satisfaction.

4. Discussion

This cross-sectional online study explored the relationship between lawyers' Dark Triad traits, attachment styles, and depression. Most participants were women, had a middle socioeconomic status, sought psychological help, and had 0–5 years of professional experience, with generally neutral job satisfaction. Despite their significant societal roles, lawyers remain underexplored in psychological research, though prior studies link Dark Triad traits to low empathy. Law students exhibit higher psychopathy than medical students (Wilczek-Rużyczka-Kupczyk & Polska, 2017), and psychopathic traits are associated with leadership and high-risk professions like law (Lilienfeld et al., 2014). Dutton (2012) ranked law second for psychopathy, highlighting emotional control, stress management, and confidence as key traits. Correlation analysis revealed positive associations between the Dark Triad and depression, as well as between anxious and avoidant attachment. Psychopathy correlated positively with anxious attachment, consistent with findings linking Dark Triad traits to empathy deficits. The relationship between

attachment and narcissism remains inconsistent; some studies suggest highly narcissistic individuals experience lower attachment anxiety due to inflated self-esteem and a tendency to view partners as replaceable (Foster & Campbell, 2005; Campbell et al., 2002). Psychopathy correlates with disorganized attachment, with primary psychopathy linked to attachment avoidance (Brewer et al., 2018; Mayer et al., 2019). Machiavellianism has been associated with both anxious and avoidant attachment, particularly in women (Brewer et al., 2018; Nickisch et al., 2020), as Machiavellians tend to manipulate others and prefer low-commitment relationships (Abell et al., 2016; Ali & Chamorro-Premuzic, 2010; Jonason & Buss, 2012). However, no significant relationship between Machiavellianism and attachment was found in this study, suggesting the need for more detailed attachment measures.A strong positive relationship was observed between depression and both anxious and avoidant attachment, aligning with previous studies linking insecure attachment to higher depression (Davis et al., 2016; Merz & Consedine, 2012; Zhang et al., 2016; Zheng et al., 2020). Machiavellianism was higher among single participants, consistent with Hussain et al. (2023) and Schmitt et al. (2016). Lower depression scores were found among those with higher job satisfaction, supporting research on job satisfaction's protective role against depressive symptoms (Zhang et al., 2020; Villarreal-Zegarra et al., 2022; Yang et al., 2022).

Machiavellianism was predicted by age and psychopathy, with younger individuals exhibiting higher levels (D'Souza & Lima, 2018; D'Souza, 2020). Narcissism was influenced by professional satisfaction and psychopathy, with greater satisfaction linked to higher narcissism (Abbas & Kant, 2017). Psychopathy was predicted by job satisfaction, Machiavellianism, and narcissism, with lower satisfaction correlating with higher psychopathy, consistent with Boddy (2011). While psychopathic individuals may be excluded from rewards, their strategic thinking and communication skills can aid managerial success (Foulkers et al., 2014). This study has limitations. The small sample size may have affected normality assumptions and increased error margins. Online data collection might have excluded rural lawyers or those outside online networks, leading to underrepresentation from various cities. Despite reliable measures, self-report biases may have influenced results. The lack of clinical interviews limits psychopathology assessment, as symptom rates rely solely on psychometric tools. The cross-sectional design prevents causal conclusions, and using stratified random sampling instead of snowball sampling could have enhanced external validity.

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SELF-MEANING BASED THERAPY: AN INTEGRATIVE MODEL OF PSYCHOTHERAPY

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Abstract

Described as groundbreaking, transformative, innovative, and pioneering with great integrative reach, the heart of Self-Meaning Based Therapy (SMBT) is the uncovering of one's core negative Self-Meaning (SM), which lies deeply within the unconscious. SMBT is an approach to psychotherapy based firmly on the understanding that we are inherently relational, meaning-making beings, and that difficult to traumatic events shape our primary experiences of connection within ourselves, with others, and with the world. Such experiences leave us with the need to make sense of *why*. This *why* takes primary form in a negative, core self-definition, or SM. While primitively functional, it becomes an internalized relational template that can unconsciously wreak havoc on one's life across time. The subjective phenomenology of one's SM tends to remain out of day-to-day awareness, sometimes wholly, until activated. While we are able to consciously name our SM, we are unable to heal it consciously. Conventional methods of talk therapy are therefore insufficient toward this end. Our SMBT method is designed to allow direct access to the lived experience of our SM where it can be reworked and transformed. This paper introduces SMBT, its model and method, as well as its capacity to emancipate those we work with in therapy toward a newly realized psychological freedom.

Keywords: *Self-meaning, unconscious, phenomenology, bilateral stimulation, freedom.*

1. What is SMBT?

SMBT is an approach to psychotherapy based firmly on the understanding that we are inherently relational, meaning-making beings, and that early familial encounters especially shape our primary experiences of ourselves and the world, and the meanings made of these experiences (Carlsen, 1988; Park & Ai, 2006; Park & Folkman, 1997). We assume Frankl's (1962) view that the creation of meaning is a primary motive for living, as well as Kegan's (1982) bold contention that the activity of being a person *is* the activity of meaning-making. We further maintain that interactions with primary others are fundamental, if not primary, sources of meaning-making. In their article about intersubjectivity, Harrison & Tronick (2022) eloquently point out that the Still Face paradigm aptly demonstrates the inextricable relationship between intimate relating and meaning-making. In the Still Face experiment, they state, infant and caregiver co-communicate through affect, facial expressions, and vocalizations, creating rhythms and patterns of expression that allow the infant to establish meaning about her relationship to her mother. As the experiment demonstrates, when an infant is deprived of such communication, distress and psychological decompensation occur, as the infant is unable to self-regulate and soothe by way of a mirrored connection to her mother. Indeed, early mirrored connection is the basis of our most fundamental sense of self; in the words of Winnicott (2018) what the infant looks like is related to what she sees there. As the infant grows through a "good enough" mirror role of her parent, she becomes able to develop an integrated sense of self and the self-in-relation (Pederson, Poulsen, & Lunn, 2014). That is, through a fundamentally relational, meaning-making process, the child develops what we will be calling a *Self-Meaning (SM),* which also becomes the foundation of one's self-in-relation to significant others. More on this forthcoming.

Given that flawless parenting and perfect contextual influences in which to grow up do not exist, each of us has experienced to a greater or minor extent nonideal circumstances from which to make sense of ourselves, others, and our world. Certainly, in many cases, these situations can be so detrimental that existence itself becomes debilitating. At the very least, imperfect interpersonal interactions in childhood leave us with relational needs unfulfilled, for which we are left to make sense of *why*. By way of meaning-making processes based on normal magical thinking (Rosengren & French, 2013) and adaptive

egocentrism characteristic of early childhood (Bjorklund & Green, 1992), young children necessarily assume personal responsibility for this *why* (Piaget, 1932; Nielson, 2012; Samide & Stockton, 2002). "It must be because of who I am" captures the essence of the intuitive reasoning invoked, and is very characteristic of the early, primitive omnipotence all young children share (Chertischev, 2022). While primitively functional, negative self-meanings unconsciously created during childhood become relational templates, or internalized object relations, that carry forward into adult life (Kernberg, 1988; Sandler, 1990), where they often unconsciously wreak havoc in our intimate relationships where they continue to thrive. The work of Hazan and Shaver (2017) and many others such as Simpson, Collins, Tran, and Haydon (2007) clearly demonstrate the role and staying power of early attachment dynamics in influencing relational patterns formed between adult intimates. In our work with patients, we have found that these early negative self-meanings become cornerstone understandings, albeit false ones, which reliably come to influence the dynamics of primary intimate relationships in adulthood. In fact, these self-meanings have the power to organize most aspects of our relational lives. SMBT is designed to liberate us from these unconscious, self-created lies while emancipating the truth of who we really are.

2. The SMBT model

Our negative SM constitutes our most basic sense of self, developed in early childhood, that crystalized, explained, or otherwise justified why important needs weren't met, or why one was overtly harmed, in some cases terribly and repetitively. In its most shorthand form, the SM can be captured by the phrase, "I am _____," for example, "I am bad," along with its visual, auditory, visceral, sensory, somatic, and symbolic expressions. The SM is best understood as an *unintegrated experience*, one that can even defy verbal and rational description, insofar as it tends to be *lived* at a place before words. As such it is the *experience* of one's core SM that becomes the distinct focus of SMBT.

We have found that the subjective *phenomenology* of one's core SM tends to remain out of our day-to-day awareness, sometimes wholly, until activated or otherwise relationally triggered. While patients, with the help of their therapists, may be able to consciously name and identify aspects of their SM, as in the example of Lawrie's patient above, we have found that the SM is unamenable to change at the conscious level by way of cognitive, rational, behavioral, insight-oriented, imaginal, and emotion-focused strategies. As such, we posit that most talk therapy approaches—which we each have utilized ourselves for over 25 years—are insufficient toward this end. In light of this, our SMBT method is designed to allow patients direct access to the lived experience of their SM, where it can be directly reworked and transformed

2.1. The method of SMBT

We are in full agreement with Carhart-Harris et al. (2014) that psychoanalytic insights can make extremely useful contributions to the mind sciences, as it bridges the gap between the limits of cognitive psychology, which tends to define the self from the vantage point of verbal and rational meaning-making, to the exclusion of more primary sources of self-definition. Indeed, cognitive psychology rarely acknowledges pre-ego types of cognition associated with primitive states of awareness. We also find relevant the authors' discussion of primary consciousness and primary states of awareness as differentiated from waking consciousness, or what they term secondary consciousness. They argue that primary states of awareness, including those altered by psychedelics, those associated with REM sleep, as well as the onset of psychosis, and the dream-like state that comes with temporal lobe epilepsy, are all examples of primary states of consciousness. The authors also go on to suggest that the brain's default-mode network (DMN), one of the most talked about topics in the neuroscience literature, functions to organize waking consciousness while suppressing or filtering out information from primary consciousness in order to create an ordered reality. A primary function of the DMN, as Lanius, Terpou, & McKinnon (2020) point out, is to also provide the foundation for a continued experience of the self across time, sometimes referred to as autonoetic consciousness, such that self-relevant information and events associate to give us our sense of self in time. We contend that our SM is expressed primarily in forms consistent with the mode of primary consciousness: through nonverbal and nonconscious memories, imagery, bodily and visceral sensations, and raw, primitive emotions. By definition, these states lie outside of time and are devoid of rational and abstract thinking. Again, our clinical experience consistently confirms that while our SM may be partially available to us at a preconscious level where it can be named, we must access it's lived experience, via our primary consciousness where its full expression resides, in order to transform it. Moreover, the method utilized to do so must bypass our everyday secondary consciousness, which is at least partially designed to keep the experiences of this negative SM at bay. At best, then, such a method would modulate the DMN which functions, in part, to prevent access to primary states of awareness.

2.2. The effectiveness of bilateral stimulation

Empirical support for the effectiveness of BLS has found that, especially in treating trauma, it contributes to experiencing less vivid and unpleasant memories (Andrade, Kavanagh, & Baddeley, 1997; Barrowcliff, Gray, Freeman, & Macculloch, 2004; Kavanagh, Freese, Andrade, & May, 2001; Van den Hout, Muris, Salemink, & Kindt, 2001); activates and stimulates both brain hemispheres simultaneously, which enhances processing and integration (Baldwin & Bourne, 2020; Castelnuovo, Fernandez, & Amann, 2019; Herkt et al., 2014) deactivates amygdala activity, decreasing distress associated with traumatic experiences (deVoogd et al., 2018); reduces stress-related cortisol and anxiety (Leal-Junior, Casalechi, Machado, Serin, Hageman, & Hohnson, 2019); and increases limbic processing (Herkt et al., 2014).

2.3. The method of SMBT

The method of SMBT entails three general phases: 1) Embodying the required qualities of the Self-Meaning Based (SMB) therapist; 2) Preparing the patient for processing the core SM, and resourcing the patient prior (Korn & Leeds, 2002; Murray, 2016; Parnell, 2008); and 3) BLS-based Processing of the patient's core SM. Each phase is described below only briefly, as each consists of more nuance and detail than can be captured here.

2.4. Outcomes of SMBT: Emancipation of the true self

In our experience, several reliable, observable, and experiential outcomes are realized by patients who undergo SMBT. The essential ones are summarized here.

SMBT completely dismantles one's core SM. We have found that those who fully undertake SMBT realize a complete dismantling of the core, negative SM that in most cases organized their entire lives, such that they become free to experience significant shifts in their intra- and inter-relational psychology.

With this complete dismantling, positive, truth-based self-meanings naturally emerge. We have found that the undoing of one's negative SM organically allows for more truth-based self-meanings to emerge.

With this complete dismantling, Compensatory Strategies developed to offset, deny, or hide one's core negative SM are also neutralized, and more adaptive styles of life naturally emerge.

SMBT is effective for both single incident and complex trauma. SMBT potentially benefits anyone, to the extent that we all carry within us a negative SM.

SMBT ultimately potentiates our psychological freedom. We believe that SMBT has the capacity to awaken within us what Carl Rogers calls the mainspring of creativity, or our inherent tendency to actualize ourselves, marked by an inner urge to expand, extend, develop, and mature our fullest selves (Bohart, 2013).

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THE RELATIONSHIP BETWEEN DARK TRIAD, ATTACHMENT STYLES AND DEPRESSIVE SYMPTOMS: MEDICAL DOCTOR SAMPLE

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Abstract

The aim of this cross-sectional study is to examine the relationship between attachment styles (avoidant and anxious attachment), Dark Triad (Machiavellianism, narcissism, and psychopathy), and depressive symptoms of medical doctors between the ages of 22-65 working in Turkey. The sociodemographic form, Experiences in Close Relationships Inventory, Abbreviated Dark Triad Scale, and Beck Depression Inventory prepared by the researchers were used in the study. The sample group was reached using the snowball sampling method and through online channels. A total of 77 medical doctors were reached. After the data collection phase is completed, statistical analysis will be performed with the SPSS 21 package program. Within the scope of the research, Independent Samples t Test and Mann-Whitney U test were used to determine the significance of the difference between two variables. The relationships between the independent and dependent variables of the study were examined with Pearson and Spearman Correlation Analysis and Linear Regression Analysis. It was examined whether there were any differences in attachment styles and depression according to the doctors' areas of specialization (surgeon and non-surgeon). In the study, it was observed that the total mean scores of the dark triad traits, Machiavellianism and psychopathy of doctors specializing in surgery were significantly higher than those of non-surgeons. Significant and moderate positive correlations were observed between anxious attachment and avoidant attachment scores and depression.

Keywords: *Dark triad, attachment styles, depression, medical doctors, surgeons.*

1. Introduction

This study seeks to answer the question of whether there are differences between surgeons and non-surgeons in terms of their dark triad personality traits. Surgeons need to have a certain level of intelligence, skills, and work discipline in order to reach their current position in their profession. Due to their position, surgeons are respected both in society and the medical community. In addition to intelligence, skills, and work discipline, a surgeon is also expected to have certain skills in areas such as being able to continue working under pressure and in difficult situations and risk management (Başkavak, 2023). Whether surgeons exhibit their own personality traits is a subject of research. Various studies have investigated the "surgeon personality" (McGreevy & Wiebe, 2002; Sier et al., 2022; Whitaker, 2017). These studies share similar results regarding surgeon personality. It can be observed that surgeons show less neurotic and more extroverted personality traits (Sier et al., 2022) compared to people who are not interested in being surgeon, and similar results occur among doctors who specialize in surgical branches and doctors who are not specialized in surgical branches (Whitaker, 2017). Paulhus and Williams (2002) named the aggressive but also non-pathological personality traits of Machiavellianism, narcissism and psychopathy as the Dark Triad. All three are socially malignant character traits and include behavioral tendencies toward positive self-presentation, emotional coldness, hypocrisy, and aggression. Machiavellianism is characterized by moral indifference, using and exploiting others in line with one's interests, while narcissism is associated with grandiosity, seeing oneself as superior and more important, and being self-centered. Psychopathy includes characteristics such as emotional ruthlessness, lack of remorse, and risky behavior. One of the aims of this study is to examine whether there are differences in Dark Triad personality traits between surgeons and non-surgeon doctors. Factors such as the high social status of surgeons (Smith, 2018), the intense competitive environment in this profession and the need to minimize emotions during challenging surgical conditions (Mullins-Sweatt et al., 2006) create an element of curiosity for examining this professional group.There are various studies observing the relationship between Dark Triad personality traits and attachment styles (Jonason et al., 2012; Mikulincer & Shaver, 2019).

Additionally, there are various studies observing the relationship between Dark Triad personality traits and depressive moods (Paulhus & Williams, 2002; Kowalski et al., 2018). This study aims to examine the relationship between medical doctors' Dark Triad personality traits, depression, and attachment styles. Additionally, exploring these relationships in the context of doctors' specialties is expected to contribute to the existing literature.

2. Materials and methods

Participation in the study was voluntary and no identifying information was requested from the participants. A questionnaire form including Informed Consent Form, Personal Information Form, Experiences in Close Relationships Inventory-II, Abbreviated Dark Triad Scale, and Beck Depression Inventory were applied to the participants. The administration of the questionnaire form took approximately 8-10 minutes and 77 participants between the ages of 22-65 were reached within the scope of this study. The participants were reached by snowball sampling method. All the participants were medical doctors. Informed consent was obtained from all participants, and ethical approval was granted by Fatih Sultan Mehmet Vakıf University Ethics Committee (Date: 05.12.2024). The Experiences in Close Relationships Inventory-II (ECR-II), a 36-item Likert-type scale, assesses anxiety and avoidance. The validity and reliability study by Selçuk et al. (2005) reported Cronbach's alpha coefficients of .86 for anxiety and .90 for avoidance. The Short Dark Triad scale measures three subdimensions: Machiavellianism, narcissism, and psychopathy. The Turkish adaptation by Özsoy et al. (2017) reported Cronbach's alpha values of .79 for Machiavellianism, .70 for narcissism, and .79 for psychopathy. The Beck Depression Inventory, developed by Beck (1974) and adapted into Turkish by Hisli (1989), measures depressive symptoms, with reliability coefficients of .80 and .74 from item analysis and split-half techniques. Cronbach's alpha values of the scales used in the study were examined. After examining the reliability coefficients of the scale and its subdimensions and observing that the reliability coefficients were high, descriptive statistics values were examined. In the study, the numbers and percentage distributions of sociodemographic variables were examined and each scale and its sub-dimension was examined with the Kolmogrov-Smirnov Test, which is a normal distribution test. Since the scales provided the assumption of normal distribution, parametric tests were used in the analysis. Independent sample t-test was used to calculate the difference between the mean scores for binary categorized variables. Pearson and Spearman correlation analysis were used to examine the relationships between the scales and their sub-dimensions. Multiple linear regression analysis was applied to examine the predictors of the dark triad scale. The data collected from the participants using the questionnaire form was transferred to the computer environment. The data transferred to the computer environment was analyzed with SPSS version 21.

3. Bulgular

77 Medical Doctors participated in the study. 55 (71.4%) of the participants were female and 22 (28.6%) were male. There were 21 (27.3%) participants who evaluated their income status as good, 52 (67.5%) participants who evaluated it as moderate, and 4 (5.2%) participants who evaluated it as poor. 60 (77.9%) stated their marital status as married, 15 (19.5%) participants as single, and 2 (2.6%) participants stated that they were in a romantic relationship. Of the doctors who participated in the study, 2 (2.6%) were intern doctors, 18 (23.4%) were general practitioners, 8 (10.4%) were assistant doctors, 35 (45.5%) were specialist doctors, and 14 (18.2%) were surgeons. When asked "If you were to be born again, would you choose the same job?" 15 participants (19.5%) answered "always," 19 (24.7%) often, 23 (29.9) sometimes, 10 (13%) rarely, and 10 (13%) never. When asked "Do you find your job important and meaningful?" 28 participants (36.4%) answered "always," 25 (32.5%) often, 13 (16.9%) sometimes, 5 (6.5%) rarely, and 6 (7.8%) never. The age range of the participants was between 21 and 65 years. The average age was 39.60. The total mean score of the participants from the Dark Triad Scale is 69.35 (SD=12.46), the total mean score of the Machiavellianism sub-dimension, which is a sub-dimension of the Dark Triad scale, is 25.41 (SD=6.43), the total mean score of the Narcissism sub-dimension is 24.80 (SD=5.19), the total mean score of the Psychopathy sub-dimension is 19.12 (SD=4.98). The total mean score of the Avoidant Attachment sub-dimension, which is a sub-dimension of the Close Relationship Experiences Inventory-2, is 52.01 (SD=18.68), the total mean score of the Anxious Attachment sub-dimension is 61.24 (SD=17.32). The total mean score of Depression is 13.46 (SD=9.81). The normality distribution of the scores obtained from the scales was examined with the Kolmogrov-Smirnov test, and as a result, it was observed that only the depression score ($p<.05$) did not show normal distribution. The participants in the study were divided into 2 as surgeons and non-surgeons. There were 14 (%18.2) surgeons and 63 (%81.8) non-surgeons. As a result of the independent sample t-test conducted to examine whether there was a significant difference between the total Dark Triad score averages of these two groups, a statistically significant difference was observed

between the Dark Triad score average of surgeons (M=77.85) and the score average of non-surgeons (M=67.46) (t(75) =-2.964; p<.05). When the Machiavellianism scores were examined, the score average of surgeons (M=29.85) was significantly higher than the score average of non-surgeons (M=24.42) (t(75) =-3.004; p<.05). No significant difference was observed between the mean scores of the two groups in terms of narcissism scores (t(75) =-0.893; p<.05). When the psychopathy scores were examined, it was observed that the psychopathy scores of the surgeons (M=22.07) were significantly higher than the scores of the non-surgeons (M=18.47) (t(75)=-2.527; p<.05). The relationships between the Dark Triad Scale and its subdimensions were examined using Pearson Correlation Analysis. According to the results of this examination, a positive relationship was observed between the Dark Triad score and Machiavellianism score (r=.808; p<0.001), narcissism score (r=0.744; p<.001) and psychopathy score (r=.683; p<0.001). A positive relationship was observed between Machiavellianism and narcissism (r=0.404; p<.001). A positive relationship was observed between Machiavellianism and psychopathy (r=0.309; p<.05). A positive relationship was observed between psychopathy and narcissism (r=-.296; p<.05). According to the results of the Spearman correlation analysis, a positive relationship was observed between the participants' avoidant attachment score and depression score (r=.531; p<.001) and a positive relationship between the anxious attachment score and depression score (r=.408; p<.001). Multiple linear regression analysis was used to examine whether the total score obtained by the surgeons from the Dark Triad scale was predicted by the sub-dimensions of the scale. When the Pearson correlation coefficients between the Dark Triad total score and the independent variables were examined, it was found that all three variables showed a positive and statistically significant relationship with the total score (Machiavellianism r = .746, p = .001; narcissism r = .832, p = .000; psychopathy r = .773, p = .001). All three variables significantly predict the dependent variable (p<.001). The strongest predictor is narcissism (β=.456), followed by Machiavellianism (β = .430) and psychopathy (β = .388).

4. Discussion

The study reached 77 participants between the ages of 22-65. All of these participants were medical doctors. In terms of gender distribution, the majority of the participants were women. The majority of the participants were physicians who specialized in a field. The marital status of the majority of the participants was married. The majority evaluated their income as medium. The study examined the dark triad personality traits of the doctors in terms of their areas of expertise (surgical and non-surgical). In the study, it was observed that surgeons scored significantly higher than non-surgeon doctors on the dark triad scale and its sub-dimensions, Machiavellianism and psychopathy. There are very limited studies on the dark triad personality traits of surgeons in the literature. The studies reached were studies on the psychopathy axis rather than all of the dark triad traits (Muscatello et al. 2018). In the studies that are more common in the literature, it has been observed that surgeons/those who want to be surgeons differ from the non-surgeon population in terms of personality traits (Bisset et al., 2020; McGreevy & Wiebe, 2002; Muscatello et al., 2018; Sier et al., 2022; Sier et al., 2024; Stienen et al., 2018; Whitaker, 2017). In these studies, it is observed that surgeons' scores in the Conscientiousness, Openness, and Extraversion dimensions in terms of Five-Factor Personality Traits are higher than the average, while their scores in the Neuroticism dimension are lower than the average (Bisset et al., 2021; McGreevy & Wiebe, 2002; Sier et al., 2022; Sier et al., 2024; Whitaker, 2018). Some parallels are observed between the results obtained in our research and the studies mentioned. For example, characteristics such as fearlessness and anxiety tolerance, which are determining factors for psychopathy, can be explained by both psychopathy and low neuroticism. Excitement seeking and social assertiveness may be two overlapping areas for psychopathic tendencies and extraversion. In addition, characteristics such as power and status orientation, social skills and leadership tendencies may be common areas for Machiavellianism and extraversion (Babiak et al., 2010; Lilienfeld, 1997; Muscetallo et al., 2018). The findings of this study are consistent with studies in which people in high-level positions in the business world have higher psychopathic traits than the society average and a positive relationship is observed between psychotic traits and strategic thinking (Babiak et al., 2010). Similar to this study, Muscatello et al. (2018) observed that medical students who wanted to specialize in surgical departments had higher psychopathy scores than other medical students. In light of all this information, it was observed that surgical branches are preferred more by medical students with psychopathy personality traits (Muscatello et al., 2018), and similarly, in this study, surgeons differed from their colleagues in terms of the dark triad personality traits (psychopathy and Machiavellianism). The fact that psychopathy and Machiavellianism personality traits are at a non-pathological level (the surgeons in question are not considered pathological in this study) may contribute to professional success by providing individuals with advantages in terms of fearlessness, strategic thinking, and a less empathic approach (Babiak et al., 2010; Lilienfeld, 1997; Muscetallo et al., 2018). Although relationships were found between depression and attachment types in the study, no differences were observed between the surgeon and

non-surgeon groups in terms of these variables. The most important limitation of the study is that it reached a small number of physicians and a very small number of surgeons. Although the small sample size poses a problem in terms of generalizability of the results, this study can be considered as a pioneering study. Similar studies can be conducted with larger sample groups. Another limitation of the study is that the data was collected only through online channels. Also, stratified random sampling could have improved external validity instead of snowball sampling.

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NATURAL DISASTERS, PSYCHOLOGICAL TRAUMA AND OBSESSIVE BELIEFS AND SYMPTOMS

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Abstract

Psychological trauma arises from experiences that threaten individuals' lives, plunge them into chaos, and disrupt their intellectual, emotional, and behavioral stability. Following disasters, some survivors may develop post-traumatic stress disorder (PTSD) along with comorbid disorders such as OCD. The intense uncertainty stemming from psychological trauma can sometimes lead to obsessive beliefs. These obsessive beliefs play a crucial role in interpreting traumatic experiences from earthquakes and can effectively transform experienced issues into obsessive-compulsive disorder. This study aims to provide insights into the traumatic reactions experienced after the earthquake that struck the Southeastern Anatolia region of Turkey on February 6, 2023, which impacted 11 provinces and resulted in significant loss of life and property. A total of 300 earthquake survivors, 162 females & 138 males participated, with an range age of 18 – 65; $\overline{X}$=29.8 ± 9.28. All assessments were conducted face-to-face. The research employed several measures: the PTSD Checklist Civilian Version (PCL), the PADUA Inventory – Washington State University Revision of Obsessions and Compulsions (PI-WSUR), and the Obsessive Beliefs Questionnaire (OBQ). The results indicated that seeking reassurance and intolerance of uncertainty leads to numerous obsessive beliefs and compulsions, particularly in scenarios involving exposure. Linear regression analysis indicated that issues arising after experiencing trauma predicted obsessive beliefs, with a statistical significance level of ($\beta = .160$, $p < .000$). Additionally, the analysis of Chi-square (X^2) revealed a statistically significant correlation between the PTSD Checklist (PCL) and the PADUA Inventory-Washington State University Revision of Obsessions and Compulsions. The results are discussed to shed light on future research on the comorbidity of obsessive-compulsive disorder (OCD) and PTSD.

Keywords: *Disaster, Obsessive Beliefs, Obsessive Compulsive Disorder (OCD), PTSD, trauma.*

1. Introduction

Psychological trauma arises from experiences that threaten individuals' lives, plunge them into chaos, and disrupt their intellectual, emotional, and behavioral stability. The intense uncertainty stemming from psychological trauma can sometimes lead to obsessive beliefs about enduring uncertainty and chaotic situations following earthquakes. These obsessive beliefs play a crucial role in interpreting traumatic experiences and can effectively transform experienced issues into obsessive-compulsive disorder (Saeed & Gargano, 2022).

Post-traumatic stress disorder (PTSD) and obsessive-compulsive disorder (OCD) are classified as anxiety disorders within mental health classification systems, such as the DSMs. In the last version of DSMs, DSM -5 these two anxiety disorders classified separately (APA, 2022). This new perspective emphasizes the need for distinct treatment procedures and diagnostic criteria for each condition.

Natural disaster experiences may trigger the formation of obsesif compulsif beliefs. These belief may lead to suffering from Obsesif Compulsive Disorder symptoms. The formation of intrusive thoughts in PTSD may find root from these beliefs. How does it happen? To explain the mechanism of these formations, first of all, it is functional to mention about the nature of psychological trauma and the obsessive compulsive disorder.

Psychological trauma is a common response to natural disasters, often manifesting as psychological shock and denial. Epidemiological research has indicated that exposure to multiple traumatic events simultaneously, such as during natural disasters, may lead to the development of acute stress disorder, and then post traumatic stress disorder (PTSD) (Heanoy & Brown, 2024). Earthquakes lead to collective trauma (Fong et al, 2022) and after such traumatic events more frequently an acute

stress disorder and a set of symptoms on post traumatic stress disorder may occur. These symptoms are liked to index trauma which may be one or more traumatic events considered as the main source of traumatic distress. In assessing the diagnosis and severity of PTSD, only the symptoms related to this index trauma are taken into account.

Obsessive-Compulsive Disorder (OCD) often arises from an individual's attempt to make sense of and cope with uncertain, stressful and caotic life events. Individuals with OCD strive to transform this uncertainty into something more certain in order to gain control over their situations (Stein et al., 2020). In uncertain situations, these individuals may overestimate likelyhood of the potential threat (Knowles & Olatunji, 2023). Difficulty in tolerating uncertainty may initiate behaviors to reduce distress with compulsions. Individuals with OCD frequently resort to coping strategies like avoidance and dependency, which may lead to obsessive thoughts and repetitive behaviors known as compulsions. Many struggle to express their thoughts and emotions and often find it difficult to respond appropriately to events as they happen. Those who either cannot or choose not to express their feelings may experience a persistent sense of disconnection from their authentic selves. Consequently, they may relive these events in their minds repeatedly. This tendency can create a fundamental cycle of anxiety, where individuals grapple with a conflict between their true feelings and their inability to express them openly. However, by focusing on their thoughts and learning to express themselves in the therapeutic processes, these individuals may find relief from OCD symptoms. As they become more expressive in response to their obsessions, they may initially notice a reduction in compulsive behaviors, and, over time, their symptoms may completely resolve.

Several personal vulnerability factors contribute to the development of OCD, including having a parent or family member with severe obsessive-compulsive behaviors, experiencing significant stress from ongoing or severe life events, holding obsessive-compulsive beliefs about the world (Yorulmaz et al, 2013), enduring childhood trauma (Vaquez et al., 2024), and possessing cluster-C personality traits such as fearfulness and anxiety.

Psychological trauma and obsessive compulsive disorder(OCD) may be interconnected in several ways. The need to regain a sense of control after experiencing a destabilizing traumatic event, earthquake, may trigger the onset of obsessive beliefs (Brown et al, 2023; Yorulmaz & Gençöz, 2010; Yorulmaz et al., 2013; Yorulmaz & Gençoz, 2008) which can initiate OCD-related symptoms. Ojalehto et al. (2023) found that specific index traumas were related to obsessive compulsive symptoms in their obsessive compulsive symptom profile study. Current research on the relationship between OCD symptoms and post traumatic stress disorder is limited, with insufficient studies that consider obsessive beliefs and trauma types as well as clear conceptualization of OCD symptoms (Pinciotti et al., 2020). Dealing with the index trauma Foa et al. (2016) developed the post traumatic stress disorder symptom scale interview for DSM 5 (PSSI-5). Participants are asked to select the most stressful or the worst traumatic incident they have experienced. Using this instrument, individuals exposed to multiple traumatic events, such as earthquakes, can be effectively examined the chosen index trauma for both the severity of PTSD and the diagnosis itself. Due to insufficent research, the definition and impact of index trauma on therapeutic outcomes remain unclear.

The present study aims to provide insights into the traumatic reactions experienced following the earthquake that struck the Southeastern Anatolia region of Turkey on February 6, 2023. The earthquake affected 11 provinces: Kahramanmaraş, Gaziantep, Kilis, Hatay, Adana, Adıyaman, Osmaniye, Elazığ, Diyarbakır, Malatya, and Şanlıurfa, resulting in significant loss of life and property. Additionally, the study aims to inform about the obsessive beliefs of disaster survivors and to offer preliminary information regarding the relationships between disaster experiences, post-traumatic stress disorder (PTSD), and obsessive-compulsive disorder (OCD).

2. Method

2.1. Participants

Data was collected a total of 300 earthquake survivors; 162 females & 138 males from city of Pazarcik/Kahramanmaras (epicenter of the earthquake) including the effected 11 cities such as Hatay, Adıyaman, Diyarbakir, Adana etc. The age of the sample $\overline{X}$=29.8 ± 9.28 with the range was 18 – 65 (Table 1).

2.2. Measures

2.2.1. Information collection form: It consist of 10 yes-no and open-ended questions created by the researcher to gather socio-demographic information as well as details about traumatic experiences and the treatments received.

2.2.2. The Obsesif belief questionnaire (OBQ-44;OCCWG, 2003, 2005). It consists of 44 items, each scored on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The items assess dysfunctional beliefs across three subdimensions: importance/control of thoughts, responsibility/threat perception, and perfectionism/certainty. OBQ-44 was adapted to Turkish population by Yorulmaz et al. (2019). The Turkish version of the OBQ-44 has satisfactory internal consistency.

2.2.3. The Padua Inventory- Washington State University Revision (PIWSUR; Burns, 1995). The Padua Inventory-Washington State University Revision consists of 39 items with 5-point Likert type options evaluating OCD symptoms. Psychometric properties of the abbreviated version, frequently used in OCD literature. The PI-WSUR was adapted to the Turkish population by Yorulmaz et al. (2007), and was shown to have satisfactory internal consistency and correlations with other symptoms and cognitive factors related to OCD.

2.2.4. Post Traumatic Stress Disorder control list (civilian version) (PTSD-PCL;Dobbie, 2002). This is a 17 item 5-point Likert-type scale which the PTSD diagnostic criteria of DSM-IV is directly asked. The scale was adapted to Turkish by Kocabaşoğlu et al.(2005). The scale can effectively distinguish the PTSD group from other psychiatric disorders and normal populations affected by earthquake-type specific trauma with satisfactory internal consistency.

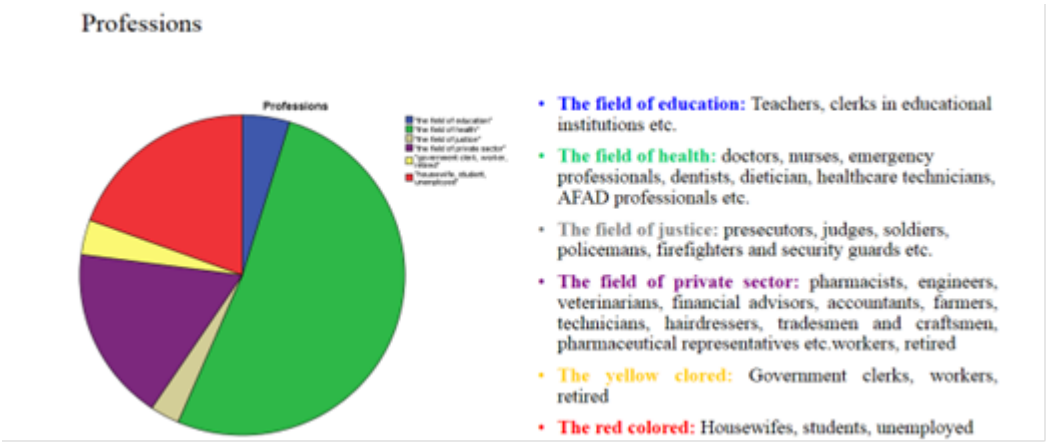
3. Procedure

The applications were completed in person, where participants were asked to fill out four different self-report scales. Descriptive statistics were applied. Data analysis was performed using SPSS version 22.

4. Results

Three age categories were identified from the sample. The primary characteristics of the sample were identified as follows: 162 Females and 138 Males constitute the sample. The average age is 29.8 ± 9.28, with a range of 18 – 65. High school, associated degree and university degree have reached a peak in the education level. Table 1 provides details of the socio-demographic characteristics and the mean and standard deviation of the three measures. The professions of the sample were given in figure 1.

Figure 1. The Professions of the Sample



Pearson's correlation coefficient was calculated to examine the relationship between trauma scores and the scores from the Padua Inventory and the Obsessive Beliefs Questionnaire. The 2 tailed significant correlation were found PTSD score and Obsessive Belief Questionnaire (OBQ-44) score ($r = .16$, $p < .01$). There is a two tailed negative significant correlation between the Education level and PADUA score ($r= -.22$, $p < .01$). The pearson r pointed out a statistically significant negative correlation between Education and PTSD score (r= .-. 12, p< .05). The OBQ-44 has 3 subscales; 1. Responsibility / Threat Estimation (RT), 2. Importance / Control of thoughts (ICT) and 3. Perfectionism / Certainty (PC). The Pearson r pointed out a two tailed statistically significant correlation between PTSD score and the importance/control of thoughts subscale of OBQ-44 score (r= .18,p<.01). There are negative significant correlation between profession and the subscale «Responsibility/Threat estimation (RT)» (r = - 24, p < .01) and the subscale « importance/control of thoughts (ICT)» (r = .23.7, p< .01). There is a two tailed negative significant correlation between the professions and OBQ-44 score (r= -.27, p<.01).

Chi-Squared analysis was conducted to examine the relationship between PTSD scores and PADUA scores. The results revealed a statistically significant correlation between PTSD scores and PADUA scores ($p < .05$). Linear regression analysis was utilized to examine the impact of traumatic experiences and issues caused by the earthquake on the emergence of obsessive beliefs. The linear regression model revealed that traumatic issues experienced after such events significantly predicted obsessive beliefs ($\beta = .160$, $p < .000$).

Table 1. The socio-demographical characteristics and the descriptive values of the three measures.

	$\overline{X}$	*SD*	*N (%)*
PTSD Score	*24.9*	± 8.9	298 (99.3)
OBQ-44 Score	175.6	± 31.6	241 (80.3)
PADUA Score	41.7	± 21.09	200 (66.6)
Age (2 missing)	29.8	± 9.28	298 (99.3)
18 – 30 yrs			195 (65)
31 – 45 yrs			80 (26.7)
46 – 65 yrs			23 (7.7)
Gender			
Female			162 (54)
Male			138(46)
Education level (5 missing)			
Primary			33(11)
Secondary			125(41.7)
Associated&University/			137(45.7)
Marital status(4 missing)			
Married			134(44.7)
Single			136(45.3)
Engaged			21(7)
Widowed			2(.7)
Divorced			3(1)

5. Discussion

The study findings put forth that uncertainty and life-threatening situations in and after earthquakes may provoke not only thought processes but also how the survivors try to help themselves survive in these life-threatening situations. The statistically significant high scores at OBQ-44 may come from a trying for finding certainty and control.This finding, along with other results from the present study, aligns with existing literature on the subject. The survivors who exhibit intolerance to uncertainty and controlling traits may be more susceptible to OCD following disaster experiences. As such, it is important to be aware of the need for mental health support geared toward alleviating OCD symptoms.

Finally, it is crucial to emphasize that the present study's findings are descriptive, indicating that future studies are needed to explore the causal interactions.

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MENTAL HEALTH PREVENTION AND UNEMPLOYMENT: WHAT DEMANDS EMERGE FROM THE MAIN STAKEHOLDERS?

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Abstract

Introduction: Unemployment impacts mental health through various factors. At the same time, deteriorating mental health negatively affects reemployment chances. Mental health prevention is highly recommended for this fragilized populations by the World Health Organization (WHO) (Organisation mondiale de la santé, 2012). Recommendations on such actions are formulated by the literature (e.g.: Bartholomew et al., 1998; D'Amours et al., 2008). Implementation's quality, which includes adapting the intervention with the needs and desires of the target population is advised. Yet, no study has been done on the interests of unemployed people regarding preventive action targeting mental health. *Methodology*: 13 jobseekers were interviewed with a semi-structured interview about their experiences with unemployment and their wishes regarding mental health prevention. A thematic analysis was carried out using Nvivo 14 software and Braun and Clarke's (2006) methodology. *Results*: Half of the participants expressed interest in participating in such a prevention initiative. Five main themes were identified, each comprising 2 to 5 sub-themes. The participants were particularly interested in discussions about their experiences addressing psychological difficulties, social and economic counseling, professional reinsertion and socialization. Additionally, they provided recommendations on the structure, logistics, animation and group composition for mental health prevention initiatives. *Conclusion*: Unemployed individuals are impacted by their situation and seek mental health prevention actions tailored to their needs. They are invested in proposing topics and organizational advice for such initiatives. This work provides the foundation for developing more effective prevention actions for unemployed individuals and better their implementation.

Keywords: *Unemployment, prevention, mental health, reintegration.*

1. Introduction

Unemployment impacts mental health (Paul & Moser, 2009). At the same time, deteriorated mental health negatively affects reemployment (Wanberg et al., 2005). Factors of this deterioration had been studied through privative models (Jahoda, 1982) or more isolated factors, for example stigmatization (Bourguignon & Herman, 2006). Mental health prevention is highly recommended by the World Health Organization (WHO) (Organisation mondiale de la santé, 2012), especially for these fragilized populations. Recommendations has been formulated by the literature about the construction of such action (e.g.: Bartholomew et al., 1998; D'Amours et al., 2008), such as adapting the intervention with the needs and desires of the target population. Some interventions do exist (see: Hult et al., 2020) but no study analyzed the expectations of unemployed people regarding preventive action targeting mental health. By this qualitative enquiry, we aim to create a base of knowledge concerning this subject.

2. Methodology

This article is part of a larger qualitative study which explored unemployed people's perception of changes that had taken place since the loss of their job before questioning them about what they would expect in a mental health group prevention action destined to unemployed people.

2.1. Participants and procedure

Adverts about the study were relayed by rehabilitation structures and on social media. The study and its objectives were presented to the volunteers. They signed an informed consent form before the interview, which could take place face-to-face or visio-conference. The study was conducted grom March to May 2023. Candidates had to be major, unemployed for less than two years and willing to work again in

the future. Volunteers with disabilities that did not depend on the main service for jobseekers in France or that were planning on stopping their career in any way were not recruited.

Thirteen interviews were conducted. The sample included 8 females and 5 males, that were on average 31.46 years old (S.d. = 8.01). They were living in different density cities. Sociodemographic information is available on Table 1.

Table 1. Sociodemographic information on participants.

Sexe	Age	Months unemployed	Former Job	End of contract
F	36	3	Recruitment manager	End of short-term contract
H	30	18	Day manager	Contractual termination
F	31	2	Communication manager	End of short-term contract
F	30	10	Sales assistant	End of short-term contract
H	33	9	Lighting engineer	Contractual termination
F	53	5	In Training	End of formation
F	31	4	Administrative assistant	Contractual termination
F	22	3	Laundry assistant	End of short-term contract
H	31	1	Socio-cultural animator	End of short-term contract
H	24	17	Sales assistant	Contractual termination
F	23	9	Sales assistant	Unfitness for work
H	38	1	Truck driver	Contractual termination
F	27	17	Home help	Contractual termination

2.2. Data collection

The study was approved by our local ethic committee (Comité d'éthique pour la recherche sur la personne des universités de Tours et de Poitiers, CER-TP) at the reference ER-TP 2023-01-10. Following the preliminary consent of the participants regarding the interview, its recording and the treatment of their personal data, the interviews were conducted following a semi-structured interview grid. The interview part that we present here was introduced by the simple reminder that the final objective of the thesis was to elaborate a prevention action about mental health in destination to unemployed people. The following questions were asked: "if such action were presented to you, would you participate?" which was followed, if necessary, by two probing questions: "why?" and "on which conditions?". We then interrogated "what would you expect from such a program?" which, only if the themes were not mentioned, were followed by additional questions: "would you like to talk about: professional reintegration?", "Psychological difficulties?", "Job search difficulties?". Then we asked about the structure of the intervention: "What should be avoided". Interviews continued until the discourses dried up. The average duration of the interviews was 1 hour 32 minutes (S.D.: 27,9 minutes).

2.3. Analysis

The interviews were transcript using the dictation witting mode of Word with the recordings before being corrected by hand. We conducted a thematic analysis using Nvivo 14 and followed the steps recommended by Braun and Clarke (2006). We used an inductive approach for codification and looked for themes with a semantic/explicit level. We differed with the conventions by including in our tabs the number of occurrences and participants that mentioned the element (e.g.: occurrences/participants), as we wished to be transparent about our data and their density. The verbatims presented in the tabs are translated from the original verbatim of the interview.

3. Results

Regarding the mental health prevention part of the interview, this subject attracts the attention of all the participants (203/13). They mainly express on the expected content of the intervention (121/12) (see tab. 2), advice regarding the intervention (43/9) (see tab. 3) and their own participation (49/13) (see tab. 4). The remaining codes, that we will not discuss, are further explanation demands (16/7) and enthusiasm (3/2). Regarding participation (29/13), participants tend to say they would participate (13/7) more than not (13/5) and/or find that the idea is good for other unemployed people (10/6).

Regarding conditioned participation (20/8), some mentioned that if the action were not linked to the France's main service for jobseekers, they would go (5/2). Some wished to participate to only some

modules (5/2), or to hierarchize themes for each group (1/1). Some others would participate if their state of mind were different, more isolated (2/1), or less motivated (1/1).

The most evocated and expected content of the intervention is the interest in sharing their experience of unemployment (39/12). Some specified with different people (4/3) or with former unemployed people (2/1). Another linked interest is learning to communicate around unemployment (3/2), their place in society (4/4) and their unemployment to work transition (1/1).

Psychological difficulties are also often cited as a subject of interest (28/10). Candidates wished to get contact with a mental health professional in group (9/5) to be oriented (6/4). Other than this, demands are centered around managing emotions (7/4) and relationship to oneself (7/5), itself containing self-esteem (4/4), self-confidence (2/1) and a citation of stereotypes around unemployment (1/1). We also outlined vague demands of mental health help (3/2) and help to maintain mental health in time (1/1).

Professional insertion is also cited (33/9), regarding job search (11/8) and in the other hand help around failure and rejection management (13/5). Lastly, help to skill enhancement assistance (1/1), information on professions (4/1) and help structuring efforts (1/1) were also cited.

Social and economic counseling (16/6) is a theme that regroup help with budgeting (7/5) and knowledge of rights and possible contacts (for further material help) (9/5).

Lastly, socialization (5/5) is viewed as interesting to alleviate loneliness (4/4) and promote social integration (1/1). Main subthemes and codes of the category “Themes to cover in a mental health intervention for unemployed people” are available in table 2.

Regarding the prevention advice from the participants, few advice was given (43/9). Amongst this advice, structure and logistics (17/5) were cited. The intervention should not be mandatory (5/4), linked to our main service for jobseekers (4/3), and should be at hours that fit the population (1/1). Interest (3/1) and disinterest (1/1) for remote groups are expressed. Warnings were made about the lack of pertinence to assist at only one seance (1/1), the risk of losing participants (1/1) and the difficulty of integrating depressed persons (1/1). About the content of the prevention (15/4) job search (3/2) and private matters 92/3) such as conjugal relationships (1/1), personal or psychological information (1/1) and alcohol use disorder (1/1) should be eluded according to some participants. Participants warned us about idealization about present and futures situations (1/1) or instigating discouragement (1/1).. Intervention form (4/4) should not mainly be composed of presentations (4/4), such as videos (1/1) or non-ludic content (1/1). Groups management (7/4) was evocated, regarding the necessity for some to make socio-cultural uniform groups (1/1), to be vigilant to the uniformity of speech (6/1) and of eventual anxiety amongst the participants (2/1). One person disproves the group format (1/1).

4. Discussion

More than half of the participants expressed interest in participating in such a prevention initiative. One major general interest (sharing their experience of unemployment) and five main themes were identified: psychological difficulties (emotional regulation and self-esteem), professional themes (job search, management of failed candidatures), social and budget counseling and lastly a help to ease solitude. Additionally, they provided recommendations on the structure, logistics, facilitation, topics to avoid, and group composition. To cite some, we found a disapproval around our main service for jobseekers in France and the mandatory approach. The form should stay interactive and ludic. Some disagreements amongst participants were found regarding remote intervention (wished for its accessibility), and could be dependent on the territory (country vs cities). Group composition is ambivalent too, with an interest for different people, but also the advice to uniformize the socio-cultural factors. We should add that this last piece of advice was mainly based on previous classic job club experiences. The theme for job search is also debated. Candidates were generally enthusiastic and invested in the reflection process, which reflects the pertinence of our work.

This research can help to complete academics models to create a mental health intervention that could engage unemployed people by directly answering their needs. These results could also be used, in some extent, as a base for any questionnaire attending to evaluate the expectations and needs by intervention or by intervention group, according to the modular dynamic that has been advised by our participants.

5. Conclusion

Unemployed individuals are impacted by their situation and seek mental health prevention actions tailored to their needs. They are invested in proposing topics and organizational advice for such initiatives. This work provides the foundation for developing more effective prevention actions for unemployed individuals and better their implementation.

Table 2. Main subthemes and codes of the category "Themes to cover in a mental health intervention for unemployed people".

Sub theme	Code details	Nb cit/n	Citation example
Sharing unemployment's experiences	Sharing experience	30/12	« What I would have liked would have been, for example, to get together in a group and do a sort of discussion group, for example on the problems that we may come up against here, (…), or simply a sharing of experience... »
	Communicating about unemployment	3/2	« Managing the family.// - Managing communication around unemployment? // Yeah, maybe that, yeah, that could be pretty good. Well, even people other than family, yeah, so... "(imitating) You've got to work, eh" Yes... Yes. Yes, yes. »
	Discussing their place in society	4/4	« So there you go, don't get carried away by society, it'll be good to talk about that too. » « (…) The relationship to one's place in society, ... »
	Transition to employment	1/1	« It's a return to the world of work and it's this world that's actually quite brutal... And the, the, the transition from your home to the world of work, (…) you feel like you're hitting a wall in the face... (…) In fact, it's a whole lifestyle that changes overnight. »
Psychological difficulties	Contact with a mental health professional	9/5	« So it's clear that if you can offer support, even for a few hours, but with someone with whom you can express... your questions, your self-esteem, I find that really, really interesting. Yeah. »
	Managing emotions	7/4	« Yeah, if it's modular, yeah, (…) emotional management... it speaks to me… »
	Relationship to self	7/5	« Little tips and tricks, (…) to not put yourself down, to try to help yourself get out, to show yourself that you're still capable of doing things and that the fact that people say no to you isn't representative of what you are very often»
	Help with mental health	3/2	« More the aspect of... Well, I'd like to say mental health (yes, yes), that's more like it,…. » « ah I would have liked... The emotional... psychological aspect? (…) ... »
	Helping to go the distance	1/1	« Well, try to to to to to In prevention, it's all about trying to succeed, to give you the keys to succeeding over the distance... over the long haul. (…) »
Professional reinsertion	Job search evocation	11/8	« To advise them on job search sites and create... resumes and stuff because there are some good sites out there right now for working resumes and stuff so to find like... »
	Failure and rejection management	*13*/5	« It could be a nice little workshop on how to deal with failure... To be able to bounce back without waiting! that's the name of the program. »
	Skills enhancement assistance	1/1	« To show you that you're still capable of doing things (…) It's that because people don't want you, Bah, you've got the impression that you're no good in fact... when it's not true. »
	Information on professions	4/1	« The need to take stock of what it really is... er... this or that job in the biggest jobs in the primary, secondary, tertiary sectors... in fact. Roughly speaking, with the start and end of a career with real pay scales, real figures and examples... »
	Structuring requests	1/1	« A follow-up, a schedule edition... (…) These are people who don't know how to manage themselves, if they do, it's people who are wholehearted and dedicated, they're the best profiles in the world. »
Economic counseling	Help with budgeting	7/5	« And Ben Go ahead guys, how to save a little more? How can you have a social life? But without breaking the bank have... finally have some little things to put in place? Yeah, really, really. »
	Knowledge of rights and possible contacts	9/5	« Well, to inform us about um, schemes that can be complementary, what kind of aid exists? Because there are, I'm sure we have a lot, but we don't even know about half of them..»
Socialization	Alleviate loneliness	4/4	« It means, for example, getting together in a group and doing a sort of discussion group, (…) whether it's the financial aspect of solitude or interaction... »
	Promote social integration	1/1	« For me, it would have been. Mental health first, then ... social integration, then work. »

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ATTACHMENT STYLES AND SUICIDE RISK: THE EFFECTS OF NEUROTICISM AND MALADAPTIVE DAYDREAMING

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Abstract

Suicide remains a significant public health concern, necessitating a deeper understanding of the psychological factors contributing to suicidal ideation and behavior. Attachment theory posits that early relationships with caregivers shape emotional and behavioral responses throughout life, influencing interpersonal relationships and mental health. Neuroticism, characterized by heightened emotional instability and negative affectivity, has been linked to various mental health outcomes, including suicidal behavior. Similarly, maladaptive daydreaming (MD), marked by excessive fantasy and escapism, may exacerbate feelings of isolation and despair. This study thus aimed to examine whether neuroticism and MD play a sequential mediating role in the relationship between attachment styles (AS) and suicide risk (SR). In this study, 1152 young adults (50% women) aged 18 to 25 years (M=21.48, SD=2.31) engaged in an online survey and completed self-report questionnaires assessing their AS, neuroticism, MD, and SR. The analysis utilized hybrid structural equation modeling (SEM) to test for mediation effects. Four models were tested, one for each AS: secure (SA), dismissing (DA), preoccupied (PA), and fearful (FA). The models showed a good fit. Specifically, SA model: $\chi2(36)=237.73$; $p<.001$, CFI=.97, RMSEA=.07 (90% CI=.06–.08), SRMR=.04; DA model: $\chi2(36)=230.52$; $p<.001$, CFI=.97, RMSEA=.07 (90% CI=.06–.08), SRMR=.04; PA model: $\chi2(36)=233.01$; $p<.001$, CFI=.97, RMSEA=.07 (90% CI=.06–.08), SRMR=.04; FA model: $\chi2(36)=226.52$; $p<.001$, CFI=.97, RMSEA=.07 (90% CI=.06–.08), SRMR=.04. The findings indicated that SA did not exhibit a direct relationship with SR; however, it was linked to SR through the mediating influence of neuroticism. Conversely, DA showed no significant correlations with the other variables. The relationship between PA and SR was fully mediated by neuroticism and MD, while the association between FA and SR was partially mediated by these factors. All the other paths were statistically significant. The findings suggest that targeting neuroticism and MD may be crucial for reducing SR, particularly among individuals with certain AS. Additionally, the results highlight the need for personalized interventions tailored to specific AS, as different AS may be more strongly linked to specific negative outcomes compared to others. By tailoring strategies to address specific AS and specific factors such as neuroticism and MD, practitioners can thus better target the root causes of suicide risk.

Keywords: *Attachment styles, neuroticism, maladaptive daydreaming, suicide risk, young adults.*

1. Introduction

This study explores how attachment styles (AS) influence suicide risk (SR), particularly through the mediating roles of neuroticism and maladaptive daydreaming (MD). AS, formed in early interactions with caregivers (Allen, 2023), shape emotional patterns in relationships and are categorized as secure, dismissing, preoccupied, and fearful (Bartholomew & Horowitz, 1991). A secure style trust and emotional stability, while insecure styles (dismissing, preoccupied, fearful) are linked to greater neuroticism, emotional reactivity, and issues with emotional regulation (Eggert et al., 2007). Neuroticism, characterized by intense emotional reactivity and negative emotions, is associated with insecure AS and is a significant factor in emotional dysregulation (Barlow et al., 2014). Those with higher neuroticism may turn to MD, a compulsive escape into vivid fantasies, as a coping mechanism (Zhiyan & Singer, 1997). Though MD offers temporary relief from emotional distress, it can disrupt daily life, relationships, and well-being, potentially increasing feelings of isolation and despair (Somer, 2002). This isolation and emotional pain can elevate SR, with MD potentially reinforcing negative thoughts and worsening mental health challenges (Selby et al., 2007). The study hypothesizes that neuroticism and MD may sequentially

mediate the relationship between insecure AS and SR. By exploring these pathways, the research aims to identify intervention points to improve mental health outcomes, promote healthier AS, and ultimately reduce SR through targeted therapies that address neuroticism and MD (Bigelsen et al., 2016; Somer et al., 2017).

2. Methods

2.1. Participants

The study involved 1152 young adults from Italy, with an equal distribution of males (576) and females (576), aged 18 to 25 (M = 21.48, SD = 2.31). Participants were recruited from various Italian cities using offline and online methods, ensuring diverse representation. The educational background varied, with 17% having completed middle school, 48% holding a high school diploma, 31% having a university degree, and 4% holding a postgraduate degree. Regarding occupational status, 45% were students, 22% were unemployed, 24% were employed, and 9% were self-employed. In terms of marital status, 40% were single, 35% were engaged, 15% were cohabiting, and 10% were married.

2.2. Procedures

The study adhered to ethical guidelines set by the Helsinki Declaration and the Italian Association of Psychology. Ethical approval was obtained from the Institutional Review Board of the Institute for the Study of Psychotherapy (reference number: ISP-IRB-2023-4). Participants completed an online survey voluntarily, ensuring informed consent and prioritizing confidentiality. No compensation was offered for participation.

2.3. Measures

AS were assessed using the Italian version of the Relationship Questionnaire (RQ; Carli, 1995). This measure includes items that assess four AS: secure, dismissing, preoccupied, and fearful. Participants rated each item on a 7-point Likert scale, with higher scores indicating stronger AS. Neuroticism was measured using the Neuroticism subscale of the Italian version of the Big Five Inventory (BFI-N; Ubbiali et al., 2013). This scale consists of 8 items that assess personality traits associated with neuroticism, with higher scores indicating greater neuroticism. MD was assessed using the Italian version of the Maladaptive Daydreaming Scale-16 (MDS-16; Schimmenti et al., 2020). Participants rated 20 items on an 11-point scale, with higher scores reflecting more frequent and intense MD. SR was assessed using the Italian version of the Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001). This 4-item scale measures suicidal ideation and behaviors. Higher scores indicate a greater level of SR.

2.4. Statistical analyses

Descriptive statistics and correlations were analyzed using IBM SPSS, while primary analyses used the RStudio's lavaan package. The researchers applied a Hybrid Structural Equation Modeling (SEM) approach, treating AS as observable variables and neuroticism, MD, and SR as latent variables. Four mediation models were tested, one for each attachment style, exploring the relationships between AS, neuroticism, MD, and SR. The significance of indirect effects was assessed using a bias-corrected confidence interval method with 5000 resamples. Gender was included as a control variable.

3. Results

3.1. Descriptive statistics and correlations

The descriptive and correlational statistics of all the study variables are presented in Table 1.

Table 1. Descriptive analyses and correlations.

	M	*SD*	*α*	*1*	*2*	*3*	*4*	*5*	*6*
1. Secure	*3.77*	*1.74*	-	-	-	-	-	-	-
2. Dismissing	*3.94*	*1.83*	-	*.19***	-	-	-	-	-
3. Preoccupied	*3.70*	*1.71*	-	*.09***	*.04*	-	-	-	-
4. Fearful	*3.93*	*1.85*	-	*-.06**	*.16***	*.45***	-	-	-
5. Neuroticism	*3.28*	*.80*	*.84*	*-.12***	*-.06**	*.29***	*.38***	-	-
6. Maladaptive Daydreaming	*3.07*	*1.98*	*.94*	*.00*	*.03*	*.31***	*.32***	*.35***	-
7. Suicide Risk	*1.27*	*.80*	*.83*	*-.06**	*.00*	*.16***	*.26***	*.26***	*.36***

*Note: n = 1152. * p < .05. ** p < .01.*

3.2. Mediation models

Secure attachment (SA) model: The model for SA fit the data well (χ^2 = 237.73, p < .001). Significant paths were found for all direct and indirect relationships except for the paths between SA and MD, and SA and SR.

Dismissing attachment (DA) model: The model for DA also fit the data well (χ^2 = 230.52, p < .001), but none of the direct or indirect paths between DA and the other variables were significant. However, direct and indirect paths between neuroticism, MD, and SR were significant.

Preoccupied attachment (PA) model: The PA model fit the data well (χ^2 = 233.01, p < .001), with all direct and indirect paths significant, except for the direct path from PA to SR.

Fearful attachment (FA) model: The FA model also fit the data well (χ^2 = 226.52, p < .001), and all paths, both direct and indirect, were significant.

All direct and indirect paths of the four models are shown in Table 2.

Table 2. Path Estimates, SEs and 95% CIs.

	β	*p*	*SE*	*CI (LL)*	*CI (UL)*
Secure attachment model					
Direct Effect					
Secure Attachment → Neuroticism	*-.11*	*.002*	*.01*	*-.07*	*-.02*
Secure Attachment → Maladaptive Daydreaming	*.04*	*.17*	*.03*	*-.02*	*.11*
Secure Attachment → Suicide Risk	*-.04*	*.18*	*.02*	*-.05*	*.01*
Neuroticism → Maladaptive Daydreaming	*.42*	*< .001*	*.10*	*.88*	*1.27*
Neuroticism → Suicide Risk	*.22*	*< .001*	*.06*	*.16*	*.39*
Maladaptive Daydreaming → Suicide Risk	*.31*	*< .001*	*.02*	*.11*	*.18*
Indirect Effect via Neuroticism					
Secure Attachment → Maladaptive Daydreaming	*-.05*	*.002*	*.02*	*-.08*	*-.02*
Secure Attachment → Suicide Risk	*-.03*	*.01*	*.01*	*-.02*	*-.004*
Indirect Effect via Maladaptive Daydreaming					
Secure Attachment → Suicide Risk	*.01*	*.17*	*.01*	*-.003*	*.02*
Neuroticism → Suicide Risk	*.13*	*< .001*	*.02*	*.11*	*.21*
Dismissing attachment model					
Direct Effect					
Dismissing Attachment → Neuroticism	*-.05*	*.10*	*.01*	*-.05*	*.004*
Dismissing Attachment → Maladaptive Daydreaming	*.05*	*.09*	*.03*	*-.01*	*.11*
Dismissing Attachment → Suicide Risk	*-.01*	*.82*	*.01*	*-.03*	*.02*
Neuroticism → Maladaptive Daydreaming	*.42*	*< .001*	*.10*	*.87*	*1.26*
Neuroticism → Suicide Risk	*.23*	*< .001*	*.06*	*.17*	*.39*
Maladaptive Daydreaming → Suicide Risk	*.31*	*< .001*	*.02*	*.11*	*.18*
Indirect Effect via Neuroticism					
Dismissing Attachment → Maladaptive Daydreaming	*-.02*	*.11*	*.01*	*-.05*	*.01*
Dismissing Attachment → Suicide Risk	*-.01*	*.14*	*.004*	*-.01*	*.001*
Indirect Effect via Maladaptive Daydreaming					
Dismissing Attachment → Suicide Risk	*.02*	*.09*	*.004*	*-.001*	*.02*
Neuroticism → Suicide Risk	*.13*	*< .001*	*.02*	*.11*	*.20*
Preoccupied attachment model					
Direct Effect					
Preoccupied Attachment → Neuroticism	*.33*	*< .001*	*.01*	*.11*	*.16*
Preoccupied Attachment → Maladaptive Daydreaming	*.20*	*< .001*	*.03*	*.15*	*.28*
Preoccupied Attachment → Suicide Risk	*.02*	*.61*	*.02*	*-.03*	*.04*
Neuroticism → Maladaptive Daydreaming	*.35*	*< .001*	*.10*	*.71*	*1.12*
Neuroticism → Suicide Risk	*.23*	*< .001*	*.06*	*.17*	*.40*
Maladaptive Daydreaming → Suicide Risk	*.30*	*< .001*	*.02*	*.11*	*.18*

Indirect Effect via Neuroticism					
Preoccupied Attachment → Maladaptive Daydreaming	*.12*	*< .001*	*.02*	*.09*	*.16*
Preoccupied Attachment → Suicide Risk	*.07*	*< .001*	*.01*	*.02*	*.06*
Indirect Effect via Maladaptive Daydreaming					
Preoccupied Attachment → Suicide Risk	*.06*	*< .001*	*.01*	*.02*	*.04*
Neuroticism → Suicide Risk	*.11*	*< .001*	*.02*	*.09*	*.17*
Fearful attachment model					
Direct Effect					
Fearful Attachment → Neuroticism	*.41*	*< .001*	*.01*	*.13*	*.18*
Fearful Attachment → Maladaptive Daydreaming	*.19*	*< .001*	*.03*	*.12*	*.25*
Fearful Attachment → Suicide Risk	*.11*	*.001*	*.02*	*.02*	*.08*
Neuroticism → Maladaptive Daydreaming	*.34*	*< .001*	*.11*	*.67*	*1.10*
Neuroticism → Suicide Risk	*.20*	*.001*	*.06*	*.13*	*.36*
Maladaptive Daydreaming → Suicide Risk	*.28*	*< .001*	*.02*	*.10*	*.17*
Indirect Effect via Neuroticism					
Fearful Attachment → Maladaptive Daydreaming	*.14*	*< .001*	*.02*	*.10*	*.18*
Fearful Attachment → Suicide Risk	*.08*	*.001*	*.01*	*.02*	*.06*
Indirect Effect via Maladaptive Daydreaming					
Fearful Attachment → Suicide Risk	*.05*	*< .001*	*.01*	*.02*	*.04*
Neuroticism → Suicide Risk	*.10*	*< .001*	*.02*	*.08*	*.16*

Note: p level of significance; SE standard error; CI confidence interval; LL lower limit; UL upper limit.

4. Discussion

The results emphasize the significant role neuroticism and MD play in the relationship between AS and SR, offering insights into the mechanisms that may contribute to SR among individuals with different attachment patterns. SA is linked to stable and supportive early caregiving experiences, while insecure AS may stem from inconsistent or negative early caregiving, contributing to neuroticism and anxiety in adulthood (Bartholomew & Horowitz, 1991; Eggert et al., 2007). Individuals with insecure attachments often exhibit maladaptive coping strategies, which may heighten neuroticism and anxiety in adulthood. For example, fearful individuals may struggle with emotional instability due to contradictory needs for closeness and fear of rejection, while preoccupied individuals might excessively rely on external validation. These patterns can increase neuroticism, emotional reactivity, and self-doubt (Bartholomew et al., 2001; Hagekull & Bohlin, 2003). Neuroticism and MD are interconnected, with MD often used as an avoidance strategy for managing negative emotions and stress (Bigelsen et al., 2016; Somer, 2002). Highly neurotic individuals are more likely to engage in MD to escape unpleasant feelings or stressful situations. While MD can temporarily provide comfort or emotional regulation, over-reliance on this coping strategy can impair real-life functioning, leading to greater emotional instability and, ultimately, increasing SR (Zhiyan & Singer, 1997; Selby et al., 2007). MD can exacerbate negative emotions and impede real-world functioning, fostering feelings of hopelessness, worthlessness, and isolation—known risk factors for suicide (Somer, 2002; Selby et al., 2007). Over time, this emotional detachment and avoidance may hinder problem-solving, heighten distress, and increase the likelihood of suicidal thoughts. Additionally, individuals who use MD excessively may struggle with emotional regulation, further intensifying emotional discomfort and increasing SR (Bigelsen et al., 2016; Somer et al., 2017). In conclusion, the study suggests that neuroticism and MD mediate the relationship between AS and SR, highlighting the complex interplay of attachment, emotional regulation, and coping strategies in the development of SR.

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THE RELATIONSHIP BETWEEN THE DARK TRIAD, ANXIETY, AND COGNITIVE DISTORTIONS AMONG ACADEMICIAN IN TURKEY

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Abstract

The present study aims to investigate the relationship between the Dark Triad, cognitive distortions, and anxiety among academics in Turkey, and to compare these relationships based on certain demographic variables. Data were collected from 95 participants using the Sociodemographic Information Form, the Short Dark Triad Scale, the Cognitive Distortions Scale, and the Beck Anxiety Inventory. Notable findings include the significant results of catastrophizing in many analyses and the lower levels of Machiavellianism among individuals with higher academic titles. Catastrophizing has shown significant differences in many analyses. Academicians with the title of Associate Professor are more disadvantaged in terms of cognitive distortions compared to other academicians. In the analyses related to the Dark Triad personality traits, only Machiavellianism yielded significant results. These findings have been discussed in light of the literature.

Keywords: *Dark Triad, cognitive distortions, anxiety, academicians in Turkey.*

1. Introduction

Personality is a dynamic concept that encompasses all our internal processes, such as emotions and thoughts, as well as external behaviors. These internal and external processes can occur within or outside the realm of consciousness (Kernberg, 2016). Personality traits, which exhibit similar patterns of emotion, thought, and behavior, can be classified into a common cluster (American Psychiatric Association, 2013). Paulhus and Williams (2002) discovered that subclinical narcissism, machiavellianism, and psychopathy share characteristics that can be combined into a common cluster, which they termed the Dark Triad. The Dark Triad is notable for representing the dark side of an individual, containing malicious intent, and being aggressive but not pathological. Additionally, it is characterized by aggression, duplicity, deceitfulness, emotional detachment, and behaviors that prioritize and emphasize self-interest, often leading to socially malignant actions. While studies adopting both genetic and environmental perspectives on the formation and persistence of these behaviors exist, a meta-analysis has revealed a strong correlation between these externalizing behaviors and cognitive distortions (Helmond et al., 2014).

Cognitive distortions are the individual's misrepresentation or inadequate evaluation of reality when assessing an event or situation, which may lead to negative emotional states (Beck, 1963). Initially defined and classified by Beck (1979), cognitive distortions were later expanded by Burns (1980). Cognitive distortions are associated with many psychopathologies (Leung & Poon, 2001; Gürsoy, 2018) and personality traits (Pace et al., 2019; Maheshwari & Chadha, 2021; Puri et al., 2021; Lorzangeneh & Soleimani, 2022) and have a strong relationship with anxiety (Basha, 2015; Kuru et al., 2017; Yüksel & Bahadir-Yilmaz, 2019).

Considering the issues such as mobbing in Turkish academia (Erdemir, 2019), gender inequality (Boyacıoğlu & Hünler, 2019), inequalities in hierarchical positioning (Günsan, 2024), management problems in academic units (Gümüş & Gülmez, 2020), and various ethical issues (Apaydın et al., 2021), the present study aims to investigate the relationship between cognitive distortions, the Dark Triad, and anxiety, as well as the differences between these variables based on demographic characteristics, specifically among academics in Turkey. The study also aims to understand and explain the dynamics related to the problems experienced in academia within the framework of the aforementioned concepts.

2. Materials and methods

A total of 95 academics participated in the study. Of the participants, 60% were women (n = 57), and 40% were men (n = 38). Regarding income distribution, 3.2% of the participants had a low income level (n = 3), 83.2% had a medium income level (n = 79), and 13.7% had a high income level (n = 13).

In terms of marital status, 62.1% of the participants were married (n = 59), 8.4% were in a romantic relationship (n = 8), and 29.5% were single (n = 28). While 13.8% of the participants indicated that they had a psychiatric disorder (n = 13), 86.2% stated they did not have any psychiatric disorders (n = 81). Additionally, one participant (n = 1, 1.1%) did not respond to this question. Furthermore, 20% of the participants reported using psychiatric medication (n = 19), while 80% did not (n = 76). 37.9% of the participants expressed that they needed psychological help (n = 36), whereas 62.1% indicated they did not (n = 59). Regarding legal issues, 11.6% of the participants had been victims of a legal case (n = 11), and 1.1% reported being both a victim and an offender (n = 1). The majority, 87.4% (n = 83), indicated that they had not experienced any legal issues.

2.1. Data collection tools

2.1.1. Sociodemographic information form. A form created by the researchers containing questions related to age, gender, income level, marital status, psychiatric disorders, medication use, any legal events experienced, title, university region (state, private, foundation), days spent at university, work experience, and satisfaction with life and profession.

2.1.2. Shortened Dark Triad Scale. Developed by Jones and Paulhus (2014) and adapted into Turkish by Özsoy et al. (2014), this scale consists of 27 items and includes three subdimensions: narcissism, Machiavellianism, and psychopathy.

2.1.3. Thought characteristics scale. Developed by Covin et al. (2011) and adapted into Turkish by Özdel et al. (2014), this scale includes 10 items related to mind reading, catastrophizing, all-or-nothing thinking, emotional reasoning, labeling, mental filtering, overgeneralization, personalization, should statements, and minimization or disqualifying the positive.

2.1.4. Beck anxiety inventory. Developed by Beck et al. (1988) and adapted into Turkish by Ulusoy et al. (1998), this scale consists of 21 items.

2.2. Procedure

Ethical approval for the study was obtained from the Ethics Committee of Fatih Sultan Mehmet Foundation University on 05.12.2024 (approval number: 2024-42/03). Data were collected via an online survey created using Google Forms. The survey was distributed via email to faculty members from state, foundation, and private universities across seven regions of Turkey, reaching approximately 1,200 individuals. However, only 95 participants completed the survey. Before filling out the survey, participants read a text explaining the purpose of the study and indicated their voluntary consent by checking a box. Completing the survey took approximately 15 minutes.

2.3. Data analysis

Initially, the study aimed to investigate the mediating role of anxiety in the relationship between cognitive distortions and the Dark Triad. However, anxiety did not show a mediating effect in any of the models, so the model was modified. Due to the lack of significant regression and high correlation results, comparative analyses were preferred. R and SPSS v.25 were used for the analyses.

3. Findings

The Brunner-Munzel test results indicated that there were significant differences in some variables based on gender. Women had higher rank averages than men in the interpersonal domain of mind reading (BM = -2.616, $p = 0.011$) and catastrophizing (BM = -3.056, $p = 0.003$). Similarly, regarding the total anxiety score, women had higher rank averages than men, and this difference was statistically significant (BM = -2.768, $p = 0.007$). These findings suggest that women have higher tendencies for catastrophizing and anxiety levels compared to men.

The Brunner-Munzel test results for individuals with and without psychiatric disorders showed a significant difference in catastrophizing in the interpersonal domain (BM = -2.82, $p = 0.010$). The negative statistic indicates that individuals with psychiatric disorders scored higher in this cognitive distortion.

The Brunner-Munzel test results for individuals who reported needing psychological help and those who did not indicated that individuals needing psychological help had significantly higher scores in the following variables: interpersonal catastrophizing (BM = -3.63, $p < 0.001$), personal achievement catastrophizing (BM = -3.62, $p < 0.001$), interpersonal emotional reasoning (BM = -3.45, $p < 0.001$), interpersonal labeling (BM = -2.59, $p = 0.012$), interpersonal overgeneralization (BM = -5.43, $p < 0.001$), interpersonal personalization (BM = -2.90, $p = 0.005$), interpersonal minimization or disqualifying the positive (BM = -2.42, $p = 0.018$), anxiety level (BM = -3.71, $p < 0.001$), and overall interpersonal cognitive distortion (BM = -4.13, $p < 0.001$).

The Jonckheere-Terpstra test results indicated that Machiavellianism showed a statistically significant decreasing trend as the title level increased (T_{JT} = 1318.000, p = 0.010). The trend was supported by Dunn test results, where as title level increased, the rank averages for Machiavellianism decreased. Professors' rank averages (Rmean = 35.89) were statistically significantly lower than those of research assistants (R_{mean} = 56.84) (Z = 195.00; p = 0.03).

Kruskal-Wallis H tests were applied to determine whether there were differences in the rank averages for interpersonal catastrophizing between title groups. The results showed a significant difference in interpersonal catastrophizing (H(4) = 10.686, p = 0.030). Post-hoc Dunn test results showed that the group with the highest rank average for interpersonal catastrophizing was Associate Professors (M_R = 69.44), and a statistically significant difference was found between Professors and Associate Professors (p = 0.023).

Similarly, for interpersonal emotional reasoning, Kruskal-Wallis H test results indicated a significant difference (H(4) = 13.501, p = 0.009), with Associate Professors having the highest rank average (M_R = 68.19). A significant difference was found between Professors and Associate Professors (p = 0.014).

For interpersonal mental filtering, Kruskal-Wallis H test results showed a significant difference (H(4) = 12.371, p = 0.015), with Associate Professors having the highest rank average (M_R = 69.62). A significant difference was found between Professors and Associate Professors (p = 0.022).

Regarding interpersonal personalization, Kruskal-Wallis H test results showed a significant difference (H(4) = 11.416, p = 0.022), with the highest rank average observed in Lecturers (M_R = 57.07). A significant difference was found between Professors and Lecturers (p = 0.021).

For the total interpersonal domain score, Kruskal-Wallis H test results indicated a significant difference (H(4) = 13.525, p = 0.009), with Associate Professors having the highest rank average (M_R = 67.31). Statistically significant differences were found between Professors and Associate Professors (p = 0.016) and between Professors and Lecturers (p = 0.035).

The Pearson correlation analysis revealed significant correlations between several variables. A significant positive relationship was found between the number of days worked per week and interpersonal catastrophizing (r = 0.206, p = 0.045). Positive correlations were also observed between work duration (in years) and academic satisfaction (r = 0.214, p = 0.038), as well as life satisfaction (r = 0.207, p = 0.044). Furthermore, as work duration increased, the tendency for interpersonal catastrophizing decreased (r = -0.242, p = 0.018). There was a strong positive relationship between Machiavellianism and interpersonal catastrophizing (r = 0.734, p < 0.001), and a significant relationship between narcissism and interpersonal catastrophizing (r = 0.336, p = 0.001). A strong positive relationship was also observed between the total cognitive distortions score and anxiety (r = 0.864, p < 0.001).

4. Discussion

In the present study, the relationships between gender, academic title, and the need for psychiatric assistance with cognitive distortions and the Dark Triad personality traits among academicians were examined. Among the 95 participants, 60% were female (n = 57) and 40% were male (n = 38). Only 13.8% (n = 13) of the participants reported having a psychiatric disorder, and 20% (n = 19) stated that they were using psychiatric medication. Additionally, 11.6% (n = 11) of the participants reported being victims in a legal case, while 1.1% (n = 1) stated that they were both victims and perpetrators. The majority of the participants (87.4%, n = 83) indicated that they had never been involved in any legal cases.

Given that the prevalence of mobbing among Turkish academicians ranges between 12% and 66.8%, and 75% of academicians report the existence of mobbing in academia (Cinli et al., 2020), the low rates of legal involvement reported in this study are noteworthy. This may suggest that the sample is relatively homogeneous or that academicians tend to ignore workplace difficulties such as mobbing or choose not to take legal action against such issues.

A notable finding is that academicians who reported needing psychological assistance exhibited higher levels of cognitive distortions in the interpersonal domain rather than in the personal achievement domain. Considering the nature of academic responsibilities, this finding is significant and may be associated with mobbing in academia (Erdemir, 2019), gender inequality (Boyacıoğlu & Hünler, 2019), hierarchical conflicts (Günsan, 2024), administrative issues (Gümüş & Gülmez, 2020), and various ethical challenges (Apaydın et al., 2021).

Another noteworthy result is the observed decline in Machiavellianism with increasing academic rank. Machiavellianism, defined as a tendency to engage in manipulative behaviors to achieve one's goals, sometimes disregarding ethical boundaries (Christie & Geis, 1970), was found to decrease as academic rank increased. This finding aligns with a large-scale study (Götz et al., 2020) that examined age-related changes in Machiavellian tendencies across the lifespan, involving 1,118,643 participants aged 10 to 65, and reported a decline in Machiavellian traits with age. Therefore, it is plausible that academicians who attain a certain academic rank experience a sense of accomplishment, leading to a reduction in Machiavellian tendencies. Furthermore, this result can also be interpreted in light of the inverse relationship

between Machiavellianism and conscientiousness, a personality trait that generally increases with age (Zhu et al., 2021).

Another significant finding is the strong correlation between Machiavellianism and catastrophizing in the interpersonal domain. Machiavellian individuals are known for their manipulative tendencies, which are often rooted in suspicious thinking and emotional dysregulation (Furnham et al., 2013). Given their inclination towards controlling situations and ensuring that outcomes align with their desires, anxiety and tension stemming from these tendencies may lead them to engage in cognitive distortions such as catastrophizing. This suggests a potential vicious cycle in which Machiavellian traits fuel catastrophic thinking and vice versa.

Additionally, significant differences in interpersonal cognitive distortions—including catastrophizing, emotional reasoning, mental filtering, and personalization—were observed across academic ranks. Specifically, associate professors exhibited higher scores in catastrophizing, emotional reasoning, and personalization compared to full professors. Previous research has indicated that associate professors perceive disparities in respect and rewards, experience higher administrative workloads, and are more likely to feel disadvantaged in terms of promotions and salaries (Bernat & Holschuh, 2015). Moreover, female associate professors encounter additional obstacles in their transition to full professorship, including increased teaching responsibilities, excessive service loads that hinder research, lack of knowledge about external funding sources, insufficient institutional support, limited collaboration opportunities, high mentoring responsibilities, and lack of travel funding (Easterly & Pemberton, 2008). These findings suggest that associate professors are in a particularly stressful and disadvantaged position within academia.

Considering the positive correlation between academic stress and cognitive distortions (El-Shokheby, 2020), the persistent exposure to stressful and anxiety-inducing situations may lead individuals to engage in cognitive distortions such as emotional reasoning or the inability to recognize positive events. Furthermore, given that these stressors are often chronic, repetitive, and involve tangible difficulties, they may impair an individual's ability to assess their circumstances realistically, thereby increasing catastrophic thinking about both the present and the future.

4.1. Conclusion and limitations

In summary, catastrophizing demonstrated significant differences across multiple analyses, and associate professors exhibited more pronounced cognitive distortions compared to academicians at other ranks. Additionally, within the Dark Triad traits, only Machiavellianism yielded significant results.

A major limitation of the study was the low response rate—despite reaching out to approximately 1,200 academicians via email and messaging, only 95 responses were received. This limited sample size may have resulted in insufficient heterogeneity, which restricted the application of certain parametric analyses and hindered the detection of statistically significant findings. Another limitation was that data regarding participants' university type and geographic location were incomplete, as these details were added to the form later, leading to missing information. These factors should be considered when interpreting the findings.

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YOUNG ADULTS' PRACTICES IN SEEKING ONLINE PSYCHOLOGICAL SUPPORT

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Abstract

In recent years, young adults have increasingly turned to online resources for psychological support, yet research on this widespread phenomenon remains scarce in Serbia. To address this gap, a quantitative cross-sectional study was conducted to explore the characteristics of internet use for accessing Online Psychological Support (OPS) among young adults (N = 379; ages 18–25; 63.2% women, 36.8% men), focusing on reasons to seek support, life domains, online resources, forms, and adverse experiences. Data were gathered through an anonymous online questionnaire via Google Forms and analysed using descriptive statistics and chi-square tests in SPSS 21. The results show that almost half of the respondents (46.2%) use OPS, with women engaging in it more frequently than men. Young adults primarily seek OPS for information on psychological symptoms and ways to cope with them (69.4%), for personal growth in the absence of acute difficulties (42.9%), and for managing immediate psychological issues (40.3%). Major life domains for which OPS is sought include education/work (51.1%), personal growth (48.0%), and intimate relationships (46.6%). Respondents most frequently use search engines (74.5%), podcasts (55.2%), and YouTube (52.4%) for support, while formal online counselling and psychotherapy are rarely used (2.8%). Regarding the forms of OPS used, respondents most commonly engage with informational videos and texts (56.3%) and the practice of sharing experiences (46.5%). Most participants (68.9%) had no adverse experiences with OPS, although some encountered unprofessional or unreliable information. By highlighting current practices and potential challenges, this study contributes to a more comprehensive understanding of the use of OPS among young adults in Serbia.

Keywords: *Internet psychological support, purposes, life domains, resources, adverse experiences.*

1. Introduction

With the rising availability and use of the internet in the last decade, an increasing number of people have been using it for various forms of Online Psychological Support (OPS) and mental health improvement (Horgan, Sweeney, 2010; Mitchell, McMillan, Hagan, 2017; Pretorius et al., 2019; Pretorius, Chambers, Coyle, 2019). This trend was further amplified by the COVID-19 pandemic, during which opportunities for psychological support through social contact and in-person professional support were significantly reduced. As a result, people became more inclined to use the Internet for psychological support, both through professional online sessions and through more informal forms of mental health support—emotional support via online communities and forums, on social networks, self-help and meditation apps, chatbot advice, etc. (Saha et al., 2020; Torous et al., 2020; Wind et al., 2020). Research indicates that due to higher digital literacy and a greater emphasis on online content, young adults are more likely to seek psychological help online than older individuals (American Psychological Association, 2022). When considering the use of OPS in this age group, it is particularly relevant that prevalence data indicate that young adults are more susceptible to mental health challenges, and it is also the age at which most mental disorders first manifest. The most common challenges during this period include elevated levels of psychological distress and stress related to life changes, depression, anxiety, substance abuse, and suicidal tendencies (Patel et al., 2007; Suvisaari et al., 2009; Westerhof & Keyes, 2010).

2. Design

Although the use of OPS is an empirically confirmed and widespread phenomenon, research on it remains scarce in Serbia. To address this gap, a quantitative cross-sectional study was conducted using a survey to gather data on the characteristics of internet use for accessing Online Psychological Support (OPS) among young adults.

3. Objectives

The study aimed to gain insight into the characteristics of OPS use among young adults and to examine potential negative experiences when using the internet for psychological support. Data collection focused on the following aspects: purposes of seeking OPS in young adults, life domains for which OPS is sought, internet resources for obtaining OPS, forms of OPS, and adverse experiences with OPS.

4. Variables

We examined various aspects of OPS in young adults, including the purposes for seeking OPS, the life domains in which it is sought, the internet resources used to obtain it, the forms it takes, and adverse experiences related to it, and tested their association with gender using chi-square tests.

5. Methods

5.1. Sample

The study included 379 respondents recruited using the snowball sampling method. The respondents were between 18 and 25 years old, of both sexes, with 63.2% being women and 36.8% being men.

5.2. Instruments

A pilot study was conducted among 30 young people to specify operational variables that would be included in the research. Based on the results, a self-report questionnaire, Online and Offline Psychological Support (OOPS, Hrnčić & Stajkić, 2024), was developed for the broader study. The data about OPS were collected on eight items: two related to gender and age, and six related to the mentioned criterion variables, out of which one measured frequency of using OPS and respondents would select one answer on a five-point Likert scale ("Do you seek psychological support on the internet and how often?"). For the remaining five questions, respondents answered multiple-choice questions (where more than one answer could be selected) with 7-11 structured response options and the option "Other", allowing participants to add personal answers and experiences. For example: "What form of psychological support do you seek online?" (11 response options provided, plus the "Other" option).

5.3. Procedure

The Ethical Commission of the Faculty of Political Science, University of Belgrade, Serbia, granted approval for the research. The questionnaire was administered online via Google Forms and filled out anonymously. Responses to all questions were mandatory, and the completion time was approximately 15 minutes. Data were collected over a seven-day period in December 2024.

5.4. Data processing

Descriptive statistical methods and the chi-square test, using SPSS, were employed for data analysis.

6. Results

When considering the frequency of OPS use among young people, the findings reveal that nearly half of the participants (46.2%) use OPS, with women (55.8%) significantly more likely to engage than men (29.5%) [$\chi^2(1) = 24.566$, $p = 0.000$, $N = 379$].

As for the purpose of seeking OPS, young adults most commonly turn to it to gain information about psychological symptoms, their causes, and ways to overcome them (69.4%), for personal growth and development in the absence of difficulties (42.9%), and for alleviating immediate psychological issues (40.3%). No gender differences were observed in the purposes for which OPS was used.

Among the eleven examined areas of life, OPS is most frequently sought for education and/or work (51.1%), personal growth without any immediate difficulties (48.0%), and romantic relationships (46.6%). Men are more likely to seek OPS concerning finances (men 25.5% vs women 13.3%) [$\chi^2(1) = 4.51$, $p = 0.034$, $N = 221$] and relationships on social networks (men 18.2% vs women 4.8%) [$\chi^2(1) = 9.86$, $p = 0.002$, $N = 221$], while women rely on it more for education and/or work (women 56.6% vs men 34.5%) [$\chi^2(1) = 8.06$, $p = 0.005$, $N = 221$].

Out of nine possible OPS sources, young people most frequently use search engines (74.5%), podcasts (55.2%), YouTube videos (52.4%), and social media (47.6%), and somewhat less frequently, AI tools (26.9%). Online counselling and psychotherapy are rarely used (2.8%). Interestingly, men are more likely to use online communities and forums than women (men, 22.6% vs. women, 8.8%) [$\chi^2(1) = 7.07$, $p = 0.008$, $N = 212$]. In contrast, women make greater use of professional mental health websites than men (women, 24.5% vs. men, 9.4%) [$\chi^2(1) = 5.50$, $p = 0.019$, $N = 221$].

Regarding the forms of OPS that respondents most frequently access, they most commonly engage with informational videos and texts (56.3%) and share personal experiences (46.5%). New emerging OPS tools are used in a somewhat smaller percentage, but still, significantely-37.6% of participants listen to music for mental health (alpha, theta, delta waves, different Hz frequencies for anxiety relief, etc.), practice breathing exercises (20.7%), meditations (18.8%), consume spiritual content (16.9%), practice affirmations (16.4%). Young adults are least likely to seek sessions with a coach (4.2%), a therapist (4.2%), or a brief chat with a professional (2.8%). There were no gender differences in these practices, except that women were more likely than men to consume informational videos and texts (women, 60.6% vs. men, 43.4%) [$\chi^2(1) = 4.80$, $p = 0.028$, $N = 213$].

When it comes to the adverse effects of OPS, most participants (68.9%) reported having no negative experiences at all. The only significant adverse experience involves encountering unprofessional and unreliable information and support (25.6%). All other negative experiences were nearly absent: worsening of mental health (3.2%), insufficient anonymity (2.4%), and online abuse (2.3%). No gender differences were found concerning negative experiences.

Since multiple chi-square tests were used to analyse gender differences, the possibility of false positives cannot be ruled out. For a more conservative interpretation, a Bonferroni correction may be applied to adjust the significance threshold. Given that the study's questions included 7–11 response options, the adjusted significance level for $\alpha = 0.05$ would range between $\alpha = 0.004$ and 0.007.

7. Discussion

The findings show that nearly half of the sampled young adults use Online Psychological Support (OPS), and women engage significantly more frequently than men. This result is consistent with previous research suggesting that young women, possibly due to higher digital literacy and openness to help-seeking, access online mental health resources more frequently (Pretorius et al., 2019). In line with the literature, respondents most sought OPS for information about psychological symptoms and strategies for overcoming them (Horgan & Sweeney, 2011; Pretorius et al., 2019b). These findings reinforce the notion that the internet serves as a key source of psychoeducation, especially in a developmental period characterised by increased vulnerability to mental health issues (Patel et al., 2007).

Interestingly, a substantial proportion of participants sought OPS for personal growth rather than for acute psychological distress. This mirrors the growing emphasis on mental health care in younger generations, who might be using online platforms not only to address difficulties but also to foster well-being and personal development. Moreover, men were more likely to seek help regarding finances and social media relationships, whereas women focused more on educational and work-related issues. Societal norms and gender roles may influence such differences.

Regarding the types of online resources used, search engines, podcasts, and YouTube were the most favoured. These channels offer immediate, flexible, and often free information, which may partly explain their widespread use (Pretorius et al., 2019b). Professional online counselling, however, was seldom utilised, suggesting that while young adults are open to OPS, formal telepsychology services may remain underused, possibly due to cost, lack of awareness, preference for less structured forms of online interaction, or reluctance to seek professional help (Rickwood, Deane, & Wilson, 2007).

The study also highlights that most users had no adverse experience with OPS. However, the main negative experience reported was encountering unprofessional or unreliable information, which was already pointed out as a concern in the literature (Pretorius et al., 2019a, 2019b). This emphasises the importance of digital literacy and the need for regulating and promoting credible online psychological resources. No significant gender differences emerged regarding negative experiences, suggesting that the quality of support and information may be equally variable across sources used by both women and men.

The study could benefit from more context on how local societal and cultural factors, such as the stigma of mental health challenges and social norms of help-seeking, influence OPS use in young adults. Future research could also benefit from a more diverse sampling strategy that would represent the demographic structure of the young adult population.

8. Conclusion

This study contributes to the scarce literature on OPS use among young adults in Serbia, revealing that a substantial percentage of young adults turn to internet-based resources for psychological support. Women appear to be more frequent users than men, although the reasons for seeking help—ranging from education to personal growth—do not differ significantly by gender. Participants primarily rely on easily accessible online resources, such as search engines, podcasts, and social media, with seldom use of formal online counselling.

Most respondents reported generally positive experiences that speak to the potential benefits of OPS. However, concerns about encountering unprofessional help or unreliable information highlight the need for stronger regulations and the promotion of validated resources. Addressing these issues could lead to safer, more effective OPS, encouraging more young adults to seek support.

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FAMILY FUNCTIONING AND DYADIC RELATIONSHIP IN MULTIPLE SCLEROSIS: PRELIMINARY DATA OF AN ITALIAN MULTICENTER STUDY

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Abstract

Introduction: Multiple sclerosis (MS) is a chronic inflammatory and neurodegenerative disease which not only affects physical functioning but is also associated with cognitive impairments and psychological distress. The combination of these symptoms can have a negative consequence on the family functioning (FF) of people living with MS (PwMS), with detrimental effects on couples and their dyadic relationships. In addition, the quality of relationships could be influenced by other factors, such as specific individual characteristics (such as high levels of alexithymia) or social support. For these reasons, we assessed the FF and the quality of dyadic relationships of PwMS and their partners. Specifically, we aimed to investigate the relationships between alexithymia, psychological distress (anxiety and depressive symptoms), perceived social support, dyadic relationships and FF.
Methods: Couples, consisting of PwMS and their respective partners, recruited from several Italian MS centers, were invited to complete an online survey. Measures included: the Brief Family Assessment Measure 3 (FAM3) to assess FF; the Hospital Anxiety and Depression Scale (HADS) for psychological distress symptoms; the Multidimensional Scale of Perceived Social Support (MSPSS) for social support; the Toronto Alexithymia Scale (TAS-20) for alexithymia; the Dyadic Adjustment Scale (DAS) for the quality of dyadic relationships.
Results: In the present study, we analyzed data from 28 couples including 16 women and 12 men with MS and their partners (mean age: 46 years). A statistically significant correlation was found between the DAS scores (r=.496, p<.007), while no correlation was found between the FAM3 scores of the PwMS and the partner.
The FAM3 scores of the PwMS were significantly correlated with the DAS (r=-.643, p<.01), MSPSS (r=-.624, p<.01) and TAS-20 scores (r=.424, p<.025) as well as with the HADS-Depression scores (r=.493, p<.008) and MPSS scores (r=-.447, p<.017) of the partners. The partner's FAM3 scores was significantly correlated with his/her level of anxiety (HADS-Anxiety r=.558, p<.002) and depression scores (HADS-Depression r=.844, p<.01), with the TAS-20 (r=.466, p<.012), the MSPSS (r=-.562, p<.002) and the DAS scores (r=-.451, p<.016).
Discussion: Overall, data show that couples do not rate the quality of the FF equally but agree on the quality of the dyadic relationship. Interestingly, partners' psychological distress influenced both patients' and partners' perceptions of FF, suggesting that special attention should be paid to this aspect in clinical practice, as it could be a crucial factor for both partners.

Keywords: *Family functioning, dyadic relationship, multiple sclerosis, psychological distress, perceived social support.*

1. Introduction

Multiple sclerosis (MS) is a chronic, neurodegenerative, and disabling disease characterized by inflammatory processes. It primarily affects the central nervous system (CNS), resulting in a wide range of symptoms that vary in severity and progression, including motor deficits, sensory disturbances, and visual impairments. Beyond its physical manifestations, MS frequently presents significant cognitive impairments (Calabrese, 2006; Ehrensperger et al., 2008) and psychological distress, including anxiety and depression symptoms (Siegert et al., 2005). Indeed, the disease can profoundly impact the daily lives of people with

MS (PwMS), thus affecting both their social interactions and quality of life (Ehrensperger et al., 2008; Donisi et al., 2021).

MS is responsible of influencing family functioning (FF) and couple relationships. The main issue to consider when managing a chronic disorder - as MS is - goes beyond the individual, significantly impacting close relationships, particularly with partners (Uccelli, 2014). The emotional, physical, and financial strains imposed by the disease can disrupt couples' dynamics, leading to increased stress, conflict, and a perceived decline in relationship quality over time (Neate et al., 2019). Consequently, MS presents substantial challenges to dyadic relationships, as partners often play caregiving roles, thus altering the couple's balance (McCabe & McDonald, 2007). In addition, the absence of definitive cure for MS significantly contributes to the disease burden, that can present as unpredictable relapses, continuous progression, and prolonged morbidity, particularly in individuals with early-onset disease (Uccelli, 2014).

The quality of dyadic relationships between PwMS and their partners is influenced by several factors, including alexithymia, which represents the difficulty in identifying and expressing emotions (Chalah & Ayache, 2017). High levels of alexithymia have been linked with an impaired communication, resulting in decreased emotional bonding within interpersonal relationships. (Bird & Cook, 2013). Additionally, psychological distress, including anxiety and depression, can further strain relationships by reducing emotional availability and exacerbating interpersonal conflicts (Navaneetham & Kanth, 2022).

Another key determinant of dyadic relationship quality and FF is represented by the perceived social support, that acts as a protective factor against the psychological and emotional challenges associated with MS (Sherman et al., 2007). Adequate social support has been correlated with better emotional well-being, more effective coping strategies, and greater relationship satisfaction (Costa et al., 2012).

2. Objectives

Given the multidimensional impact of MS on individuals and their relationships, understanding the FF and the role played by psychological factors in families is essential. For this reason, the aim of this study was to investigate the FF of households with a parental couple member diagnosed with MS, and the quality of dyadic relationships in PwMS and their partners. Specifically, we aimed to investigate whether certain psychological variables such as psychological distress (anxiety and depression symptoms), perceived social support, and alexithymia were able to play a moderating or mediating role in the FF or dyadic relationship. By examining these interrelated factors, we sought to identify potential pathways for intervention that could enhance the well-being of both PwMS and their families. This approach underscores the importance of addressing not only the physical symptoms of MS but also its psychological and social ramifications to improve overall outcomes for affected individuals and their support networks.

3. Methods

Couples, each comprising a PwMS and their partner, were consecutively recruited from MS centers across Italy. During follow-up visits, a psychologist introduced the research objectives to the PwMS and asked for their participation, which involved completing an online survey.

Exclusion criteria for PwMS were: age below 18 years; an educational level of less than 5 years; insufficient proficiency in the Italian language, rendering them unable to complete the questionnaires; a current or past diagnosis of a neurological disorder other than MS or a psychiatric disorder; and severe motor or visual impairments that could interfere with psychometric assessments. Exclusion criteria for the partners of PwMS were: age below 18 years; an educational level of less than 5 years; insufficient proficiency in the Italian language; and a current or past diagnosis of a neurological or psychiatric disorder.

All participants were required to provide informed consent before being enrolled in the study, and then they completed a socio-demographic data sheet. Subsequently, participants were asked to complete a self-administered online survey designed to evaluate FF, the quality of the dyadic relationship, symptoms of anxiety and depression, perceived social support, and alexithymia.

Family functioning was evaluated using the Self-Rating Scale of the Short Form of the Family Assessment Measure, Third Edition (FAM3; Skinner et al., 2000), which allows individuals to evaluate their personal functioning within the family. Higher scores indicate above-average family difficulties, and this scale has demonstrated robust internal consistency, with Cronbach's alpha values ranging from 0.80 to 0.88 (Pellerone et al., 2017).

Dyadic relationship was evaluated using the Dyadic Adjustment Scale (DAS; Spanier, 1976;) that includes four subscales: Dyadic Satisfaction, Dyadic Cohesion, Dyadic Consensus, and Affectional Expression. The final score ranges from 0 to 151, with higher scores corresponding to greater dyadic consensus. The DAS has shown strong psychometric properties, including internal consistency with Cronbach's alpha values ranging from 0.70 to 0.95, as well as test-retest reliability (Carey et al., 1993).

Symptoms of anxiety and depression was evaluated using the Hospital Anxiety and Depression Scale (HADS), which comprises 14 items, divided into two subscales: the HADS-Anxiety (seven items) and the HADS-Depression (seven items) (Zigmond & Snaith, 1983). Each subscale score ranges from 0 to 21, with higher scores suggesting a higher level of anxiety or depressive symptoms. The HADS has demonstrated good psychometric properties, including concurrent validity, test-retest reliability, and internal consistency, with Cronbach's alpha values ranging from 0.82 to 0.90 (Bjelland et al., 2002).

Perceived social support was assessed using the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988). The MSPSS included 12 items rated on a 7-point Likert scale, with higher scores corresponding to greater levels of perceived social support. The MSPSS has shown excellent psychometric properties, including high internal consistency (Cronbach's alpha: 0.87–0.94) and test-retest reliability (Osman et al., 2014).

Finally, alexithymia was evaluated using the Toronto Alexithymia Scale (TAS-20), a 20-items self-report measure that assess three dimensions: Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking (Taylor et al., 2003). A total score of more than 60 indicates the presence of alexithymic traits. The TAS-20 has demonstrated good internal consistency (Cronbach's alpha = 0.70) and test-retest reliability (Taylor et al., 2003).

4. Results

For this study, data from a sample of 28 couples, comprising 16 (57.1%) women and 12 (42.9%) men diagnosed with MS (mean (SD) age: 45.18 (8.7)) and their respective partners (mean (SD) age: 46.39 (8.9)) were analyzed. Most of the included people had a degree school level (PwMS: 26 (92.9%); Partners: 25 (89.3%)) and were employed (PwMS: 18 (64.3%); Partners: 19 (67.9%)) (see Table 1).

Table 1. Data regarding PwMS and related Partner.

		PwMS	**Partner**
Employment (N(%))	***Employed***	*18 (64.3%)*	*19 (67.9%)*
	Unemployed	*2 (7.1%)*	*3 (10.7%)*
	Retired	*3 (10.7%)*	*2 (7.1%)*
	Housewife	*5 (17.9%)*	*4 (14.3%)*
FAM3 (Mean (SD))		*10.89 (5)*	*11.14 (7)*
DAS (Mean (SD))		*108.25 (11)*	*107.75 (11.6)*
HADS-Anx (Mean (SD))		*6.93 (4.4)*	*7.14 (5.6)*
HADS-Dep (Mean (SD))		*6.21 (4.5)*	*4.54 (4.1)*
MSPSS (Mean (SD))		*69.79 (10.7)*	*69 (14.5)*
TAS-20 (Mean (SD))		*57.75 (12.5)*	*56.82 (12.1)*

Note. PwMS: People with MS; FAM3: Brief Family Assessment Measure 3; DAS: Dyadic Adjustment Scale; HADS-Anx: Hospital Anxiety and Depression Scale – Anxiety; HADS-Dep: Hospital Anxiety and Depression Scale – Depression; MSPSS: Multidimensional Scale of Perceived Social Support; TAS-20: Toronto Alexithymia Scale – 20 items.

As shown in Table 1, PwMS and partners reported similar mean values in the FAM3, both falling in a range which suggested limited family difficulties. In addition, the DAS scores revealed an overall satisfaction of the quality of the dyadic relationship in both groups. Regarding psychological distress, 9 (32.1%) PwMS and 12 (42.9%) partners showed the presence of statistically significant levels of anxiety symptoms, while 9 (32.1%) PwMS and 7 (25%) partners showed the presence of statistically significant levels of depressive symptoms at the HADS. Finally, the TAS-20 showed that 13 (46.4%) PwMS and 9 (32.1%) partners had alexithymic trait.

Regarding the within-group correlations, FAM3 scores of PwMS correlated significantly with DAS ($p<.01$), MSPSS ($p<.01$) and TAS-20 scores ($p<.025$). There were no correlations between FAM3 and psychological distress. On the contrary, the partner's FAM3 scores correlated significantly with his/her level of anxiety (HADS-Anxiety: $p<.002$) and depression scores (HADS-Depression: $p<.01$), as well as with DAS ($p<.016$), MSPSS ($p<.002$), and TAS-20 ($p<.012$) scores (Table 2).

Table 2. Correlations between FAM3, DAS, HADS-Anxiety, HADS-Depression, MSPSS, and TAS-20.

	PwMS					PARTNER				
	FAM3	***DAS***	***HADS -Anx***	***HADS -Dep***	***MSPSS***	***FAM3***	***DAS***	***HADS -Anx***	***HADS -Dep***	***MSPSS***
DAS	*-.643***					*-.451**				
HADS-Anx	*0.276*	*0.003*				*.558***	*-.433**			
HADS-Dep	*0.335*	*-0.305*	*.710***			*.699***	*-.545***	*.844***		
MSPSS	*-.624***	*.563***	*-0.011*	*-0.220*		*-.562***	*0.320*	*-0.266*	*-.384**	
TAS-20	*.424**	*-0.245*	*.575***	*0.303*	*0.015*	*.466**	*-.403**	*.601***	*.529***	*-.464**

Note. *p-value < .05; **p-value < .01. PwMS: People with MS; FAM3: Brief Family Assessment Measure 3; DAS: Dyadic Adjustment Scale; HADS-Anx: Hospital Anxiety and Depression Scale – Anxiety; HADS-Dep: Hospital Anxiety and Depression Scale – Depression; MSPSS: Multidimensional Scale of Perceived Social Support; TAS-20: Toronto Alexithymia Scale – 20 items.

The correlations between the groups are shown in Table 3. The data showed no correlation between the FAM3 scores of the PwMS and the partner, while there was a statistically significant correlation between the DAS scores (r=.496, p<.007). The FAM3 scores of the PwMS correlated with the HADS-Depression (r=.493, p<.008) and the MPSS scores (r=-.447, p<.017) of the partners, while the FAM3 of the partners showed no correlation with any of the variables assessed in the PwMS.

Table 3. Correlations between FAM3, DAS, HADS-Aanxiety, HADS-Depression, MSPSS, and TAS-20 scores of PwMS and related Partner.

		Partner					
		FAM3	***DAS***	***HADS-Anx***	***HADS-Dep***	***MSPSS***	***TAS-20***
PwMS	***FAM3***	*0.347*	*-0.343*	*0.332*	*.493***	*-.447**	*0.244*
	DAS	*-0.366*	*.496***	*-0.363*	*-.521***	*0.099*	*-0.241*
	HADS-Anx	*-0.024*	*0.078*	*-0.129*	*-0.109*	*-0.087*	*0.105*
	HADS-Dep	*-0.079*	*-0.165*	*-0.236*	*-0.129*	*-0.030*	*-0.025*
	MSPSS	*-0.294*	*.377**	*-0.306*	*-.536***	*0.189*	*-.380**
	TAS-20	*0.173*	*-0.069*	*0.134*	*0.142*	*-0.232*	*0.154*

Note. *p-value < .05; **p-value < .01. PwMS: People with MS; FAM3: Brief Family Assessment Measure 3; DAS: Dyadic Adjustment Scale; HADS-Anx: Hospital Anxiety and Depression Scale – Anxiety; HADS-Dep: Hospital Anxiety and Depression Scale – Depression; MSPSS: Multidimensional Scale of Perceived Social Support; TAS-20: Toronto Alexithymia Scale – 20 items.

5. Discussion and conclusions

The results of this preliminary study highlight the complex interaction between individual, dyadic and family dynamics in couples managing MS.

The significant correlations between FF (FAM3) and psychosocial variables, such as dyadic adjustment, perceived social support, and alexithymia in the PwMS group suggest a deeply interconnected system in which difficulties in one domain may exacerbate problems in other domains.

PwMS reported that poorer FF was associated with greater emotional dysregulation and with low levels of perceived social support and dyadic adjustment. Interestingly, there was no association between FF and psychological distress in PwMS.

In contrast, in the partners group, higher levels of anxiety and depression symptoms were strongly associated with poorer FF perceptions, which were also influenced by higher levels of alexithymia and low levels of perceived social support and dyadic adjustment.

The most interesting results probably concern the correlations between the groups and in particular the correlation between the partner's depressive symptoms and the FF perception of both the partner himself and the PwMS. Thus, the psychological distress of those who share daily life with the PwMS influences not only their own perception of FF, but also that of the person with MS themself.

These findings suggest that a more comprehensive caretaking approach is needed, involving both patients and their partners. Adopting a more comprehensive perspective would allow for more useful and informed interventions in disease management.

The main limitation of this study is the small sample size, which makes it difficult to expand this aspect to the general population. For this reason, it is recommended that further studies are conducted to fill the gaps in the current literature.

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DRUG ADDICTION AS RISK FOR SUICIDE ATTEMPTS DURING THE COVID-19 PANDEMIC. CASE STUDY AT CAROLINA CENTER FOR BEHAVIORAL HEALTH, PSYCHIATRIC RESIDENTIAL HOSPITAL IN SOUTH CAROLINA, UNITED STATES

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Abstract

Background: Suicide is closely linked to the substances use. Therefore, it is very important to confirm the factors that affect the possibility of suicidal behavior. The research was conducted in the year 2020, during the internship certification period for Counselor on Addicts, conducted in the Carolina Center for Behavioral Health, Greer, SC, overlapping period and with the effects of the crisis caused by the covid-19 pandemic.
Methods: The survey included 200 respondents, all subjects in the facility; 100 heroin addicts on the substitution program that attempted suicide and 100 opiate addicts who have not attempted suicide. The evaluation included a questionnaire with socio-demographic, hereditary and addiction data, legal problems and then the Minnesota Multiphasic Personality Inventory–MMPI-2. Of the 100 addicts who tried to commit suicide, an attempt was made to apply the Scale for Assessment of Lethality of Suicide Attempt (SALSA), but with low response rates.
Results: The results showed a statistically significant difference compared to the personality structure, especially pronounced in hypersensitive structures, in relation to the duration of addictive experience and duration of heroin by intravenous route, as well as in relation to the presence of psychotic disorders, drug abuse and suicidal behavior in the family.
Conclusion: As risk factors among opiate addicts are identified interfered biological and psychological factors and the effects of the substances themselves.

Keywords: *Drug, addiction, suicidal risk, prevention, therapeutic program.*

1. Introduction

Suicide is a leading cause of premature death in young adults. Data from the World Health Organization indicate that the rate of completed suicide for the world's population is 16 per 100,000 inhabitants, which means that each year more than a million people in the world commit suicide. Suicide attempts are five to twenty times more common than the completed suicide (Harris & Barraclough, 1997). Based on the data from the research community, approximately 5% of adults attempts suicide at least once in their lifetime (Kessler et al., 1999).

Mental health problems are the most common and best explored risk factor associated with suicidal ideas, suicide attempts and completed suicide. During the coronavirus disease 2019 (COVID-19) pandemic, people can experience anxiety, fear, frustration, sadness and loneliness — to the point that those feelings become constant and overwhelming. Existing mental health conditions, including severe anxiety and major depression, may worsen. The emotional and psychological impacts of the pandemic can lead to feelings of hopelessness and thoughts about suicide. About 90% of all people who commit suicide met the diagnostic criteria for one or more psychiatric disorders (Wilcox et al., 2004). People who abuse alcohol and/or drugs attempting suicide nearly six times more often than people who do not abuse these substances. (Maloney et al., 2007; Darke et al., 2004).

In most cases, drug addicts attempt suicide by overuse of drugs that is an overdose, or a combination of drugs and tablets, while in a few cases the manner in which the suicide is attempted is not directly related to drugs (Min et al., 2013). Although there is a correlation between the disorder caused by the use of substances and suicidal behavior, a large number of addicts will never attempt suicide. It is therefore important to identify those individuals with the disorder caused by the use of substances that may be at higher risk for suicide (Schneider, 2009; Borges & Loera, 2010). Many risk factors for suicide in the

general population also apply to drug addicts (Darke & Ross J, 2002). Previous suicide attempts there represent a strong risk factor for repeated suicidal attempts (Ilgen et al., 2007). Affective disorders in general, and particularly depressed mood is a risk factor for suicidal behavior in the general population and among addicts (Conner et al., 2003). Suicidal addicts tend to have certain emotional problems and behavioral problems that strongly affect their activities, primarily as impulsive reactions and the inability to control behavior (Wojnar et al., 2009).

The general objective of this study was to determine the characteristics and risk factors of opiate addicts who have attempted suicide compared to addicts who have not attempted suicide. The study participants were patients of a residential center, under substitution treatment, for a period between 3 and 5 weeks. The instrument was the structured questionnaire, but also the psychological test the Minnesota Multiphasic Personality Inventory MMPI-2 (Butcher et al., 1989), which objectively assessed the personality profile.

2. Material and methods

2.1. Participants

This study included 200 opiate addicts who have been in the recovery phase on a substitution treatment. Respondents agreed to participate in this study, with the permission of centers for treatment of drug addicts in Greer, where the research was conducted. The survey was conducted from March to September 2020.

The experimental group consisted of 100 opiate drug users who have had a history of suicide attempts, and a control group of 100 opiate addicts who had no history of suicide attempts. Inclusion factor for both groups was the opiate addiction by ICD-10 criteria, while excluding factors were: organic and symptomatic mental disorders, schizophrenia, schizoid personality disorder and insane mental disorders, mood disorders and mental retardation.

2.2. Methods

This study tested the factors that affect suicidal behavior of opiate addicts. Data were collected from anonymous participants on voluntary basis and no compensation was not offered in connection with the study.

For this study was used questionnaire structured specifically for this research. The questionnaire contained the following areas: socio-demographic data, data on psychiatric heredity, data on addiction characteristics and on judicial issues. In addition, respondents filled out the Minnesota Multiphasic Personality Inventory MMPI-2, which objectively assessed personality structure; also, the Scale for Assessment of Lethality of Suicide Attempt (SALSA) provides useful information regarding the behavior. The scale for assessment of lethality of suicide attempt (SALSA) has two components: The first component has four items indicating seriousness of the attempt and its likely consequences and the second component is the global impression of lethality.

For statistical analysis were used SPSS Program, Student’s t test and Pearson’s chi-square test.

3. Results of study

In relation to social factors–with whom they live: alone, with a partner or with a partner and children in relation to the life with the primary family or with other/friend, suicidal and non suicidal addicts do not show a statistically significant difference. The level of significance in relation to the employment status is only marginally significant. Education among the groups showed no statistically significant difference. Addicts who attempted suicide were statistically significant more often unmarried and divorced A statistically significant difference between the examined groups in respect of whether they have children does not exist, as well in relation to the marital status of the parents.

Analysis of psychiatric heredity is performed with respect to the family members and psychiatric disorders. In respect of family members, there was no statistically significant difference, while in relation to psychiatric disorders there was. Among addicts who attempted suicide were more common psychotic disorders, drug addiction and suicide attempts in the family.

Analysis of heroin use onset, between groups showed no statistically significant difference. Unlike the previous variables, Duration of addiction and duration of intravenous heroin use are at border levels of statistical significance in relation to the mean, and highly statistically different in relation to the analysis of variance. Addiction duration and the duration of intravenous use among persons who attempted suicide is longer.

Sociodemographic characteristics of the sample were not significantly different between those who succumbed to their attempt compared to those who survived. Most of the sample survived (63.4%) the attempt; 11 (13.4%) were brought dead and later 19 (23.2%) more died. Those who died were significantly older (41.9 ± 17.6 years) in age compared to the survivors (30.2 ± 9.5, t: 3.9, df: 80, P < 0.001). It was observed that around 9 (10.9%) people had taken alcohol before attempt, 17 (20.7%) took precautions to avoid discovery, and 41 (50.0%) attempted impulsively. History of past suicide attempt was there in 9 (10.8%). Only a small proportion (3.7%) used more than one method of suicide.

Table 1. Psychiatric heredity.

Variable		Suicidal	Non suicidal	Chi square	DF	p
Psychiatric treatment	Father	27	26	4.027	4	0.40232
	Mother	5	5			
	Siblings	12	6			
	Close relatives	2	6			
	No heredity	54	57			
Psychiatric disorder	Alcoholism	21	30	19.601	8	0.011
	Drug addiction	10	2			
	Psychosis	9	6			
	Psychoneuroses	0	2			
	Depression	0	3			
	Suicide	5	0			
	No disorder	54	57			

Using MMPI is performed detection of disorders in eight categories: psychopathy-1, hypersensitivity structure-2, symptoms of alleviating problems-3, passive-aggressive-structure -4, narcissistic structure -5, borderline personality disorders-6, passive-aggressive structure-7 and schizoid personality structure-8. Passive-aggressive and schizoid structure was not diagnosed in any case. Statistical analysis showed that the difference between groups is statistically significant: Chi-square- 13.892, df-5, p = 0.0163.

Table 2. Addiction features.

	Mean suicide	Mean Non suic.	t-value	DF	p	Std. Dev. suicide	Std. Dev. nonsuicide	F ratio	p
Age of first use	19.940	19.640	0.340	19	0.733	5.901	6.532	1.225	0.313
Addiction duration	10.11	8.870	1.437	19	0.052	7.070	5.000	1.999	0.000
Duration of intravenous use	7.070	5.000	1.999	19	0.054	4.217	8.630	4.187	0.000

4. Conclusion

In this study, as the main risk factors for suicide attempts among addicts were proven the following variables: heredity, primarily psychotic disorders, drug addiction and suicide attempts in the family, then the duration of substance use and intravenous heroin use and hypersensitive personality structure. When this is integrated, we conclude that these are interfered biological and psychological factors and the effects of the substances themselves and psychological stress caused by COVID-19 Pandemic could be one of them.

During and after the COVID-19 pandemic, mental health issues need more attention to reduce the risk of suicide. Broadly, this means that public and private mental health services and individual providers need to be creative in finding, assessing and treating individuals at risk of suicide. This might include, for example, improving working conditions and providing more mental health services for workers on the front lines, encouraging scheduled breaks and taking time off, offering telehealth counseling, or providing food support and financial aid to those who have lost their jobs.

Individual action is important, too, especially during times when self-isolation and physical distancing are recommended.

It appears that SALSA is a valid and reliable instrument and will be useful for assessment of lethality of suicidal behavior during usual clinical evaluations considering the ease of administration.

Higher lethality was associated with attempters who succumbed to their attempt, who tried to avoid discovery and had intent to die. It was interesting to observe that the impulsive attempts were associated with higher lethality compared to planned attempts, which is in contrast to the reported observations that lethal suicidal acts often involve planning. Although impulsivity or planning of the attempt could not be ascertained in a considerable proportion, the study results suggested that impulsive attempts could be serious. Therefore, through this research, we have achieved the goal from which we started to carry out the study.

5. Limitations

There are a few limitations of the study that may be considered. The sample size was relatively small and the information had no scope for diagnostic assessment, thus the proportion may not reflect the exact prevalence of the phenomenon.

6. Discussions

Suicide is closely linked to the substance use (Sher, 2004; Sundin et al., 2011; Darke et al., 2007). It was confirmed that the psychiatric heredity is significant predictor of suicidal attempts in the case when the family members present psychotic disorders, drug abuse and suicide attempts. (Bohnert et al., 2010; Ilgen et al., 2010).

There's little data yet on the COVID-19 pandemic and its impact on the suicide rate. But clearly, the pandemic has added intense emotional and mental stress to the lives of people around the world. Fear, anxiety and depression can stem from a wide range of concerns and experiences, from personal and family issues to work-related stress (Bansal et al., 2011).

The unique circumstances of the COVID-19 pandemic, including little social interaction, may make it more challenging to identify those at risk of suicide. Warning signs aren't always obvious, and they may vary from person to person. Some people make their intentions clear, while others keep suicidal thoughts and feelings secret (Murphy et al., 2015).

Staying connected to each other and being aware of signs of suicide risk and how to respond is especially important to prevent suicide. Even in these times when there is greater physical detachment, people can maintain social connections and take care of their mental health (Chermack et al., 2000).

Economic decline during and after the COVID-19 pandemic will probably have a powerful and harmful effect on mental health and result in an increase in the prevalence of psychiatric disorders and suicidal behavior (Chermack et al., 2008; Franken & Ingmar, 2002).

To reduce potential harms of increased substance use related to COVID-19, resources, including social support, comprehensive treatment options, and harm reduction services, are essential and should remain accessible. Periodic assessment of mental health, substance use, and suicidal thoughts should evaluate the prevalence of psychological distress over time. Addressing mental health disparities and preparing support systems to mitigate mental health consequences as the pandemic evolves will continue to be needed urgently.

Conflict of interest

The author declares that there is no conflict of interest.

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HEALTH-RELATED QUALITY OF LIFE IN RECTAL CANCER PATIENTS DURING ACTIVE TREATMENT

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Abstract

Objective: The aim of this exploratory prospective observational study was to evaluate changes in Health-related Quality of Life (HRQoL) in rectal cancer patients (RCPs) during active cancer treatment, i.e. after diagnosis, after preoperative (chemo)radiotherapy and after surgical resection. Furthermore, the study aims to investigate which physical and psychosocial factors better predict HRQoL in the different treatment phases. Deepening the understanding of the positive and negative predictive factors for patients' HRQoL at different phases could indeed improve screening programs for early detection and intervention.
Methods: 43 RCPs, expected to be treated with preoperative (chemo)radiation and surgery, were enrolled after diagnosis and assessed at three different time points: diagnosis (T0), one month after the end of preoperative treatment (T1), and one month after resection surgery (T2). HRQoL (European Organization for Research and Treatment of Cancer Quality of Life Questionnaire, EORTC-QLQ-C30 and its disease-specific supplementary, the QLQ-CR29), psychological distress (Hospital Anxiety and Depression Scale, HADS), coping (Mini-Mental Adjustment to Cancer Scale, Mini-MAC), affectivity (Positive and Negative Affect Scale, PANAS), alexithymia (Toronto Alexithymia Scale, TAS-20) and social support (Multidimensional Scale of Perceived Social Support Scale, MSPSS) were evaluate at the different time points.
Results: The data showed that HRQoL decreased over time, especially between T1 and T2 (p=.005). Over time, patients' body image (p<.001) and urinary (p<.001), mouth (p=.015) and sexual (p<.001) symptoms worsened. Health anxiety (p<.001) and negative affectivity state (p=.037) improved after preoperative treatment, as did psychological distress (p<.001), although this increased again at T2 (p=.003).
Baseline intestinal symptoms (p<.001) and negative affectivity trait (p=.03) were found to be significant predictors of HRQoL at T0. Baseline pain (p<.001), intestinal (p=.003) and urinary (p=.009) symptoms at T1 significantly predicted HRQoL at T1. Finally, a fatalistic coping style at T1 (p=.013), psychological distress (p=.003) and mouth symptoms (p=.001) at T2 significantly predicted HRQoL at T2.
Conclusion: Our results suggest that several physical and psychological factors are involved in the changes occurring after diagnosis in RCPs' HRQoL, which decreases during active treatments. These data emphasise the importance of active screening, early diagnosis, and preventive psychological interventions immediately after diagnosis to improve HRQoL and psychological health outcomes.

Keywords: *Colorectal cancer, longitudinal study, active treatment, psychological distress, quality of life.*

1. Introduction

Rectal cancers account for 30% of colorectal cancers (CRC), which are the second most common type of cancer worldwide (Sung et al., 2021).

The diagnosis and treatment of rectal cancer can have a negative impact on patients' Health-related Quality of Life (HRQoL; Bours et al., 2016; Sales et al., 2014; Simillis et al., 2023). Various psychological aspects can influence the HRQoL of cancer patients, including those related to psychological distress, affective experience, alexithymia and coping strategies (De Vries et al., 2012; Kang & Son, 2019; Sales et al., 2014; Voogt et al., 2005). However, it is important to specifically analyze the combined role of these psychological and clinical aspects in patients with rectal cancer (RCPs), as they have specific characteristics that differ from other cancers.

This exploratory study aims to assess the changes in HRQoL of RCPs during active cancer treatments, i.e., after diagnosis during the appointment with the radiation oncologist where patients received the indication for treatment (T0), after preoperative (chemo)radiotherapy (T1) and after surgical resection (T2). In addition, the study will investigate which physical and psychosocial factors better predict HRQoL in the different treatment phases.

2. Methods

2.1. Participants and procedure

The participants were recruited in the Department of Radiation Oncology" of the Hospital "Città della Salute e della Scienza" in Turin. Inclusion criteria were: Age > 18 years, recent diagnosis of rectal cancer, indication for preoperative (chemo)radiotherapy and surgical resection, good knowledge of the Italian language and no severe cognitive or psychopathological disorders.

The sociodemographic, clinical, psychological and HRQoL data were collected during the appointment with the radiation oncologist when the patients received the indication for treatment (T0 - diagnosis). Except for alexithymia and trait affectivity, the psychological and HRQoL variables were collected again at T1 (at least one month after the end of preoperative treatment) and at T2 (at least one month after surgical resection), on average 3 and 6 months after diagnosis, respectively.

The study was approved by the institution's ethics committee (protocol number 0017109, procedure number CS2/1118) and conducted in accordance with the Declaration of Helsinki. All patients had given written informed consent.

2.2. Measures

The validated Italian versions of the following self-assessment scales were used.

The European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) and its disease-specific supplement (QLQ-CR29) were used to assess HRQoL and cancer-related symptoms. The QLQ-CR29 assesses 4 functional subscales (Body Image (BI), Anxiety (Anx), Weight (Wei), Sexual interest (SexInt)) and 18 symptoms scales categorized into the following groups: Urinary Symptoms (UrSy), Intestinal Symptoms (InSy), Pain Symptoms (PainSy), Mouth Symptoms (MoSy), Sexual Symptoms (SexSy). High scores indicate better HRQoL and a favorable outcome on the functional scale, but a greater symptom burden on the symptom scales.

The Hospital Anxiety and Depression Scale (HADS) was used to assess psychological distress (anxiety and depressive symptoms), with higher scores indicating high levels of symptoms.

The Mini-Mental Adjustment to Cancer Scale (Mini-MAC) was used to assess cancer-specific coping styles: cognitive avoidance (CA), fighting spirit (FS), fatalism (F), helplessness/hopelessness (HH), and anxious preoccupation (AP).

The Positive and Negative Affect Scale (PANAS) was used to assess positive and negative affectivity in both the trait (PANAS_PAtr and PANAS_NAtr) and state (PANAS_PAst and PANAS_NAst) versions.

The Toronto Alexithymia Scale (TAS-20) was used to assess alexithymia, with scores ranging from 20 to 100 and a cut-off point ≥ 61 indicating the presence of alexithymia.

2.3. Data analysis

Descriptive statistics were used for the variables collected at the three different time points. All variables were normally distributed (absolute values for skewness and kurtosis below 3.0 and 8.0 respectively). Repeated-measures analyses were used to assess changes in variables over time, applying the Greenhouse-Geisser correction when sphericity was violated. Post-hoc analyses with Bonferroni correction for significant main effects were then performed to assess differences between T1 and T0 and between T2 and T1.

Exploratory hierarchical multiple regression analyses were performed to investigate which variables better predicted HRQoL (QLQ-C30) at the different time points (T0, T1 and T2). Only significantly correlated variables (Pearson or Spearman bivariate correlations) were included in the regression models stepwise in the order of 1) clinical symptoms (QLQ-CR29 subscales), 2) psychological symptoms (TAS-20, PANAS, HADS, Mini-MAC) and chronologically (first T0, then T1 and then T2). Collinearity was assessed using the statistical factors of tolerance and Variance Inflaction Factor (VIF).

The Statistical Package for Social Sciences - 28.0 (IBM SPSS Statistics for Macintosh, Armonk, NY, USA: IBM Corp.) was used to perform the statistical analyses.

3. Results

At T0, 43 RCPs were enrolled (male: 29 (67.4%); female: 14 (32.6%); mean (SD) age: 61.6 (12.6); mean (SD) year of education levels: 11.35 (4.3); most were married/cohabiting: 32 (74.4%) and employed: 24 (55.8%)). Almost all patients (42 of 43) underwent preoperative chemotherapy with radiotherapy. 3 patients dropped out at T1 and 3 at T2. At T2, 38 patients (86.5%) had an ostomy (11 permanent, 21 temporary), and 17 patients (39.5%) underwent adjuvant chemotherapy.

The descriptive data and the results of the repeated measures ANOVAs are shown in Table 2. In particular, QLQ-C30 scores indicated overall HRQoL was maintained but decreased over time (p=.002), with post-hoc contrasts indicating significant differences between T1 and T2 (F(1,36)=8.86, p=.005).

The QLQ-CR29 showed a significant change in the QLQ-CR29_BI, with a decrease between T0 and T1 (F(1,36)=6.58, p=.015) and between T1 and T2 (F(1,36)=6, p=.019), and in the QLQ-CR29_SexInt, with a decrease between T1 and T2 (F(1,36)=18.37, p<.001). QLQ-CR29_UrSy, QLQ-CR29_MoSy, QLQ-CR29_SexSy worsened over time.

The QLQ-CR29_Anx improved over time, with a decrease between T0 and T1 (F(1,36)=14.31, p<.001). The PANAS_NAst decreased over time, especially between T0 and T1 (F(1,36)=4.71, p=.037). The HADS showed a fluctuating trajectory of symptoms, with post-hoc contrasts showing a decrease between T0 and T1 (F(1,36)=12.38, p<.001) and an increase between T1 and T2 (F(1,36)=9.79, p=.003).

Finally, for coping strategies, only Anxious Preoccupation changed over time, with a decrease between T0 and T1 (F(1,36)=6.31, p=.017) and between T1 and T2 (F(1,36)=6.56, p=.015).

Table 1. Repeated measures ANOVAs on health-related Quality of Life (QLQ-C30) at diagnosis (T0), after preoperative treatments (T1) and after surgical resection (T2).

	T0	**T1**	**T2**		
	N = 43	**N = 40**	**N = 37**	**F(df1,df2)**	**p**
QLQ-C30	86.89 (8.9)	87.20 (12.3)	80.52 (12.8)	F(1.5,54)=8.56	.002
QLQ-CR29_BI	92.51 (12.8)	86.11 (14.8)	78.38 (19.4)	F(2,72)=10.75	<.001
QLQ-CR29_Anx	46.51 (28.3)	65 (25)	68.47 (26)	F(2,72)=10.8	<.001
QLQ-CR29_Wei	89.15 (21.5)	85.83 (19.8)	84.68 (21.7)	F(2,72)=0.67	.514
QLQ-CR29_SexInt	25.58 (28)	30.83 (26.6)	13.51 (22.9)	F(2,72)=12.15	<.001
QLQ-CR29_SexSy	10.08 (18.6)	19.66 (30.3)	26.13 (36.1)	F(1.46,51.2)=4.1	.033
QLQ-CR29_UrSy	9.82 (13)	13.19 (15)	16.97 (16.6)	F(2,72)=9.60	<.001
QLQ-CR29_InSy	17.21 (13.8)	11.75 (12.7)	14.96 (13.2)	F(1.65,59.5)=2.29	.119
QLQ-CR29_PainSy	19.38 (16.9)	14.58 (14)	20.27 (13.8)	F(1.69,60.94)=2.68	.085
QLQ-CR29_MoSy	9.69 (13.2)	12.08 (16.9)	17.12 (20.2)	F(2,72)=4.45	.015
TAS-20	44.81 (10.5)				
PANAS_PAtr	36.98 (6.2)				
PANAS_NAtr	18.93 (5.8)				
PANAS_PAst	31.86 (6.4)	31.8 (6.1)	30.89 (5.9)	F(2,72)=1.19	.310
PANAS_NAst	18.38 (6.3)	16.22 (5.8)	15.89 (5.7)	F(1.7,61.3)=3.74	.036
HADS	10.07 (5.3)	7.67 (5.3)	9.81 (6.2)	F(1.66,59.8)=5.78	.008
Mini-MAC_F	2.93 (0.62)	2.96 (0.6)	2.96 (0.6)	F(2,72)=0.12	.887
Mini-MAC_FS	3.38 (0.44)	3.39 (0.5)	3.3 (0.4)	F(2,72)=0.58	.561
Mini-MAC_HH	1.56 (0.44)	1.54 (0.5)	1.54 (0.5)	F(2,72)=0.06	.942
Mini-MAC_AP	2.63 (0.61)	2.39 (0.6)	2.15 (0.6)	F(2,72)=12.04	<.001
Mini-MAC_CA	2.78 (0.76)	2.76 (0.7)	2.7 (0.8)	F(1.67,60)=0.33	.680

QLQ-CR29: EORTC colorectal cancer module: _BI: Body Image, _Anx: Anxiety, _Wei: Weight, _SexInt: Sexual Interest, functional scales; _SexSy: Sexual Symptoms; _UrSy: Urinary Symptoms, _InSy: Intestinal Symptoms, _PainSy: Pain Symptoms, _MoSy: Mouth Symptoms, subcales; TAS-20: Toronto Alexithymia Scale; PANAS: Positive and Negative Affect Scale, _PAtr: Positive Affect Trait; _NAst: Negative Affect Trait; _PAst: Positive Affect State; _NAst: Negative Affect State; HADS: Hospital Anxiety and Depression Scale; Mini-MAC: Mini-Mental Adjustment to Cancer scales, _F: Fatalism, _FS: Fighting Spirit, _HH: Helplessness/Hopelessness, _AP: Anxious Preoccupation, _CA: Cognitive Avoidance.

Before performing the regression analyses, correlation analyses were performed between HRQoL at T0, T1 and T2 and all other variables to identify potentially predictive variables.

The final models explained 68%, 80% and 71% of the variance in HRQoL at T0, T1 and T2, respectively.

Regarding HRQoL at T0, QLQ-CR29_InSy_T0 (β=-0.581, t(38)=-5.67, p<.001) and PANAS_NAtr_T0 (β=-0.215, t(38)=-2.25, p=.03) were found to be significant and negative predictors.

With regard to HRQoL at T1, QLQ-CR29_PainSy_T0 (β=-0.458, t(35)=-5.31, p<.001), QLQ-CR29_InSy_T1 (β=-0.322, t(35)=-3.25, p=.003) and QLQ-CR29_UrSy_T1 (β=-0.306, t(35)=-2.75, p=.009) as significant predictors.

Regarding HRQoL at T2, HADS_T2 (β=-0.394, t(31)=-3.26, p=.003) and QLQ-CR29_MoSy_T2 (β=-0.369, t(31)=-3.56, p=.001) were found to be significant and negative predictors and Mini-MAC_F_T1 (β=0.040, t(31)=2.65, p=.013) was the only positive predictor.

Table 2. Hierarchical multiple regressions with health-related Quality of Life (QLQ-C30) at the different times as dependent variables.

	Predictor	R^2	Adj R^2	F	F- ΔR^2	B	SE B	β	p
	QLQ-C30 at T0								
4	(Constant)	0.71	0.68	23.33***	5.05*	98.93	3.49		<.001
	QLQ-CR29_InSy_T0					-0.38	0.07	-0.581	<.001
	QLQ-CR29_PainSy_T0					-0.11	0.06	-0.199	.082
	QLQ-CR29_Anx_T0					0.06	0.03	0.185	.054
	PANAS_NAtr_T0					-0.33	0.15	-0.215	.030
	QLQ-C30 at T1								
4	(Constant)	0.82	0.80	40.93***	7.58**	101.17	1.42		<.001
	QLQ-CR29_PainSy_T0					-0.33	0.06	-0.458	<.001
	QLQ-CR29_UrSy_T0					-0.06	0.11	-0.063	.569
	QLQ-CR29_InSy_T1					-0.31	0.10	-0.322	.003
	QLQ-CR29_UrSy_T1					-0.25	0.09	-0.306	.009
	QLQ-C30 at T2								
5	(Constant)	0.75	0.71	18.97***	10.65**	92.21	8.45		<.001
	TAS-20					-0.18	0.13	-.143	.181
	PANAS_NAst_T0					-0.39	0.20	-.195	.056
	Mini-MAC_F_T1					5.15	1.95	.240	.013
	QLQ-CR29_MoSy_T2					-0.23	0.07	-.369	.001
	HADS_T2					-0.81	0.25	-.394	.003

**p-value < .05; ** p-value <.01; ***p-value < .001*

QLQ-CR29: EORTC colorectal cancer module: _InSy: Intestinal Symptoms, _PainSy: Pain Symptoms, _Anx: Anxiety; _UrSy: Urinary Symptoms; _MoSy: Mounth Symptoms; PANAS_NAtr: Positive and Negative Affect Scale_Negative Affect trait scale; PANAS_NAst: Positive and Negative Affect Scale_Negative Affect state scale; TAS-20: Toronto Alexithymia Scale; Mini-MAC_F: Mini-Mental Adjustment to Cancer scales_Fatalism; HADS: Hospital Anxiety and Depressive Scale.

4. Discussion and conclusion

The present exploratory longitudinal study sought to assess changes in HRQoL of RCPs during active treatment phases and to investigate which physical and psychosocial factors predict HRQoL at different time points.

Few previous studies examining some of these factors provided separate data for RCPs. Our study showed that HRQoL was preserved at the time of diagnosis and patients had few physical symptoms, which is consistent with the results of two studies on CRC patients (Orive et al., 2022; Qaderi et al., 2021). However, RCPs reported high levels of health anxiety and psychological distress, which decreased after preoperative treatments, as in Rades et al. (2023). This finding may be explained by the initial burden of the diagnosis and preoperative treatments, of which the side effects of radiotherapy in particular are a concern for patients as they are not fully aware of them (Hernández Blázquez & Cruzado, 2016; Stiegelis et al., 2004). In contrast to some recent longitudinal studies on CRC patients that recruited patients who had already undergone major treatments (Orive et al., 2022; Qaderi et al., 2021), our data showed a significant decrease in HRQoL, especially after surgery. Only one study came to a similar conclusion (Reudink et al., 2022).

The exploratory analyses showed the different weight of physical and psychosocial factors on HRQoL depending on the treatment phases. Indeed, physical symptoms have a strong impact on HRQoL in RCPs, especially at diagnosis and after preoperative treatment, confirming previous research findings (Murata et al., 2008; Reudink et al., 2022). However, the psychological response in the early phases has a greater weight in predicting HRQoL of RCPs after active treatments than during the early phases themselves.

From a clinical perspective, the data from the present study suggest that physical and psychological screening programs for RCPs need to be improved from diagnosis and in all subsequent treatment phases. In this way, support services should be better tailored, taking into account the treatment phase, and preventive and prehabilitative measures after diagnosis should be improved, which will have an impact on HRQoL and mental health in the medium to long term. In fact, psychological adjustment to the diagnosis and initial treatments of rectal cancer seems to explain HRQoL more than physical symptoms after surgery, so promoting early adoption of active coping styles and prevent distress could be a key practice for better HRQoL in the medium term.

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FROM SURGICAL TO COMPREHENSIVE CARE: THE RECONFIGURATION OF TRANSGENDER HEALTHCARE IN A UNIVERSITY HOSPITAL OF THE BRAZILIAN UNIFIED HEALTH SYSTEM (SUS)

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Abstract

The Brazilian Unified Health System (SUS) is the public health system in Brazil, established in 1990 and based on the principles of Universality, Comprehensiveness, and Equity. This model ensures free access to healthcare for the entire population, promoting comprehensive care and prioritizing investments in areas with greater needs, aiming to reduce social inequalities through inclusive policies. In this oral presentation, we will discuss a Specialized Outpatient Service in a University Hospital in Rio de Janeiro, which has become a reference in transgender healthcare. The service marks a transition from an exclusively surgical model to a comprehensive and interdisciplinary model. Initially focused on gender-affirming surgeries, in accordance with the Federal Medical Council Resolution (CFM) Nº 1.482/1997, the service was restructured following Ordinance Nº 2.803/2013, which expanded the Transsexualization Process. It now offers outpatient care through a multidisciplinary team, including specialists in Psychology, Psychiatry, Endocrinology, Dermatology, Urology, Nutrition, Physical Education, Social Work, Nursing, among others. This transformation fosters humanized care, recognizing gender diversity as an integral part of human diversity. Transgender identity, as a gender identity, reveals the constitutive aspects of the subject from the very first appointments. In the clinical context, we observe the impacts of transphobia, which delegitimizes existences and directly affects mental health. Many users report that these initial appointments are their first opportunity to talk about themselves and their gender affirmation process. The difficulty in accessing specialized public services and the urgent need for attentive listening make these encounters intense and transformative. This presentation will also share preliminary findings from research conducted in the service, offering an overview of the profile of the population served and their main mental health demands. These data guide more effective care strategies, considering the singularities of each individual. Our care model is biopsychosocial and depathologizing, avoiding reducing the experiences of the transgender population to a single aspect of their identity. Finally, we will emphasize the importance of promoting inclusive and diversity-sensitive public policies, as well as expanding discussions on gender issues in institutions that ensure citizenship and dignified health conditions, fostering humanized care.

Keywords: *Transgender health, Unified Health System, transsexualization process, mental health, inclusion.*

1. Introduction

The Identity Service - Transdiversity Outpatient Clinic is linked to the State University of Rio de Janeiro (UERJ), through its Health Complex, which includes the Pedro Ernesto University Hospital (HUPE) and the Piquet Carneiro Polyclinic (PPC). Established in May 2022, based on an initiative of the Endocrinology Teaching Care Unit (UDA), in collaboration with the Outpatient Coordination of the Transexualizing Process and the Social Service of HUPE, the outpatient clinic provides specialized care to the transgender population, in accordance with the Guidelines of the Transexualizing Process of the Unified Health System (SUS). Since 2008, HUPE has been qualified by the Ministry of Health as a Specialized Care Unit in the Transexualizing Process in the hospital – surgery – and outpatient modalities. It is noteworthy that the Identity Service is restricted exclusively to clinical follow-up, which is the scenario of this work.

The Transexualizing Process is part of a Policy of the Unified Health System that proposes to ensure the right of transsexual and transvestite people to have access to specific health care, notably body transformations. The publication of Ordinance No. 457/2008 of the Ministry of Health regulated this care and, later, Ordinance No. 2,803/2013 redefined and expanded these actions in the SUS. With regard to medical regulation, Resolution No. 2,265/2019, of the Federal Council of Medicine, is the normative that provides for specific care for people with gender incongruence or transgender. Although since the end of the 90s – with CFM Resolution No. 1482/1997 – this population has been partially covered by some type of health care, and that over the subsequent years such care has gradually expanded, there are still significant and recurrent barriers to access that limit their health care and make care needs invisible.

The lack of access of this population to health services can aggravate morbidity and mortality that could be avoided. In the absence of Public Policies that contemplate them, these people do not stop looking for care alternatives to feel more comfortable with their bodies. Invisibility, misinformation and prejudice in relation to this group causes discrimination, abuse and violence, which adds to greater social exclusion and individual precariousness, producing the triggering of anxiety and depressive disorders, self-mutilation, eating disorders, irruption of psychotic phenomena, etc. No wonder, the consumption of tobacco, alcohol and other psychoactive substances is more prevalent among trans people and transvestites than in the cisgender population. Faced with such a scenario, the health professionals of the Identity Service seek to offer comprehensive, interdisciplinary care of technical and human quality, considering the markers of sexual, gender and racial diversity as elements that need to be understood as one of the characteristics of human diversity, and not as an isolated problem or pathology.

In the Identity Service, there is a collective effort so that health actions are carried out based on interdisciplinary cooperation, which involves different specialties: Psychology, Psychiatry, Social Work, Endocrinology, Gynecology, Urology, Dermatology, Speech Therapy, Nutrition, Physical Education, Nursing, among other areas. Aiming at quality care within the scope of the SUS and a solid specialized training aimed at this public, especially because it deals with actions developed within a Public University, in which part of its Institutional Mission is the training of human resources for the SUS. Thus, it is convinced that quality care for this public has the dual function of benefiting both this population segment and the university itself and society in general, either by qualifying professionals and contributing to the training of students, or by expanding the fields of research in innovative themes.

Throughout the existence of specific Health Policies for trans people in the SUS, there has been a lack of evidence on the temporal evolution of the psychic, physical and social well-being of users, as well as the relationship with bodily changes in the transsexualizing process offered by the SUS, whose population, social context, socio-economic and racial inequalities differ from local-regional and international realities. There are also few studies on factors associated with living conditions, social and racial disparities, and the health of adult transgender people on hormones, especially in developing countries.

Regarding the situations of rights violations and inequities that cross the life experiences of transgender people, there are studies that point to alarming data, notably related to murders, as expressed in the information contained in the Dossier "Murders and violence against Brazilian transvestites and transsexuals in 2023", by the National Association of Transvestites and Transsexuals (ANTRA). According to these data, between 2008 and 2023 there was an average of 128 murders, with the peak of these violent deaths occurring in 2017, with 181 murders and, in 2020, with 175 violent deaths, with emphasis on the victimization of black people (Benevides, 2023).

In addition to the issue of murders, this segment of the population faces a series of health problems, motivated by the delegitimization of human diversity, prejudice and discrimination, which has the consequences of mental and physical illnesses, as pointed out by current research dedicated to the subject. According to some of these studies, 41% of transgender people have attempted suicide compared to 1.2% of cisgender people who have experienced the same situation. In addition, there was a higher prevalence of depression, anxiety, greater chances of smoking, and alcohol and other substance abuse, among other relevant issues (Ard & Makadon, 2012; Conron, Mimiaga & Lander, 2010; Teixeira-Filho & Rondini, 2012).

Although there is a worsening of the health situation of these people due to transphobia, there is a difficulty on the part of the State and of the society in creating responses to this problem, as some studies indicate that there are still significant barriers to access for this segment of the population when seeking health services, such as: the lack of knowledge about the Specific Health Care Services Network, the lack of preparation of professionals to deal with singularities, as well as the presence of greater vulnerabilities and social precariousness due to the inequities permeated by transphobia.

Since discriminatory practices are systematic, the most significant consequence of this is the withdrawal of transgender people from health services in an attempt to protect themselves from such experiences. Some authors found that 43% of trans people avoid seeking medical care, that 49% of trans women and transvestites undergo hormones without specialized follow-up and that there is a high incidence of use of Industrial Silicone for body transformations. Other studies also point out that 62.1% of trans people and transvestites feel uncomfortable discussing their demands with health professionals and 62.7% of trans people and transvestites had to teach health professionals about their demands (Costa, Pase Fontanari et al., 2018; Pinto, Teixeira, Barros et al., 2017).

2. Multiprofessional and humanized model: A new perspective of care

The Unified Health System (SUS) represents an essential milestone in ensuring access to health in Brazil. Implemented in 1990, its structure is based on the principles of Universality, Integrality and Equity, ensuring the right to medical care for the entire population, regardless of social class, ethnicity, gender or any other condition. In this way, the SUS not only promotes inclusion, but also plays a fundamental role in reducing social inequalities, consolidating health as a right for all and a duty of the State. The implementation of Public Policies in the SUS aims not only to promote quality health, but also to build a fair system, capable of meeting the needs of the population with a close look at the specificities of each group. In this context, the health of the transgender population is configured as a fundamental area of care, requiring inclusive policies and practices that respect gender diversity and offer specialized and humanized care, indicating the essentiality of mental health.

The Identity Service - Transdiversity Outpatient Clinic adopts a care model that goes beyond the traditional biomedical approach, recognizing the multiple dimensions of the subject and promoting comprehensive care, which considers physical, emotional, psychological and social aspects. The articulation between these specialties is essential to ensure qualified care that is sensitive to the singularities of the trans population, ensuring continuous and comprehensive monitoring.

This model of depathologizing care is not restricted to bodily transformations but includes the necessary support to deal with the psychological and social impacts of the gender affirmation process. By removing the pathologization of trans identity and treating it as part of human diversity, our outpatient clinic strengthens humanized and comprehensive care, promoting health without reductionism and respecting each trajectory in a unique way.

One of the main challenges faced by the transgender population is transphobia, which manifests itself in different ways, from prejudice and discrimination to the scarcity of safe and welcoming spaces to discuss their needs and health issues. For many users, the first visit to the outpatient clinic represents the first opportunity to talk openly about themselves and their gender affirmation process, making this moment extremely important.

Many users report that the outpatient care was a transformative milestone in their lives, as they were able to express their experiences and needs without the fear of stigma or discrimination. This listening process is essential, as it allows the health team to understand the specific demands of each patient and, based on this, develop more effective care strategies that consider the particularities of each subject's gender affirmation process. In addition, psychological and psychiatric follow-up is an essential component of comprehensive care, especially considering that the trans population often faces high levels of anxiety, depression, and psychological distress resulting from experiences of marginalization and violence. The provision of specialized psychological care is, therefore, an essential component for the comprehensive care of this population.

3. Depathologization in the care of the trans population

Depathologization is a central concept for the comprehensive and humanized care of the trans population, as it dispels the notion that trans gender identity, by itself, constitutes a pathology. In the Identity Service, this approach is essential, since we understand that the trans experience cannot be reduced to a diagnosis or clinical condition. Transgenderism, as a gender identity, is a legitimate expression of human diversity, and its recognition as such is fundamental for ethical, respectful, and qualified care. Depathologizing does not mean denying care, but rather ensuring that health care is not guided by a pathologizing logic, avoiding the unnecessary medicalization of the life experiences of trans subjects.

The transformation of the outpatient service, which was previously structured into a surgical model of transsexualization, reflects this depathologizing movement. With the restructuring initiated by Ordinance No. 2,803/2013, care for the trans population was expanded to an interdisciplinary and comprehensive model, going beyond surgery and contemplating all dimensions of health. This advance is especially relevant in a context in which health services have historically reinforced the pathologization of non-cisnormative gender identities, creating barriers to access and intensifying the suffering of this population.

In the outpatient clinic, we prioritize qualified listening and respect for individual demands, recognizing the complexity of trans experiences, without reducing them to the field of disease or disorder. Thus, depathologization also implies the demedicalization of aspects of life, understanding them not as clinical cases, but as subjects who demand dignified care that is sensitive to their realities. By recognizing transgenderism as part of human diversity, without associating it with pathologies, we promote a model of care that strengthens welcoming, rescues the dignity of users, and contributes to the fight for human rights, ensuring that transgender people have access to care free of stigma and prejudice.

4. Profile of the population served and emerging demands

The ongoing research at the Identity Service – Transdiversity Outpatient Clinic aims to understand the characteristics of the population served and its main demands, focusing on mental health and the specific needs of this population. Although the data are still being analyzed, it is possible to identify, in a preliminary way, that many of the patients treated at the outpatient clinic have a history of exclusion and difficulties in accessing specialized health services. This is especially relevant when considering the intersection between gender issues and other factors of vulnerability, such as racial discrimination and socioeconomic status. The research points to the urgent need for more inclusive and diversity-sensitive Public Policies, which ensure more equitable access to Health Services for transgender people.

5. The importance of inclusive public policies

The construction of inclusive public policies, which recognize gender specificities and address the health issues of the transgender population in a broad way, is essential for the promotion of a fairer and more accessible health system. The model adopted by the Outpatient Clinic is a positive example of how the SUS can offer specialized care. However, it is necessary for the Health System to continue advancing in the training of professionals trained to deal with gender issues and in the creation of strategies to combat transphobia, both within the scope of Health Services and in society in general. Strengthening continuing education and awareness of trans issues is an important step to ensure quality care and to promote a more inclusive and humanized health system.

6. Final considerations

The trans population faces significant challenges in the mental, physical, and social spheres, due to barriers to access to health services, discrimination, and violence, which result in high rates of depression, anxiety, and suicide. Many resort to self-medication, which increases the risk of health complications. However, in the Identity Service, the Mental Health outpatient clinic is not limited to issues related exclusively to transition, but rather to the uniqueness of each subject. We understand that each trans person has their own particularities and, therefore, our care process is based on respect for these singularities, as it should be for all people.

We understand health as a technology at the service of care, with a focus on the humanization of care. We use this approach to promote comprehensive care, recognizing the complexity of the experiences lived by the trans population, but without reducing them to a single aspect of their identity. Our goal is not to further isolate or segment this population, but to integrate it into the broader public health context.

We seek to provide a safe and welcoming space where patients can express their wishes, be heard, and receive the appropriate support for their gender affirmation and well-being process.

The challenges faced by the trans population demand the implementation of effective strategies to ensure comprehensive and humanized care. To this end, it is essential that public health policies continue to advance towards greater inclusion, ensuring the effectiveness of quality care that respects the specificities of each subject. Only with an attentive and sensitive look at the needs of this population will it be possible to ensure that the rights to health and dignity are fully ensured for all.

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PSYCHOMETRIC PROPERTIES OF THE TURKISH VERSION OF THE PERCEIVED INVALIDATION OF EMOTION SCALE

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Abstract

Zielinski and Veilleux (2018) developed the Perceived Invalidation of Emotions Scale (PIES) to measure people's perceptions of ignored or invalidated emotion sharing. Since there is no instrument assessing emotion invalidation for the Turkish sample, this study aimed to examine the psychometric properties of the scale and adapt it into Turkish.
Method: The original scale was first translated into Turkish and then back into the original language. 390 adults aged 18-65 years participated in the study. Participants were given Childhood Trauma Questionnaire (CTQ), the Difficulties in Emotion Regulation Scale-Short Form (DERS-16), the Multidimensional Scale of Perceived Social Support (MSPSS), the Psychological Vulnerability Scale (PVS), the Beck Anxiety Inventory (BAI), and the Beck Depression Inventory (BDI) to check for criterion-related validity.
Results: The confirmatory factor analysis revealed that the obtained values were acceptable. As a result of the correlation analyses conducted to determine the criterion-related validity of the PIES, it was revealed that there were positive, low-medium significant relationships with the PIES. According to the results of the study, Cronbach's alpha coefficients of PIES were found to be 0.86, respectively.
Conclusion: The findings of the present study show that the Turkish version of PIES is a reliable and valid measurement tool.

Keywords: *Invalidation, emotion, reliability, validity.*

1. Introduction

Invalidate means making something wrong or unacceptable, while emotional invalidation occurs when emotions are judged inappropriate by others (Zielinski & Veilleux, 2018). According to Biosocial Theory, childhood invalidation impairs emotion regulation and weakens trust in one's feelings (Linehan, 1993).

In chronic pain patients, invalidation manifests as lack of support and dismissiveness, particularly due to the invisibility of their illness (Kool, van Middendorp, Boeije & Geenen, 2009). Emotional invalidation research focuses on emotions rather than thoughts or identity (Zielinski, 2016). The brain's negativity bias may reinforce emotional invalidation (Savaşır, Boyacıoğlu & Kabakçı, 1996). Emotions, as adaptive resources, shape self-awareness and social interaction (Greenberg, 2008).

Emotional vulnerability also contributes to psychopathology (Sauer & Baer, 2010). More fragile individuals are prone to stress, psychological disorders, and negative emotions (Ingram & Price, 2010; Levine, 2004). Negative reactions while expressing emotions can heighten feelings of invalidation (Zielinski & Veilleux, 2018). Invalidation is both external and internal, leading to self-suppression (Linehan, 1993), while emotion regulation involves modifying emotional responses to achieve goals (Thompson, 1994).

Despite its significance, emotional invalidation remains under-researched in Turkey. Most studies focus on childhood experiences (Alpay, Bellur & Aydın, 2018), with no standardized tool for adulthood. Adapting the Perceived Emotion Invalidation Scale (PIES) into Turkish will address this gap, enriching research on emotion regulation, psychological distress, and social support.

In Turkish society, emotional suppression is reinforced within family and social structures, making emotional invalidation both prevalent and underexplored (Ersay, 2014; Yağmurlu & Altan, 2010). A Turkish adaptation of PIES will facilitate research on its relationships with emotion regulation difficulties, psychological distress, and perceived social support. Additionally, it will enable cross-cultural comparisons, shedding light on differences between collectivist and individualist societies.

2. Method

2.1. Participants

The study included 390 participants to assess the construct validity, criterion-related validity, discriminant validity, and reliability of the scale. Of the participants, 269 (69.0%) were female, 119 (30.5%) were male. The age range was 18–65 years (mean = 26,95, sd = 10,913). Regarding marital status, 85 (21.8%) were married, 302 (77.4%) were single, and 3 (0.8%) were divorced. For educational attainment, 7 (1.8%) had primary school education, 1 (0.3%) secondary school, 62 (15.9%) high school, 298 (76.4%) undergraduate, and 21 (5.4%) graduate education. In terms of parental education, most mothers (47.4%) and fathers (26.7%) had primary school education, while 14.6% of mothers and 25.1% of fathers had a university degree. Regarding income status, 7.9% rated their income as poor, 68.7% as moderate, and 23.3% as good. In terms of physical health, 2.8% described themselves as poor, 34.4% as fair, and 62.8% as good, while for psychological health, 9.7% rated themselves as poor, 51.8% as fair, and 38.5% as good. Lastly, 37.7% reported experiencing or witnessing a traumatic event.

2.2. Measures

Participants completed validated Turkish versions of psychological scales measuring perceived invalidationof emotion, emotion regulation, psychological health, trauma, and social support.

Perceived Invalidation of Emotion Scale (PIES) (Zielinski & Veilleux, 2018) - It is a 10-item, 5-point Likert-type scale.

Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock & Erbaugh, 1961; Turkish adaptation: Hisli, 1988, 1989) - 21-item, 4-point Likert-type scale that measures depression symptoms (α = .86).

Beck Anxiety Inventory (BAI) (Beck, Epstein, Brown & Steer, 1988; Turkish adaptation: Ulusoy, Şahin & Erkmen, 1998) - 21 items, 4-point Likert-type scale measuring anxiety symptoms (α = .93).

Childhood Trauma Questionnaire (CTQ-28) (Bernstein et al., 1994; Turkish adaptation: Şar, Öztürk & İkikardeş, 2012) - 28 items, 5-point Likert-type scale that assesses childhood traumas (α = .79 - .94).

Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet & Farley, 1988; Turkish adaptation: Eker, Arkar & Yaldız, 2001) - 12 items, 7-point Likert-type scale that measures sources of social support (α = .88).

Difficulty in Emotion Regulation Scale-Short Form (DERS-16) (Bjureberg et al., 2016; Gratz & Roemer, 2004; Turkish adaptation: Yiğit & Guzey Yiğit, 2017) - 16-item, 5-point Likert-type scale that assesses difficulty in emotion regulation (α = .92).

Psychological Vulnerability Scale (PVS) (Sinclair & Wallston, 1999; Turkish adaptation: Akın & Eker, 2011) - 6-item, 5-point Likert-type scale that measures psychological sensitivity (α = .75).

2.3. Data analyses

Construct validity was assessed using confirmatory factor analysis (CFA) in AMOS 23.0, following a normality check and employing the maximum likelihood estimation method. Model fit was evaluated using indices from section 3.1, while reliability and criterion-related validity analyses were conducted in SPSS 20.0, including Cronbach's alpha, two-half reliability, and item-total correlations. Additionally, Hotelling's T^2 test assessed response bias, and Pearson correlation coefficients were used to examine the relationships between PIES scores and relevant psychological constructs.

3. Results

3.1. Construct validity

In this adaptation study, CFA was conducted to assess construct validity. In the evaluation of CFA, path diagram, fit indices (χ^2/df, GFI, AGFI, CFI, NFI, TLI, RMR, RMSEA) were taken into consideration. Three different models were compared based on the one-factor structure specified by Zielinski and Veilleux (2018) (Table 1).

The differences between the models were evaluated in terms of chi-square difference tests, CFI difference values and AIC. It can be said that Model 1 has acceptable fit values; χ^2 (35) = 202.268, χ^2/df = 5.779, GFI = 0.894, AGFI = 0.834, CFI = 0.882, NFI = 0.862, TLI = 0.849, RMR = 0.082, RMSEA = 0.111, AIC = 242.268. Model 2 was examined by selecting the three highest items with modification indicators above 10 (PIES2 and PIES6, PIES6 and PIES7, PIES4 and PIES5) and was found to have good fit values; χ^2 (31) = 107. 717, χ^2/df = 3.475, GFI = 0.948, AGFI = 0.907, CFI = 0.946, NFI = 0.927, TLI = 0.922, RMR = 0.059, RMSEA = 0.080, AIC = 155.717. For Model 3, in addition to the covariances in Model 2, covariances between PIES2 and PIES5, PIES4 and PIES9, PIES7 and PIES9 were

drawn, and the model was run again. The final model was found to have very good fit values; χ^2 (28) = 76.356, χ^2/df = 2.727, GFI = 0.963, AGFI = 0.928, CFI = 0.966, NFI = 0.948, TLI = 0.945, RMR = 0.049, RMSEA = 0.067, AIC = 130.356 (Table 1).

Table 1. PIES CFA.

	Model 1	Model 2	Model 3
χ^2	202.268	107.717	76.356
df	35	31	28
p	.000	.000	.000
χ^2 /df	5.779	3.475	2.727
GFI	.894	.948	.963
AGFI	.834	.907	.928
CFI	.882	.946	.966
NFI	.862	.927	.948
TLI	.849	.922	.945
RMR	.082	.059	.049
RMSEA	.111	.080	.067
(AIC)	242.268	155.717	130.356
Differences Between Models	Model 1 - Model 2	Model 2 - Model 3	Model 1 - Model 3
χ^2 differences	94.551	31.361	125.912
CFI differences	.064	.02	.084

χ^2: Chi-square, χ^2 /df: Chi-square/degree of freedom ratio, GFI:Goodness of Fit Index, AGFI:, Adjusted Goodness of Fit Index, CFI: Comparative Fit Index, NFI: Normed Fit Index, TLI: Tucker-Lewis Index, RMR: Root Mean Square Residual and RMSEA: Root Mean Square Error of Approximation

3.2. Criterion related validity

Table 2 shows the correlations between perceived emotional invalidity measured by PIES and measures of emotional dysregulation, psychological health (depression, anxiety, psychological vulnerability), childhood experiences (childhood traumas) and social support, which are considered to be related to the concept. Perceived emotion invalidity was found to be associated with such measures. The total PIES score correlated significantly with all six measures at the .001 level (DERS-16, r = .352; BDI, r = .338; BAI, r = .298; PVS, r = -.318; CTQ, r = .266; MSPSS, r = -.307).

Table 2. Correlation coefficients of PIES with other scales used in the study.

	DERS-16	BDI	BAI	PVS	CTQ-28	MSPSS
PIES	.352**	.338**	.298**	-.318**	.266**	-.307**

*DERS-16: Difficulties of Emotion Regulation Scale-Short Form, BDI: Beck Depression Inventory, BAI: Beck Anxiety Inventory, PVS: Psychological Vulnerability Scale, CTQ-28: Childhood Trauma Questionnaire, MSPSS: Multidimensional Scale of Perceived Social Support, *** p<.001*

3.3. Internal consistency

A reliability analysis was conducted to assess the internal consistency and split-half reliability of the scale. Cronbach's alpha (α) was calculated to determine internal consistency, while inter-item correlations were examined to assess the strength and direction of relationships among scale items. Additionally, a split-half reliability analysis was performed using the Spearman-Brown coefficient and Guttman split-half coefficient. The Cronbach's Alpha for the proposed scale was α = .859, which demonstrates high internal consistency (α = .93 as reported by Zielinski & Veilleux, 2018). Cronbach's alpha values ranged from .838 to .865 when any single item was removed, indicating that the scale maintains strong reliability across all items.

A split-half reliability analysis showed a r = .736 correlation between the two halves of the scale The Spearman-Brown coefficient was .848 for equal length conditions, while the Guttman split-half coefficient was .847. These findings confirm the high reliability of the scale, as split-half coefficients above .80 indicate strong reliability (DeVellis, 2017).

To test for statistically significant differences across items, ANOVA tests were conducted, including Friedman's test and Hotelling's T^2 test. The results demonstrated significant differences in multivariate means ($\chi^2(9) = 635.575$, $p < .001$; $T^2 = 448.198$, $F(9, 381) = 48.776$, $p < .001$), suggesting that individual items varied significantly in their responses.

A descriptive analysis was performed to assess the distribution characteristics of the scale (Table 3.). The analysis of skewness indicates that most items exhibit rightward asymmetry, suggesting a positive skew. Regarding kurtosis, the distribution is mostly mesokurtic, with some items displaying mild

leptokurtic tendencies. The skewness and kurtosis values fall within the acceptable ranges (|3| for Skewness and |10| for Kurtosis, see Kline, 2011), indicating that the distribution of responses does not exhibit extreme deviations. These findings suggest a moderate concentration of the measured values around the mean, with no severe departures from normality.

Table 3. Means, Standard Deviations, Skewness and Kurtosis Values of Items.

	Mean	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
PIES1	2,08	1,084	,858	,124	-,004	,247
PIES2	3,00	1,207	,014	,124	-1,073	,247
PIES3	2,03	1,059	,885	,124	,027	,247
PIES4	1,58	,885	1,615	,124	2,224	,247
PIES5	1,78	1,020	1,343	,124	1,166	,247
PIES6	2,35	1,121	,570	,124	-,493	,247
PIES7	1,92	1,020	,993	,124	,350	,247
PIES8	1,88	,973	1,024	,124	,522	,247
PIES9	2,20	1,152	,718	,124	-,435	,247
PIES10	1,82	1,102	1,375	,124	1,076	,247

4. Discussion

The aim of this study was to evaluate the factor structure and psychometric properties of the PIES in a Turkish sample. The CFA supported a one-factor structure, consistent with the original version of the scale (Zielinski & Veilleux, 2018). Model comparisons and fit indices suggested that Model 3 demonstrated the best fit. These values fall within the acceptable or excellent fit range suggested in the literature (Bentler & Bonett, 1980; Hu & Bentler, 1999; Tabachnick & Fidell, 2007). AIC values were used to compare models, and Model 3, with the lowest AIC value, was identified as the most valid structure for the Turkish version of PIES (Gomez & Rohner, 2011).

For criterion-related validity, PIES scores were strongly linked to DERS-16, BDI, BAI, PVS, CTQ-28, and MSPSS, all going in the right direction. There are strong links between the DERS-16, BDI, BAI, and CTQ-28 tests that support the idea that people who feel more emotionally invalidated are more likely to be psychologically distressed. Similarly, the negative correlation with PVS suggests that individuals with higher perceived emotional invalidation report lower psychological vulnerability, possibly because those who frequently experience emotional invalidation may develop adaptive coping mechanisms or emotional resilience over time.

The adaptation of the scale into Turkish culture significantly contributes to understanding the psychological impact of perceived emotional invalidation. In Turkish society, where emotional suppression is prevalent, this adaptation enables further research on its relationship with psychological well-being (Ersay, 2014; Yağmurlu & Altan, 2010). However, as the sample primarily consisted of young adults, future studies should examine the scale across different age groups and clinical populations.

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FREQUENCY, ADVANTAGES, DRAWBACKS AND GENDER DIFFERENCES IN SEEKING PSYCHOLOGICAL SUPPORT IN-PERSON AND ONLINE

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Abstract

This study examines how young adults engage with in-person psychological support (IPS) and online psychological support (OPS), with a particular focus on the frequency of use, perceived benefits, reasons for avoidance, and potential gender differences. A quantitative cross-sectional design was employed, and 379 participants (aged 18–25) completed a self-report questionnaire assessing various dimensions of help-seeking behaviour. Descriptive statistics and the chi-square test were used for data analysis. Findings reveal that IPS is used more frequently (58.8%) than OPS (46.2%), with women more likely than men to seek both forms of support. Regarding IPS, participants most frequently turn to friends and parents, while formal professional assistance, such as psychotherapists or psychologists, is considerably less common. The main perceived advantages of IPS include richer verbal and nonverbal communication, an easier assessment of sincerity, and deeper emotional connection—women value this last aspect more strongly than men. The most prominent reasons for avoiding IPS are the difficulty of opening up emotionally to people in person and the cost of professional support. OPS users most frequently cite free access, faster availability, and anonymity as key advantages. However, doubts about the credibility of online sources and a preference for independent problem-solving limit its broader usage. Men, in particular, report a greater tendency to "endure life" without informal or professional help. Interestingly, more participants report having sought support when responding to specific questions about their experience, suggesting that actual usage rates may exceed initial self-reports. Study findings highlight the coexisting roles of IPS and OPS in the help-seeking behaviours of young adults, underscoring the influence of gender, cultural context, and perceived practical barriers on their choices.

Keywords: *Young adults, in-person psychological support, online psychological support, internet, gender.*

1. Introduction

Traditionally, individuals seek psychological support from people in their immediate surroundings. However, in recent years, young adults have increasingly turned to the internet for online psychological support (OPS) due to factors such as greater digital literacy, convenience, and a reduced sense of stigma when seeking help online (Horgan & Sweeney, 2010; Mitchell et al., 2017; Pretorius et al., 2019a, 2019b). Still, in-person psychological support (IPS) remains an option valued for its immediate human connection and nonverbal cues (Pretorius et al., 2019b). Seeking psychological support among young adults is an important area of research, given that this age group face numerous life changes accompanied by significant distress and a higher prevalence of mental health issues—anxiety, depression, substance abuse, and suicidal tendencies—compared to other age groups, and it is also the period when most mental disorders first manifest (Kessler et al., 2007; Patel et al., 2007; Suvisaari et al., 2009; Westerhof & Keyes, 2010). Although studies have been exploring and comparing OPS and IPS (Horgan & Sweeney, 2010; Mitchell et al., 2017; Pretorius et al., 2019b), continued research remains essential because each year, young adults demonstrate increasing reliance on digital platforms, and new forms of online assistance such as innovative apps and AI tools emerge and gain popularity.

2. Design

A quantitative cross-sectional study was conducted using an online questionnaire to gather data on the characteristics of young adults' use of in-person and online psychological support.

3. Objectives

The study aimed to compare the seeking and experiences of IPS and OPS among young men and women, focusing on the frequency of seeking these types of support, their perceived advantages, reasons for avoidance, and gender differences.

4. Variables

We examined the association between gender and several variables related to help-seeking behaviors, including the frequency of seeking IPS, the individuals from whom IPS is sought, the frequency of seeking OPS, the perceived benefits of both IPS and OPS, and the reasons for avoiding seeking IPS and OPS.

5. Methods

5.1. Sample

A total of 379 individuals participated in the study, all of whom were between the ages of 18 and 25. Both genders were represented, with women making up 63.2% and men 36.8% of the sample.

5.2. Instruments

A pilot study was conducted among 30 young people to specify operational variables. Based on the results, a self-report questionnaire, Online and Offline Psychological Support (OOPS, Hrnčić & Stajkić, 2024), was developed for the broader study. The data on IPS and OPS were collected through nine items: two that registered gender and age, and seven related to the mentioned criterion variables, out of which two questions required respondents to select one answer from a five-point Likert scale reflecting the frequency. For example, "Do you seek psychological support in person, outside the internet?" For the remaining five questions, respondents answered multiple-choice questions (where more than one answer could be selected) that were constructed with 8-12 structured response options and included the option "Other", which allowed participants to add personal answers and experiences. An example is: "Which advantages of using the internet for psychological support are most important to you personally?" (8 response options provided, plus the "Other" option).

5.3. Procedure

The Ethical Commission of the Faculty of Political Science, University of Belgrade, Serbia, approved the research. It was administered online via Google Forms, using snowball sampling, and participants completed it anonymously. Responses to all questions were mandatory, and the completion time was approximately 15 minutes. Data were collected over seven days in December 2024.

5.4. Data processing

Data were processed using descriptive statistical methods and the chi-square test (SPSS 21).

6. Results

In the total sample, when asked whether they sought and how frequently they sought psychological support, a significantly higher percentage of respondents sought IPS (58.8%) compared to online help (46.2%), [$\chi 2(1) = 39.53$, $p = 0.000$, $N = 379$]. Additionally, women (55.8%) were significantly more likely than men (29.5%) to seek OPS [$\chi^2 (1) = 24.566$, $p = 0.000$, $N = 379$]. A similar result was obtained for IPS, where 67.9% of women sought support compared to 43.2% of men [$\chi^2 (1) = 22.265$, $p = 0.000$, $N = 379$].

Interestingly, a significantly higher number of respondents answered positively to the question of whom they specifically turn to for IPS (88.4%) compared to when they were asked if and how often they seek IPS without specifying from whom they seek it (58.8%).

Regarding the choice of a person participants turn to IPS, those who respond positively to seeking IPS dominantly turn to friends (81.2%), however, also parents (56.1%), intimate partners (46.3%), and other family members (31.6%), while seeking support from a psychotherapist (11.0%), psychologist (26, 7.8%), psychiatrist (3.0%), teacher (2.1%) and life coach (1.2%) is much less frequent.

There were no significant gender differences in the choice of preferred IPS sources, except for two marginally significant findings: more women than men sought OPS from parents (59.5% vs 49.1%, $\chi^2(1) = 2.897$, p = .089, N = 335) and friends (83.7% vs 75.9%, $\chi^2(1) = 2.897$, p = .089, N = 335). Although gender differences did arise when answers for psychotherapist, psychologist, and psychiatrist were merged: significantly more women (22,9%) than men (10.2%) turned for IPS to at least one of those experts [$\chi^2(1) = 7,757$, p = 0.005, N =335].

Results showed again that more respondents answered positively about the advantages of IPS (76.3%) compared to when asked whether and how often they seek IPS without specifying its advantages (58.8%). This suggests that the number of IPS users is higher than reported. Among those who seek IPS, the most frequently cited **advantage** of **IPS** was richer verbal and non-verbal communication (73.4%). Respondents also highlighted easier assessment of sincerity in communication (55.0%), better effects of support (48.1%), easier and deeper emotional connection (47.4%), feeling of greater security and acceptance (47.1%), and the possibility of support through physical touch (21.8%). Women (54.4%) more often than men (33.0%) cited an easier and deeper emotional connection [χ^2 (1) = 11,628, p = 0.001, N = 289] as a benefit.

The most common reasons for **avoiding IPS** were difficulty in opening up emotionally in person (36.2% of those who avoided IPS) and overcoming psychological issues independently (34.2%). Other reasons include: lack of interest in IPS (27.5%), the cost of in-person professional support (26.8%), more time and organisation required for in-person professional support (22.1%), feeling stressed by people (18.8%), a belief in simply enduring life without seeking help (16.8%), lack of anonymity (13.4%), fear it will lead to a worsening of symptoms (4.7%), and the belief that psychological problems cannot be resolved in this way (4.7%), or that personal growth and development (in the absence of difficulties) cannot be encouraged with IPS (4.7%). Women (43.8%) more frequently than men (25.0%) cited challenges of emotional openness [$\chi^2(1) = 8,877$, p = 0.003, N =149] and costs of professional IPS (female 34.8% vs male 15.0%) [$\chi^2(1) = 87,177$, p = 0.007, N =149]. There was a marginally significant difference between women and men in the likelihood of citing that the reason for avoiding in-person professional support is that it requires more time and organisation (female 27.0% vs. male 15.0%) [$\chi^2(1) = 8= 2.976$, p = 0.084, N =149]. Men (30.0%) more frequently than women (7.9%) held a belief in simply enduring life without seeking help [$\chi^2(1) = 12,575$, p = 0.000, N =149]. Additionally, men more frequently reported a preference for independently overcoming their difficulties (female 24.7% vs. male 48.3%) [$\chi2(1) = 8,877$, p = 0.003, N = 149].

Results showed again that a higher number of respondents answered positively about the **advantages of OPS** (57.0%), compared to positive answers on the general question of whether and how often they seek OPS (46.2%), revealing that the potential number of OPS users might be much higher. Among those who seek OPS, the most frequently cited advantages include: free access (73.1%), simpler and faster access (68.5%), and greater privacy and anonymity (51.9%). Less cited advantages were easier connection with people who have similar experiences (18.1%), easier access to professionals (14.4%), and easier and faster exit from communication (14.4%). Women (73.1%) significantly more often than men (56.7%) highlight the advantage of easier and faster access [χ^2 (3) = 5.410, p = 0.020, N = 216], while there are no significant differences in other variables.

The most common reasons for **avoiding OPS** were overcoming difficulties independently (43.5% of those who avoided OPS), lack of interest (32.7%), and doubts about the expertise and reliability of online sources (29.9%). Less common responses included: a belief that psychological problems cannot be resolved in this way (20.6%), alienated and impoverished communication (18.7%), belief in simply enduring life without seeking help (13.1%), doubts about anonymity (10.7%), a belief that personal growth and development (in the absence of difficulties) cannot be encouraged with OPS (9.8%), fear that the symptoms will worsen with the use of OPS (4.7%) and difficulties in comprehending internet content on this subject (4.7%). Men (42.9%) reported not using OPS more frequently than women (25.2%) due to a lack of interest [$\chi^2(1) = 7,406$, p = 0.007, N = 214]. Also, men more frequently held a belief in simply enduring life without seeking help (female 7.3% vs male 20.9%) [$\chi^2(1) = 8.459$, p = 0.004, N =214], and had a preference for independently overcoming their difficulties (female 35.8% vs male 53.8%) [$\chi^2(1)$ 6,953, p = 0.008, N =214].

There may be an increased risk of false positives because the study relied on multiple chi-square tests to explore gender differences. A Bonferroni correction can be applied to the reported results to achieve a more conservative approach to significance testing, thereby adjusting the significance threshold. Since the questions in this study had 8–12 response options, the adjusted significance level for $\alpha = 0.05$ would range from $\alpha = 0.004–0.006$.

7. Discussion

Although the use of OPS in Serbian young adults reaches almost 50%, the study confirms that they still seek traditional in-person psychological support (IPS) more frequently, which is consistent with research highlighting the value of face-to-face connection (Horgan & Sweeney, 2010). Young adults predominantly seek IPS in friends—an expectation aligned with this life stage, followed by parents. In contrast, formal professional psychological help is rarely sought, a trend noted in other studies as well, which attribute it to young people's reluctance to seek professional help (Rickwood, Deane, & Wilson, 2007).

Women reported higher rates of both IPS (67.9%) and OPS (55.8%) compared to men (43.2% for IPS; 29.5% for OPS), which aligns with earlier evidence that men generally show a smaller willingness to seek help (Rickwood, Deane, & Wilson, 2007), reflecting traditional gender roles and social norms.

Regarding perceived advantages, those who use IPS mostly cited richer verbal and nonverbal communication as well as the ability to better assess sincerity. Among OPS users, the most commonly mentioned benefits were free access, easier and faster availability, and anonymity, reflecting findings that convenience is a significant draw for seeking OPS (Pretorius et al., 2019b). Women more frequently valued a deeper emotional connection in IPS and easier, faster access in OPS, suggesting gender-specific preferences.

The most important drawbacks to IPS include difficulty opening up in person and cost, echoing concerns about stigma and expenses (Mitchell et al., 2017). OPS avoidance stemmed primarily from a preference for independence (43.5%) and a lack of interest (32.7%), with 29.9% citing concerns over reliability—mirroring general scepticism about online information (Torous et al., 2020). Men more frequently endorsed "enduring life without help" (30.0% for IPS; 20.9% for OPS), again suggesting possible cultural or societal norms that discourage their help-seeking.

These results may partly reflect the local Serbian context, where professional services can be less accessible, and emerging OPS forms—such as AI chatbots—have not yet fully gained trust. Nonetheless, the growing reliance on digital platforms underscores a need to investigate how newer modalities might shift help-seeking patterns over time.

The most frequently cited drawbacks to IPS included difficulty with emotional openness and the cost of turning to professional support, confirming concerns about stigma and expenses (Mitchell et al., 2017). OPS avoidance stemmed primarily from young people's preference for independent problem-solving, lack of interest in OPS and doubts about the trustworthiness of online sources, which is a widely recognised factor (Pretorius et al., 2019b). Men more often than women expressed a belief in "enduring life without seeking help" (30.0% for IPS; 20.9% for OPS), again pointing to cultural norms that discourage male help-seeking.

These results may partly reflect the local Serbian context, where professional mental health resources can be less accessible and emerging OPS forms (e.g., new apps, AI tools) have not yet fully gained recognition and trust. Future research could examine whether the continual growth of OPS sources alters these patterns over time and how sociocultural factors influence the evolution of help-seeking behaviours.

The consistent finding that more participants reported experiences of using IPS and OPS than previously reported as having used them suggests that the number of users of both IPS and OPS may be higher than previously self-reported. For IPS, it could go from 76.3% (percentage of respondents citing different IPS advantages) to 88.4% (percentage of respondents citing preferred persons for IPS). For OPS, it could be close to 57.0% (percentage of respondents citing different advantages of OPS). The repeated finding of higher positive answers about the percentage of use of IPS and OPS on more specific questions than general ones regarding the same dimension is in line with a previous finding of the same authors in studying social attitudes, suggesting that the effect of the level of abstraction of questions is robust and manifests across different domains (Stajkić, Hrnčić, & Blagojević, 2025).

We conclude that future research on this topic could benefit from employing alternative data collection methods, as reliance on self-reports may lead to social desirability or recall biases. Additionally, employing a more systematic sampling strategy could enhance the representativeness of the findings. The sample for this study was obtained through snowball sampling, which may limit its generalizability to the broader population of young adults.

8. Conclusion

This study highlights notable differences in how young adults engage with IPS and OPS and the specific advantages and barriers each form of support carries. While IPS remains the more frequently used option, OPS offers a convenient and anonymous usage experience that many participants find appealing. Gender differences, such as women's emphasis on deeper emotional connections and men's tendency to rely on self-sufficiency, suggest underlying cultural factors and can guide the development of tailored interventions. Efforts to enhance online support tools, primarily through credible online platforms, may encourage broader participation in seeking psychological help among young adults.

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AGE-RELATED CHANGES IN THE STRUCTURE OF AUTISM SYMPTOMS IN CHILDREN WITH ASD FROM 3-4 TO 5-7 YEARS OLD

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Abstract

The aim of the current study was to detect age-related changes in the structure of autism symptoms in preschoolers. In 2020-2022 we examined 383 3-4-year-old children with ASD and in 2023-2024 – 528 5-7-year-old children with ASD. The research used 2 online questionnaires, developed and verified earlier for the purposes of the ongoing study, one containing 434 binary items (1-yes, 2-no) for 3-4-year–olds, the other consisting of 330 binary items for 5-7-year-olds. Data collection and filling out these questionnaires was carried out by specialists (psychologists, speech pathologists) of counseling centers, specialized and mass preschool institutions working with children on a regular basis (in counseling mode). The data were collected for children who had already been diagnosed with ASD prior to the current study. The materials, methods and procedures for data collection are detailed in our previous publications. Analysis of data of 3-4-year-old children with ASD, using confirmatory factor analysis (CFI), including multigroup CFI, revealed a stable 7-factor structure in different parts of the sample, including the following factors: 1) "Persistance on Sameness" (PS); 2) "Emotional disregulation" (ED); 3) "Alienation" (Al); 4) "Speech understanding" (SU); 5) "Disinhibition/hyperactivity" (Hyp); 6) "Echolalia" (Ech); 7) "Sensory desintegration" (SD). The factors form 3 independent, unrelated groups of symptoms: 1) Communication disorders (ED, SU, Ech, Al); 2) Sensory disintegration (PS, SD); 3) Hyperactivity/disinhibition. A similar analysis of data of 5-7-year-olds revealed an equally stable 8-factor structure similar to that for 3-4-year-olds, but instead of the Alienation factor (Al), 2 new factors appeared: impaired Empathy (Emp) and Motor skills (Mot) (Nasledov et al., 2023, 2024a). Just like in 3-4-year-old children, these 8 factors formed 3 groups of symptoms (secondary factors): 1) Communication disorders (SU, ED, Emp); 2) Sensory disintegration (SD, PS, Ech); 3) Praxis impairment (Hyp, Mot). For 5-7-year-olds, unlike for 3-4-year-olds, the secondarily factors significantly overlap, forming a complex interdependent system. Thus, praxis impairment, including symptoms of hyperactivity/disinhibition and motor delay, begin to increase emotional disorders and lack of empathy, which are closely related to speech understanding. On the other hand, it was found that praxis impairment begins to be associated with symptoms of sensory disintegration. Apparently, for older preschoolers, the symptoms of speech and motor disorders are key and determine the further educational route.

Keywords: *Autism, preschoolers, autism symptoms, age-related changes.*

1. Introduction

In recent years the interest to the problem of autism in childhood has grown substantially. It is due to several reasons, among which the primary one is to change the potential trajectory of an autistic child development that is possible only by timely intervention. Another sufficient reason is multiple attempts to elaborate the model of autistic symptoms in preschoolers in order to indicate specific phenotypes of this neurodevelopmental disorder and predict patterns of further development accordingly. That is why our research group has been focused on elaboration models of autistic symptoms in preschoolers. Our first step was to collect the data on a great variety of autistic symptoms for each age range. Thus, several questionnaires have been developed for children of different age to collect data online with the assistance of professionals working with those children on a regular basis. Thanks to this approach models of autistic symptoms were created for each age range in preschool childhood. However, the main interest is an age-related dynamics understanding of autistic symptoms in order to indicate the patterns and see the tendencies behind the process of an autistic children development. This study aimed to check age-related changes in autistic symptoms in 3-4 to 5-7 years old.

In 2020-2022, we examined 383 3-4-year-olds with ASD. The initial data were 436 binary variables-items – the result of using the Autism Marker Questionnaire, implemented as an online survey of specialists working with children (Nasledov, Miroshnikov, Tkacheva, & Fedorov, 2023). The aim of the study, in particular, was to identify the structure of autism symptoms. As a result, a 7-factor structure was obtained, including 78 items (Figure 1), the equivalence of which was confirmed in relation to different parts of the examined sample. The identified factors form 3 groups of symptoms: 1) communication disorders; 2) sensory disorders; 3) hyperactivity/disinhibition. It is important to note that within each group the symptoms are closely related, while between these three groups of symptoms the connections are close to zero. In 2023, a similar survey was conducted on a sample of 374 5-6-year-olds with ASD, using the modified online Autism Marker Questionnaire, including 330 items, and among them 78 items that formed a 7-factor structure for 3-4-year-olds. The assumption was tested that the 7-factor structure of symptoms in 3-4-year-olds would be confirmed in 5-6-year-olds. Indeed, the configuration (Unconstrained) and measurement equivalence (Measurement weights) has been confirmed. However, the equivalence of factor covariances (Structural covariances) has not been confirmed for samples of 3-4 and 5-6-year-olds (Nasledov, Tkacheva, & Miroshnikov, 2024b), i.e. the structure of the interrelationships of factors has changed significantly with age. In the course of the following study, an 8-factor structure of ASD symptoms was identified in an expanded sample of 5-6-year-olds (Figure 1), the equivalence of which was also confirmed for different parts of the sample (Nasledov, Tkacheva, & Miroshnikov, 2024a). The identified factors, as well as for 3-4-year-olds, form similar 3 groups of symptoms, however, with significant links between them.

Figure 1. Factors in the autistic symptoms model for 3-4- and 5-6-year-olds.

Factors in the autistic symptoms model	3-4-year-olds	5-6-year-olds
PS "Persistence on sameness" symptoms related to the stress of change, the need for sameness in rutines and environment, ritualism, resistance to the new	+	+
ED "Emotional dysregulation" symptoms linked with the lack of adequate emotional responses	+	+
AI "Alienation" symptoms of detachment in situations of interaction with others, avoidance of communication	+	-
SU "Speech understanding" symptoms related to difficulties in performing simple actions in accordance with verbal instructions of an adult	+	+
Hyp "Hyperactivity/Disinhibition" symptoms connected with hyper-reactive behavior including agression, reduced behavioral control, disinhibition	+	+
Ech "Echolalia" symptoms of immediate and delayed echolalia and verbal stereotypes	+	+
SD "Sensory disintegration" symptoms of altered sensory sensitivity and corresponding auto-stimulation actions or avoidance of certain stimuli	+	+
Emp "Empathy" symptoms related with the lack of understanding and predicting other people behavior based on their emotions and feelings misinterpretation	-	+
MS "Motor skills" symptoms linked with difficulties in mastering finely differentiated motor movements and delayed motor development	-	+

The results obtained for 5-6-year-olds suggest that praxis impairment, where hyperactivity/disinhibition and motor disorders have a significant contribution, begin to enhance communication disorders. On the other hand, praxis impairment begin to be associated with symptoms of sensory disintegration. It can be assumed that sensory disintegration, manifested in searching or avoiding certain stimuli, slows down the development of motor skills in preschoolers with autism. In 2024, 157 7-year-olds with ASD were additionally examined using a questionnaire for 5-6-year-olds. The purpose of this study was, firstly, to verify the equivalence of the 8-factor structure of ASD symptoms for 5-6- and 7-year-olds, and secondly, to analyze the dynamics of structural changes in autism symptoms from 3-4 to 5-7 years.

2. Method

Data for 157 7-year-olds with ASD were collected by the same specialists using the same online questionnaire as in the previous study (Nasledov et al., 2024a). These data were combined with data for 371 5-6-year-olds with ASD (a total of 528 5-7-year-olds). The equivalence of the 8-factor structure was verified using multigroup confirmatory factor analysis (MCFA). Next, the value of each factor was calculated as the average value of the items included in it. From the 8 variables obtained as a result, an a priori structural model of the relationship of autistic symptoms was constructed, which was checked for fit with the data using structural equation modeling (SEM).

3. Results

Confirmatory factor analysis of an 8-factor structure for the entire sample of children with ASD: in accordance with the modification indices, 14 covariances between factors and 2 covariances between errors were added to the model. The fit indices confirm a good correspondence of the 8-factor final model to the data: $\chi 2 = 459.002$; df = 236 ($\chi 2/df < 2$); CFI = 0.959, TLI = 0.953, RMSEA = 0.042, Pclose = 0.988.

Checking the equivalence of the model for 5-6- and 7-year-olds. As before, multigroup confirmatory factor analysis was used (Nasledov et al., 2024a). The main test results are presented in Table 1.

Table 1. Model consent indexes for 5-6- and 7-year-olds.

The model (levels of constraints)	**χ2**	**df**	**CFI**	**TLI**	**RMSEA**
Unconstrained	809.616	446	0.925	0.908	0.055
Measurement weights	828.549	462	0.925	0.910	0.055
Structural covariances	881.485	478	0.917	0.905	0.056
Measurement residuals	894.059	588	0.912	0.903	0.057

For each previous and subsequent restriction levels, a decrease in CFI and TLI, and an increase in RMSEA does not exceed 0.01, therefore, equivalence at each level is confirmed. Thus, the high configurational, metric, scalar, and strict invariance of the measurement model for groups of 5-6- and 7-year-olds with ASD has been confirmed.

Association of ASD symptoms with age for samples of 3-4- and 5-7-year-olds. Tables 2 and 3 show Pearson's correlations of ASD symptom factors with the age of children in days. Weak correlations indicate a slight trend in ASD symptoms with age, which is further decreasing for older children.

Table 2. Correlations of ASD symptom factors with age for 3-4 year-olds (N=383).

Symptom	**PS**	**ED**	**Hyp_**	**SU_**	**SD_**	**Al_**	**Ech_**
Pearson Correlation	0,235**	0,012	0,025	-0,260**	0,220**	-0,009	0,237**
Sig. (2-tailed)	<0,001	0,808	0,632	<0,001	<0,001	0,863	<0,001

**Correlation is significant at the 0.01 level (2-tailed).

Table 3. Correlations of ASD symptom factors with age for 5-7- year-olds (N=528).

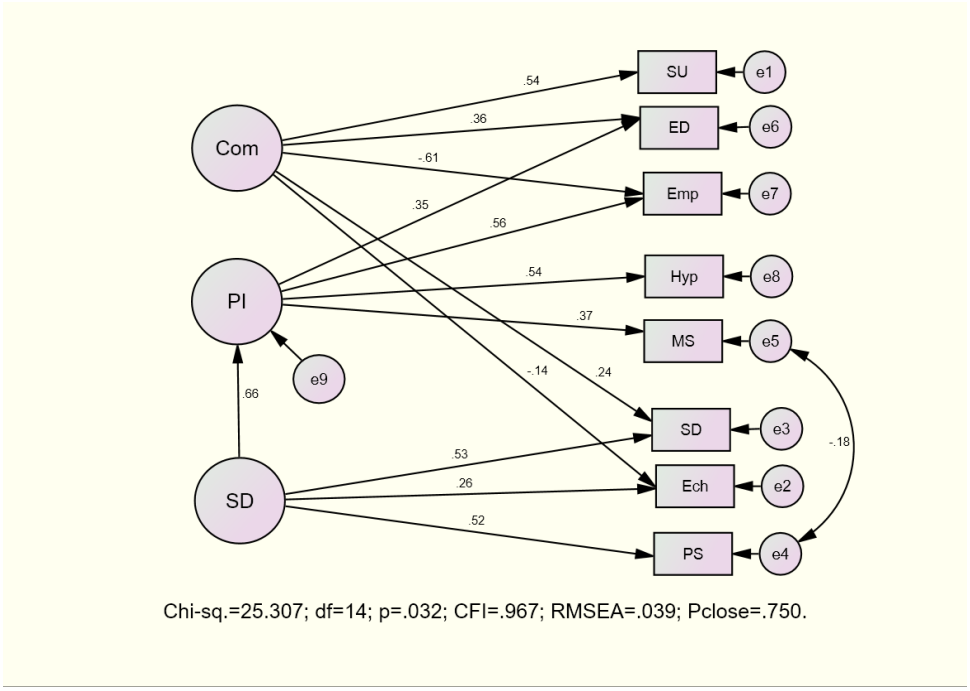
Symptom	**Emp**	**PS**	**Hyp**	**SD**	**Ech**	**MS**	**SU**	**ED**
Pearson Correlation	0,173**	0,147**	0,102*	0,090*	-0,035	0,012	-0,189**	-0,101*
Sig. (2-tailed)	0,000	0,001	0,018	0,037	0,421	0,774	0,000	0,020

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The structure of the relationship of autism symptoms for 5-7-year-olds. The a priori model assumed that 8 factors form 3 groups of symptoms similar to groups for 3-4-year-olds: 1) Com - communication disorders (SU, ED, Emp, Ech); 2) PI - praxis impairment (Hyp, MS); 3) SD - Sensory disintegration (SD, PS). At the same time, sensory disintegration affects motor skills delay, and this affects communication disorders. A posteriori model was adjusted using model modification indexes, and is shown in Figure 2.

Figure 2. A posteriori model of the relationship of ASD symptoms for 5-7-year-olds.



Sensory disintegration includes impairments of SD, PS, and to a lesser extent, Ech. As expected, there is a significant effect of SD on PI. PI includes Hyp and MS, but also to a significant extent Emp and ED. Com is expected to include SU and ED, but with a negative sign - Emp. Apparently, SU and ED facilitate empathy manifestation. At the same time, Com enhances SD and slightly suppresses Ech. The insignificant relationship between PS and MS residues is probably explained by the fact that PS can interfere with the manifestation of MS.

4. Discussion

The novelty of our study is the revealed age-related changes in the structure of autism symptoms in preschoolers: in older children 8 factors form 3 groups of symptoms similar to the ones in 3-4-year-olds however there is a significant overlap of factors which form a complex interdependent system. Thus, sensory disintegration hinders motor skills development in auitistic 5-7-year-olds. The result is correspondent with the previous research as it was shown that there is a pronounced impairment of sensorimotor abilities in autistic children which is decreases with age (Coll, Foster, Meilleur, Brambati, & Hyde, 2020) and affects not just motor skills development but also body function and activity participation (Wuang, Huang, & Tsai, 2020). In turn, as expected, praxis impairment includes symptoms of hyperactivity and this goes along with previous findings (Zhong & Porter, 2024), but also is related with emotional dysregulation and lack of empathy. Similar connection was obtained in research of Kilroy et al. (2022) as it was revealed, that praxis impairments are linked with cognitive empathy, and Theory of Mind ability. It was also shown that adaptive functioning among preschoolers with ASD and, in particular, motor skills development are hugely dependant on emotional regulation (Davico et al., 2022). According to our model, sufficient verbal abilities and proper emotional control are the main contributors to empathy manifestation, which is correspondent to the research of Li, Blijd-Hoogewys, Stockmann, Vergari, & Rieffe (2023) where the positive tendency of empathy mastering in autistic children was connected with children's developmental trajectories, specifically with intact or slightly impaired verbal abilities. At the same time it appears that communication disorders group increases symptoms of sensory disintegration which also goes in accordance with the results in the field. It was shown that sensory difficulties in ASD children are

significantly associated with communication skills and this connection is mediated by anxiety (Khaledi, Aghaz, Mohammadi, Dadgar, & Meftahi, 2022). Finally, it is noteworthy, that persistence on sameness, known as a key autistic symptom, is linked with motor skills development in older preschoolers with ASD which is a novelty of our study. Earlier in the research of Bhat (2021) it was revealed that the risk of motor impairment is closely associated with pronounced symptoms of repetitive behavior patterns, and also with social communication, cognitive, and functional impairments but not vice versa.

Thus, sensory desintegration in autistic 5-7-year-olds affects praxis impairment which includes symptoms of hyperactivity/disinhibition and motor delay, and in its turn praxis impairment begins to increase emotional dysregulation and lack of empathy, which are closely related to speech understanding. Apparently, for older autistic preschoolers, the symptoms of speech and motor impairments are key ones and determine the trajectory of further cognitive development and educational route.

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THE RELATIONSHIPS BETWEEN PARENTAL PSYCHOLOGICAL CONTROL, DARK TRIAD TRAITS, CYBERBULLYING AND CYBERVICTIMIZATION

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Abstract

The increasing prevalence of cyberbullying among young adults is a pressing issue that has drawn significant attention in academic literature. Studies have indicated that individuals who experience high levels of parental psychological control, characterized by manipulative behaviors that undermine a child's emotional autonomy, are more likely to develop maladaptive personality traits. The Dark Triad, which encompasses Machiavellianism, psychopathy, and narcissism, has been shown to correlate with antisocial behaviors, including bullying. The current study thus seeks to explore the role of Dark Triad traits as mediators between parental psychological control (from both mothers and fathers) and the likelihood of cyberbullying and cybervictimization. In this study, 1016 young adults (50% women) aged 18 to 25 years (M=21.64, SD=2.22) participated in an online survey, providing self-reported information on their experiences with parental psychological control, their Dark Triad trait levels, and their involvement in cyberbullying and cybervictimization. The analysis utilized latent variable structural equation modeling (SEM) to test for mediation effects. The model showed a good fit: $\chi 2(182)=561.69$, $p<.001$, CFI=.97, RMSEA=.05 (90% CI=.04–.05), SRMR=.04. Maternal psychological control (MPC) is linked to an increase in Machiavellianism, psychopathy, narcissism and cybervictimization, but it does not directly contribute to cyberbullying. Paternal psychological control (PPC) similarly influences Machiavellianism, psychopathy, and narcissism and is associated with both cyberbullying and cybervictimization. Among the Dark Triad traits, Machiavellianism and psychopathy are significant predictors of both cyberbullying and cybervictimization, while narcissism has a negative impact on both behaviors. Indirectly, MPC contributes to cyberbullying and cybervictimization through Machiavellianism and psychopathy. PPC also has indirect positive effects on cyberbullying and cybervictimization via these traits. Conversely, narcissism serves as a negative mediator, suggesting that higher levels of MPC and PPC may decrease the likelihood of engaging in cyberbullying and experiencing cybervictimization when mediated by narcissism. Overall, the study suggests that young adults who experience greater parental psychological control are more likely to develop manipulative and unemphatic traits, increasing their risk for both perpetrating and experiencing cyberbullying. Specifically, the results highlight the importance of considering both the direct and indirect pathways through which parental influence affects young adults' online behaviors. Consequently, effective measures should address not only the individual but also family dynamics, peer relationships, and the specific challenges of online environments to reduce the risks linked to these detrimental behaviors.

Keywords: *Parental psychological control, dark triad traits, cyberbullying, cybervictimization, young adults.*

1. Introduction

Parental psychological control involves manipulative tactics that can deeply influence a child's mental and emotional well-being, often correlating with increased psychological distress (Rogers et al., 2020). Research suggests a link between such controlling parenting and cyberbullying behaviors, where youths might adopt online bullying as a way to exert control or cope with the powerlessness they feel at home (Lin et al., 2020). Similarly, these children may also become victims of cyberbullying, as controlling parenting can impact their ability to set boundaries and form assertive relationships (Kokkinos et al., 2016). Personality traits within the Dark Triad, narcissism, Machiavellianism, and psychopathy,

have also been connected to cyberbullying behaviors. Narcissistic individuals may seek admiration and lack empathy, while those high in Machiavellianism are often manipulative, and those with psychopathic traits show low empathy and impulse control (Jonason & Webster, 2010). The anonymity of online interactions can amplify these traits, allowing cyberbullies to target others without immediate consequence (Panatik et al., 2022). This research aims to explore how maternal and paternal psychological control, along with the Dark Triad, may influence cyberbullying dynamics. By analyzing the specific contributions of these factors, it seeks to inform prevention strategies that address the root causes in family dynamics and personality development, fostering healthier online and offline behaviors (Li et al., 2020).

2. Methods

2.1. Participants

The study involved 1,016 young adults from Italy, evenly divided into 508 females and 508 males, with ages ranging from 18 to 25 years (M = 21.64, SD = 2.22). Participants were recruited online, mainly through social media platforms. Educational levels varied, with 11% having completed middle school, 47% holding a high school diploma, 31% with a university degree, and 11% pursuing postgraduate studies. For employment status, 30% were students, 13% were unemployed, 44% were employed, and 13% were self-employed. Regarding relationship status, 46% were single, 41% engaged, 6% cohabiting, and 7% married.

2.2. Procedures

This study adhered to ethical standards set by the Helsinki Declaration and the Italian Association of Psychology (AIP). Approval was obtained from the Institutional Review Board (IRB) of the Institute for the Study of Psychotherapy (ISP; reference: ISP-IRB-2023-5). Participants were asked to complete an extensive online survey, with full completion required to ensure thorough data collection. Only individuals who provided informed consent were included, participating voluntarily without any form of compensation. Participant privacy and confidentiality were strictly maintained at all stages of the study.

2.3. Measures

Maternal and paternal psychological control were measured using the Italian adaptation of the Psychological Control Scale (PCS; Costa et al., 2015). Participants rated the level of psychological control they experienced from each parent separately by responding to eight items. Responses were given on a 3-point Likert scale, with higher scores indicating greater perceived psychological control. The Italian version of the Dark Triad Dirty Dozen scale (DTDD; 2010; Schimmenti et al., 2019) was used to assess dark personality traits. This scale includes 12 items, with 4 items for each trait, rated on a 7-point Likert scale. Higher scores on each subscale reflect a stronger presence of that personality trait. The study assessed cyberbullying and cybervictimization using the Italian version of the cyberbullying and cybervictimization subscales from the Behaviors in Cyberbullying Scale (Pozzoli & Gini, 2020). Both subscales consist of four items. Responses were given on a 5-point Likert scale, with higher scores indicating greater involvement in cyberbullying or cybervictimization.

2.4. Statistical analyses

The study used IBM SPSS 27 for descriptive statistics and correlation analyses, while RStudio's lavaan package was employed for the more advanced statistical procedures. Structural equation modeling (SEM) was used to test mediation models. The first model included both maternal and paternal psychological control as predictors, the Dark Triad traits as mediators, and cyberbullying and cybervictimization as outcomes. Models two and three isolated maternal and paternal psychological control, respectively, as predictors, assessing their independent roles. Models four through six examined the mediating roles of each Dark Triad trait individually. A bias-corrected confidence interval method with 5,000 bootstrap resamples was applied to evaluate the significance of indirect paths within these mediation models.

3. Results

3.1. Descriptive statistics and correlations

Table 1 displays the descriptive and correlational statistics for all study variables.

Table 1. Descriptive analyses and correlations.

	M	SD	α	1	2	3	4	5	6
1. Maternal Psychological Control	1.61	.51	.84	-	-	-	-	-	-
2. Paternal Psychological Control	1.53	.53	.87	.36*	-	-	-	-	-
3. Machiavellianism	.78	.94	.87	.28*	.22*	-	-	-	-
4. Psychopathy	.88	.92	.81	.25*	.17*	.57*	-	-	-
5. Narcissism	1.45	1.08	.84	.26*	-.24*	.60*	.43*	-	-
6. Cyberbullying	1.39	.66	.82	.24*	.25*	.50*	.50*	.32*	-
7. Cybervictimization	1.51	.77	.81	.32*	.27*	.39*	.40*	.26*	.64*

*Note: n = 1016. * p < .01.*

3.2. Mediation models

Table 2. Path Estimates, Standard Errors and 95% Confidence Intervals.

	β	*p*	*SE*	*CI (LL)*	*CI (LL)*
Direct Effect					
Maternal Psychological Control → Machiavellianism	.27	< .001	.10	.39	.77
Maternal Psychological Control → Psychopathy	.26	< .001	.09	.33	.70
Maternal Psychological Control → Narcissism	.22	< .001	.12	.37	.85
Maternal Psychological Control → Cyberbullying	.03	.44	.06	-.08	.16
Maternal Psychological Control → Cybervictimization	.17	< .001	.07	.15	.43
Paternal Psychological Control → Machiavellianism	.15	< .001	.08	.13	.44
Paternal Psychological Control → Psychopathy	.10	.02	.08	.04	.34
Paternal Psychological Control → Narcissism	.18	< .001	.10	.24	.63
Paternal Psychological Control → Cyberbullying	.15	< .001	.05	.10	.31
Paternal Psychological Control → Cybervictimization	.14	< .001	.06	.09	.33
Machiavellianism → Cyberbullying	.40	< .001	.05	.19	.40
Machiavellianism → Cybervictimization	.26	< .001	.06	.09	.34
Psychopathy → Cyberbullying	.36	< .001	.05	.18	.37
Psychopathy → Cybervictimization	.29	< .001	.06	.14	.36
Narcissism → Cyberbullying	-.16	.001	.03	-.14	-.04
Narcissism → Cybervictimization	-.12	.02	.03	-.14	-.02
Indirect Effect via Machiavellianism					
Maternal Psychological Control → Cyberbullying	.11	< .001	.04	.09	.26
Maternal Psychological Control → Cybervictimization	.07	.01	.04	.05	.22
Paternal Psychological Control → Cyberbullying	.06	.004	.03	.04	.15
Paternal Psychological Control → Cybervictimization	.04	.02	.03	.02	.12
Indirect Effect via Psychopathy					
Maternal Psychological Control → Cyberbullying	.09	< .001	.04	.08	.22
Maternal Psychological Control → Cybervictimization	.07	.001	.04	.05	.22
Paternal Psychological Control → Cyberbullying	.04	.04	.02	.01	.10
Paternal Psychological Control → Cybervictimization	.03	.047	.02	.01	.09
Indirect Effect via Narcissism					
Maternal Psychological Control → Cyberbullying	-.04	.01	.02	-.10	-.02
Maternal Psychological Control → Cybervictimization	-.03	.03	.02	-.09	-.01
Paternal Psychological Control → Cyberbullying	-.10	.01	.02	-.07	-.02
Paternal Psychological Control → Cybervictimization	-.02	.04	.02	-.07	-.01

Note: p = level of significance; SE = standard error; CI LL = lower limit of the confidence interval UL LL = upper limit of the confidence interval.

The proposed SEM models with latent variables demonstrated good fit across all configurations.

The first and main model showed a strong fit, with $\chi^2(182) = 561.69$, $p < .001$, CFI = .97, RMSEA = .05 (90% CI = .04–.05), and SRMR = .04, revealing significant direct and indirect relationships among most variables, though the direct path from maternal psychological control to cyberbullying was not significant (Table 2).

The second model also showed good fit indices: $\chi^2(132) = 494.60$, $p < .001$, CFI = .96, RMSEA = .05 (90% CI = .05–.06), and SRMR = .04, with significant direct and indirect paths across all variables.

The third model demonstrated a strong fit, $\chi^2(132) = 487.20$, $p < .001$, CFI = .97, RMSEA = .05 (90% CI = .05–.06), SRMR = .04, with nearly all paths being significant.

The fourth model highlighted satisfactory fit indices, $\chi^2(90) = 222.76$, $p < .001$, CFI = .98, RMSEA = .04 (90% CI = .03–.04), and SRMR = .03, with significant paths between most variables.

The fifth model showed good fit with $\chi^2(90) = 183.45$, $p < .001$, CFI = .99, RMSEA = .03 (90% CI = .03–.04), SRMR = .02, highlighting significant paths between nearly all variables.

The sixth model also had a satisfactory fit, $\chi^2(90) = 302.98$, $p < .001$, CFI = .97, RMSEA = .05 (90% CI = .04–.05), and SRMR = .04, where narcissism uniquely demonstrated positive relationships with both cyberbullying and cybervictimization and served as a mediator in indirect paths.

4. Discussion

The primary goal of this research was to explore the mediating role of Machiavellianism, psychopathy, and narcissism in the relationship between maternal and paternal psychological control and cyberbullying/cybervictimization. The findings indicate complex dynamics involving parental control, dark personality traits, and cyberbullying behaviors. The study found that dark triad traits impact the relationship between parental control and cyberbullying, suggesting these traits help explain how parental psychological control can influence cyberbullying behaviors. This extends previous research by demonstrating that Machiavellianism and psychopathy may significantly influence this relationship (Panatik et al., 2022; Padir et al., 2021). This is consistent with the Social Learning Theory, which posits that individuals adopt behaviors through observation and reinforcement (Navarro & Marcum, 2020). Parental psychological control may reinforce manipulative or remorseless behaviors associated with these traits, which in turn can contribute to cyberbullying. The role of narcissism was more complex, with a positive correlation to cyberbullying in bivariate analyses, but a negative mediation effect when considered alongside the other dark traits. This suggests that Machiavellianism and psychopathy may overshadow narcissism's influence in the presence of the full dark triad (Fanti et al., 2012; Fernández-del-Río et al., 2021). The non-significant direct link between maternal psychological control and cyberbullying, when both maternal and paternal control were included, points to a cumulative effect of both parental figures. This interaction suggests that paternal control may have additional variability in predicting cyberbullying, overshadowing maternal control in the combined model (Yang et al., 2021; Yu et al., 2021). Finally, although dark triad traits strongly mediated cyberbullying, they also showed significant effects on cybervictimization, although with smaller effect sizes. This aligns with the notion that cyberbullying and cybervictimization are interconnected, and individuals may experience both roles, especially if they have vulnerability factors such as low self-esteem or previous victimization (Ademiluyi et al., 2022; Baldry et al., 2019).

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A COMPARATIVE STUDY OF PUBLIC PERSPECTIVES ON AUTISM FROM 2015 TO 2023

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Abstract

In 2015, Mitchell and Locke developed a survey assessing knowledge of autism sources, causes, diagnosis age, treatments, testing, and diagnostic symptoms. Utilizing Amazon's MTURK platform, they gathered responses from Americans and Canadians (N = 823) and found adequate autism knowledge. Blancher and Yetman (2023) administered Mitchell and Locke's original survey to a separate sample of Americans and Canadians (N = 858) to compare knowledge between the general population and medical students. The present study used data from these two published studies to conduct a comparative analysis using z-tests of two independent proportions. We analyzed survey response percentages from 2015 (Group 1) and 2023 (Group 2) samples to examine changes in autism knowledge within the general population over time. Regarding sources of information, media remained the top source of information about autism in both samples, but knowledge from doctors, clinics, schools, and personal experiences (8% to almost 32%) significantly increased in Group 2. Genetic and neurological causes continued to be the most commonly reported etiology of autism, while belief in vaccines as a cause declined significantly in Group 2 (4%). In regard to age of onset, participants in both groups accurately identified the age of onset for autism as 18-24 months, with no significant changes between the two samples. Doctors remained the top-rated resource for help in both years, and reliance on the internet and parent organizations decreased in favor of health departments and early interventionists. Regarding diagnostic testing, psychological, educational, and developmental assessments were consistently viewed as the most appropriate methods for evaluating autism, while ratings for speech and language evaluations and blood work declined. Good symptom knowledge was noted in both groups; however, there was a slight decrease in correctly identifying non-diagnostic traits such as illogical thinking and violent behavior. Concerning intervention, behavioral therapies and parent training were rated as the most effective treatment options in both years, with a significant increase in the endorsement of play therapy in Group 2. Perceptions of drugs as an appropriate treatment option decreased notably (19.8% to 11.0%), while physical exercise gained greater support in the 2023 sample. The comparison of Group 1 and Group 2 survey data highlights positive shifts in public understanding of autism; however, errors and misperception persist. These findings support the importance of ongoing public education efforts and leveraging platforms like social media to enhance awareness and support for autistic individuals.

Keywords: *Autism, community education, lay beliefs, autism awareness, MTURK.*

1. Introduction

Autism is a complex neurodevelopmental condition that continues to attract research and public interest (American Psychiatric Association, 2022). Limited studies have explored autism awareness and beliefs in the U.S. public (Furnham & Buck, 2003; Holt & Christenson, 2013; Mitchell & Locke, 2015). Mitchell and Locke (2015) investigated public perceptions to address misconceptions and improve support systems, finding that while awareness was generally good (e.g., autism as genetic, neurological, diagnosable in early childhood, and treatable), gaps remained—10% of the sample still incorrectly linked autism to vaccines. Shifting ASD prevalence rates highlight the need to reassess public knowledge. The CDC reported rates of 1:54 in 2016, 1:44 in 2021 (Maenner, Shaw, Bakian, et al.), and 1:36 in 2023 (Maenner, Warren, Williams, Amoakohene, Bakian, et al.). This study aimed to compare public beliefs about autism in 2015 and 2023, identifying changes, continuities, or emerging trends over time.

2. Method

2.1. Participants and procedure

Data was obtained from Mitchell and Locke (2015; Group 1) and Blancher and Yetman (2023; Group 2) samples. Mitchell and Locke reported a North American (US and Canada) public sample of 823 participants. Blancher and Yetman's sample consisted of 858 participants. Both samples required participants to complete a survey through Amazon's Mechanical Turk (MTurk) website. Each individual participant who anonymously completed the study survey and a validity question were included in the final samples. In Group 1 (n = 823), there were 336 males and 487 females, whereas Group 2 (n = 858) included 170 males, 684 females, and 4 individuals who preferred not to disclose their gender. The mean age in Group 1 was 32.7 years, with participants ranging from 18 to 77 years old. Group 2 ranged from 15 to 78 years. Regarding ethnicity, GRoup 1 was 77.8% White, 7.2% Black, 4.3% Hispanic, 6.4% Asian, and 4.5% identified as Other. In comparison, the Group 2 was 73.7% White, 9.9% Black, 6.3% Hispanic, 8.9% Other, and 1.2% preferred not to disclose their ethnicity, with Asian representation not reported.

3. Results

Table 1 (listed at the end of the article) displays the results for Group 1 (2015) and Group 2 (2023). Z-tests of two independent proportions were conducted using the statistical calculator provided by Epitools (n.d.). We compared the percentage of responses for each option of the 2015 sample and 2023 respondent sample. Results are presented as percentage of responses and bolded numbers indicate a statistically significant difference between groups (p-value criterion set at < .01). Furthermore, only the statistically significant differences are listed in the table.

3.1. Source of information

Media remained the highest reported source of information for both groups. Although this was a major concern for Mitchell and Locke, significant improvements from 2015 to 2023 in knowledge related to sources of information from doctors, hospitals, and clinics as well as schools, work, and professional organization were noted. Also, information from personal experience increased dramatically (8% to almost 32%) as well as from friend, neighbor, or family. Interestingly, there was a significant decrease in the "unsure" category as respondents appeared more knowledgeable regarding autism.

3.2. Main causes

Genetic and neurological causes remained the highest reported causes of autism. However, a significant change in beliefs about vaccines contribution to the onset of autism from 2015 to 2023. Although there was a significant increase in family's contribution to causes of autism, this was generally negligible.

3.3. Age of onset

No significant age of onset differences was noted, and knowledge of age of onset continues to be accurate at 18-24 months with the highest percentage of individuals rating this time period for both groups.

3.4. Where to go for help?

The highest rating continued to be the doctor 2015 sample (64%) and 2023 (67.8%). Seeking the internet and parent organizations appeared to decrease significantly in favor of the health department and early interventionists.

3.5. Diagnostic testing type

Both groups continue to accurately rate psychological, educational, or developmental testing as the most appropriate assessment types. Statistically significant decreases in rating of speech and language evaluation and blood work were noted.

3.6. Diagnostic traits

Both groups continued to display generally good knowledge regarding diagnostic traits vs. non-diagnostic traits. Additionally, roughly 50% of each group rated fidgets and squirms constantly as a diagnostic trait, but decreases in knowledge regarding non-diagnostic traits (e.g., illogical thinking, violent behavior, and psychotic symptoms were observed.

3.7. Therapy or treatment

A high percentage of both groups accurately rated behavior therapies and training or education for the parents as the most appropriate therapeutic approach. Group 2 rated play therapy as statistically significantly more than Group 1. Furthermore, there was a significant decrease in the perception of the appropriateness of drugs being considered as treatment options from 2015 to 2023. Finally, physical exercise was rated more often in 2023 than 2015.

4. Discussion

Comparing Group 1 and Group 2 data reveals key shifts in lay beliefs about autism. Information sources have diversified beyond media, reflecting broader societal understanding. It is very encouraging that the belief in vaccines as a cause has declined which is likely due to education and awareness efforts. Increased personal experience with autism is consistent with rising prevalence rates from 2015 (1:56) to 2023 (1:36; Maenner et al., 2023). Both groups accurately identified symptom onset before age five, while a shift toward seeking information from specialized professionals (e.g., health departments, early intervention specialists) over unreliable sources (e.g., internet) suggests evolving public trust in expert guidance. Knowledge of diagnostic traits remained strong, with improvements in distinguishing non-diagnostic traits (e.g., violence, psychotic behavior). Differences in treatment beliefs highlight the ongoing need for comprehensive, up-to-date information dissemination.

5. Conclusion

This study contributes to current knowledge by identifying shifts in misconceptions (e.g., vaccines), informing targeted education efforts (Brosnan & Mills, 2016), examining how societal perceptions impact autistic individuals and families (Happé & Frith, 2020), and refining interventions to address public needs (Pellicano & Stears, 2011). Increased awareness may be partly driven by social media, which allows for rapid information sharing and may promotes a more informed, empathetic understanding of autism. These current findings is consistent with previous research on the influence of online platforms in shaping public perceptions of health issues (Smith & Anderson, 2018; Pew Research Center, 2021).

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Table 1. Percentage of responses to Mitchell and Locke (2015) and Blancher and Yetman (2023)

Research Question and Answer Options	Samples	
Where have you gotten most of your information about autism?	Group 1 (2015)	Group 2 (2023)
Friend, neighbor, or family	**21.1**	**35.5**
School, work, or professional organization	**15.8**	**43.1**
Personal experience	**8.0**	**31.8**
Unsure or other	**6.9**	**2.8**
Doctor, hospital, or clinic	**2.1**	**23.0**
Please choose which two of the following you believe are the main causes of autism?*		
Vaccinations	**10.2**	**4.8**
Family	**4.3**	**7.9**
What is the earliest age that you think a person can be diagnosed with autism?		
3-5 years of age	**31.8**	**27.3**
If you suspect someone you know has autism, where should they go for help first?		
Early Intervention specialist	**11.1**	**18.5**
Internet	**3.9**	**.6**
Health Department	**2.7**	**15**
What kind of testing do you think is done to diagnose autism?		
Speech and language evaluation	**4.6**	**1.6**
Blood work, chemical or genetic testing	**4.9**	**2.0**
Please select 6 of the following traits that you believe are most diagnostic of autism		
Diagnostic traits		
Poor back-and-forth communication skills	**87**	**81.2**
Non-diagnostic traits		
Illogical thinking	**21.1**	**12.2**
Consistently violent behavior	**11.7**	**7.3**
Seeing or hearing things that do not exist	**6.9**	**4.0**
Do you think there are therapies or treatments for autism? If so, which of the following are appropriate therapies or treatments for autism? (please pick 3).*		
Behavior Therapies	**71.1**	**78**
Educational Therapies	**32.7**	**39.6**
Play Therapy	**25.3**	**41.6**
Speech Therapy	**24.4**	**35.0**
Drugs/Medication	**19.8**	**11.0**
Physical Exercise	**5.1**	**16.1**

SOCIAL STEREOTYPES IN ARMENIAN SCHOOLS IN LEBANON

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Abstract

The article analyzes and reveals the difficulties caused by social stereotypes encountered in Armenian schools in Lebanon. The problem of social stereotypes in the educational process has been and remains the focus of attention of pedagogues and psychologists. After all, the level of their educational process also depends on the level of awareness of social stereotypes. The effectiveness of awareness about social stereotypes in the educational process depends not only on the correct selection, development and application of educational programs, methods, means, forms, but also on the implementation of the whole systematic educational process, the pedagogues. The current research investigated the social stereotypes through 134 teachers from different regions, subject areas and teaching experiences. The google form used shed light on teacher awareness of these stereotypes and the types of social stereotypes that exists in these schools. The research offers recommendations and perspectives for universities and schools that aim to combat inequality and stereotypes in communities by equipping educators with knowledge about social stereotypes and new teaching strategies.

Keywords: *Social stereotypes, social skills, equality, inequality, educational psychology.*

1. Introduction

The world before and after the Covid 19 pandemic won't be the same. People around the world fought the challenge in different ways, some with perseverance and survival mode, while others in hopelessness and demotivation. The past decades enormous research has been done in social psychology to understand, comprehend and document human behavior, social theories, learning and change as well as evolving and development in human nature. The field of psychology attempts to understand humans to help predict and improve lifestyles of populations and lives and create more sustainable communities. The past and current challenges allow us to examine further our teaching perspectives and strategies.

Education and psychology attempt to investigate and understand groups and their dynamics, most rigorously since the 1990s, when globalization and digitalization somehow broke the boundaries of groups to reach larger societies and communities. Group norms, accepted behaviors, and means of communication began to evolve. Mode of knowledge, transferring attitudes, efficiency or members and intergroup conflicts all took on a new notion and importance.

These same common grounds and activities that join people together, may also be a factor to discriminate some groups over others, through giving rise to stereotypes. Stereotypes are one of the social problems that may come to surface when investigating lives inside communities and relations among members.

Schools need to be miniatures of our communities and when we want individuals to feel safe, to be able to grow and reach full potential, then schools also need to offer equal opportunities to different groups and also allow all members to have choice and voice in their learning processes. The research sheds light on the social stereotypes found in schools and aims to understand them in order to be able to address them and attempt to create most tolerance, acceptance and eventually a culture that celebrates diversity and grows together towards common goals and shared values.

Stereotypes in all their forms aim to benefit a group against the other and categorize individual into forms that even they may not be aware. The first step would be to identify the presence of these stereotypes and then to understand the causes and attempt to investigate opportunities and bets practices to cater to an educational system where all stakeholders are having their voice heard in a safe haven.

2. Research problem

When we talk about stereotypes, it is the common belief that categorizes people, in exaggerated matters that may also not be true. This categorization that identifies people based on physical, social or cultural characteristics assumes that all people in a given category or subgroup will manifest all these given traits.

Stereotypes as a simple term, 'pictures in our heads' refer to an internal, mental representation of social groups in contrast to their external reality. Stereotypes play their role from the earliest moments in the information processing sequence, giving preference to stereotype-consistent options. To date, the evidence overwhelmingly suggests that stereotypes influence the manner in which information is sought, perceived, remembered, and judged (Fiske, 1998).

Stereotyping disregards the objective definitions and holistic approaches, making the entities only about one aspect or attribute. This makes representation of things as fixed and unchanging. Stereotypes act as a distancing mechanism, radically separating those stereotyped from those among whom the stereotypes circulate and are reproduced. Stereotyping always focuses on differences and offers an extra edge to a group of people as if giving less rights to another (Pickering, 2015).

In the past decade, lab-based experimental research has increased in terms of investigating the process of cumulative cultural evolution. It is crucial to examine how societal stereotypes might form and evolve through a process of cumulative cultural evolution as social information is repeatedly passed from person to person. Social psychology research has done much to inform our understanding about the substantial influence stereotypes exert on us as individuals and on our society, yet comparatively little is known about how society's pools of stereotype knowledge form and how they evolve (Baum, Richerson, Efferson, & Paciotti, 2004; Caldwell & Millen, 2008; Kirby, Cornish, & Smith, 2008; Whiten, Caldwell, & Mesoudi, 2016).

Questions concerning the controllability of automatic stereotypes are debated (Fiske, 1998). It appears that a desire to believe that stereotypes can be controlled, perhaps because of their pernicious social consequences, can result in the wishful assessment that they are indeed controllable. Automatic stereotypes do not appear to be controllable by ordinary acts of conscious will. However, habitual patterns of thought, feeling, and behavior toward social groups that cohere with broader value systems and ideology appear to predict automatic responses.

Schools represent a model of community; it is a miniature version of a group of people living together with different ages and backgrounds, being ruled by a set of rules, policies and procedures. They also have common clear expectations as well as actions and consequences. Schools guided by mission vision offer services, share responsibilities and involve stakeholders. Then these same stereotypes can be examined on the school grounds and inside classrooms.

2.1. The research significance

Societies have identified the need for improvement and advancement as we educate the youth for the sustainability and improvement of communities, thus setting up schools as formal institutions that understand the needs of the society and prepare youth can help improve and develop lifestyles and cultures (Tweed and Lehman, 2002).

Schools as organizations, also evolved from the classic teacher centered traditional ones, to more contemporary modern digital phase. Taylor’s theory explains that stereotypes are cognitive structures that represent general beliefs and expectations about a particular group of people. These beliefs are often based on limited information and used as mental “shortcuts” to help individuals process information quickly and make sense of the world around them. (Fiske, Taylor, 2020)

This current study examined the teachers inside the pedagogical institutions in the Armenian community in Lebanon in terms of levels and types of exhibited stereotypes in terms of age, gender and profession. The research aimed to offer insight into definition, implication, history and effects of stereotypes. It studies the relationship of emotional intelligence of teachers in these schools and the social stereotypes that they exhibited.

Teaching students about stereotypes raises awareness and affirms the self, educating about differences, reframing goals of learning and offering equal opportunities. The significance of this research is to understand the social stereotypes in these classrooms and then propose and recommend guidelines to help teachers combat these inequalities and help create equity in the societies through education.

2.2. Research objectives

In explaining the nature of stereotypes to derive predictions and to identify the role of the individual perceiving and the impact of the society, three theories were examined and compared. Stereotypes influence perceptions, understanding and expectation of the given situations showing favoritism to in groups and bias to those in out groups. Thus, integrating different theories to understand the phenomenon can be a better tool to evaluate it. Incorporating mechanisms by several theories simultaneously, can limit other effects and yield a more objective perspective. Introducing different indicators and intergroup interactions can enhance the accuracy of theories of stereotypes (Jussim, Coleman and Lerch, 1987).

The large circle of the society and the community under study were the teachers of the schools in Lebanon. The pedagogical staff, teachers, in these schools were examined, through the eyes of social psychology, specifically in the knowledge and awareness of stereotypes as well as its effects in these institutions, in relation to other variables.

Overall, the aim of the research is to

1. Determine what social stereotypes are present among teachers
2. Examine how these stereotypes relate to gender, profession, age groups and other social factors.
3. Explore how teachers and school staff contribute to or challenge existing stereotypes.
4. Analyze the effectiveness of teacher training programs in addressing and reducing stereotypes.
5. Propose recommendations aimed at reducing stereotype-based discrimination.

3. Methodology and findings

The tool used was "TOLERANCE INDEX" EXPRESS-QUESTIONNAIRE. The Tolerance index is a concept introduced by G.U. Soldatova, O.A. Kravtsova, O.E. Khukhlaev and L.A. Shaygerova in their Expressive questionnaire, which is a survey instrument designed to assess an individual's attitudes towards tolerance (aspects, types). The questions are designed to assess tolerance in various domains. Express questionnaire "Tolerance Index" (authors: G.U. Soldatova, O.A. Kravtsova, O.E. Khukhlaev, L.A. Shaigerova).

Participants rated how much they agree with the following statements by placing a check mark next to each question in the appropriate column. The results showed that the participants with less than 10 years of experience in teaching had a low level of tolerance, similar to those who had 10-20 or 20+ years of experience. There was a difference in terms of gender in tolerance: females showed a medium level of tolerance compared to men.

The same dimensions of tolerance were measured in terms of age of the participants, results were as follows. Teachers aged 25-40 showed medium level of tolerance compared to young less than 25, and older 40+ aged teachers. The overall tolerance level for the various age groups and genders ranged from low to average. The participants did not show high tolerance.

For the goal of assessing social stereotypes the researcher created and administered tools to investigate the social stereotypes in the given population. Questionnaire for assessment of expression of age stereotypes.

The presence of social stereotypes related to professions was overall low. In depth investigation showed that Participants who had less than 10 years of teaching experience and those with 10-20 years showed low professional and age-related stereotypes. Teachers who were longer in teaching (10 years +) had a medium level of stereotypes demonstrated. The same tool was also investigating in terms of teacher's age, the results were showing evidence of increase in age and increase in stereotypes manifestations. The older the participants got from ages 40-60 and to 60+, the social stereotypes were more evident.

Next tool was the questionnaire for determining the expression of social stereotypes related to age shed light on the type of present stereotypes.

The results for stereotypes related to age were more evident. There was a low level of stereotypes present for "older" groups of teachers, having a medium level of stereotypes related to new and to experienced teachers.

4. Data analysis

The results of the tolerance test offered a low level of tolerance of the others, in teachers ages 40+ compared to young teachers (ages 25-39). In terms of social stereotypes related to age, teachers age 40-60 exhibited the highest level of manifested stereotypes. Teachers with 25+ years of experience had a low level of acceptance of the other, and tolerating the different "out groups" especially if age was a factor.

Finally, it was evident with the use of 'Age related stereotypes" that teachers who were considered "Old" were showing a high level of stereotypes. It was also clear that overall educators believed that there were age related stereotypes targeted to teachers ages 60+ the most. The data using various tools used in terms of emotional intelligence, tolerance and empathy in correlation with stereotypes related to professions, age and gender offered insight about the 104 teachers in Armenian schools in Lebanon and an urgent need to address these stereotypes manifestations, through increasing the teacher tolerance level, thus improving teacher empathy and help raise the tolerance level and acceptance of the other.

5. Conclusion and recommendations

The environment that encourages acceptance, minimizes conflicts and stereotypes between groups, invests in the individual and the team profile, gains improvement in the quality of relationships. As noted by Daniel Goleman, 1998, Working with Emotional Intelligence, targeting and catering to individual and team growth, allows organizations to excel in performance. Training such as empathy, cooperation, awareness of strengths and weaknesses, self-confidence and problem solving, flexibility, allows individuals to become better versions of the self, and as a team build good relationships, improve flow of work and trust relationship, minimizes stereotypes, better decisions making and productivity increases.

Emotional intelligence, a skill highly needed in the teaching profession places males and females on similar platforms in terms of capabilities; when female teachers show more empathy and are more aware of their emotions, male teachers manage stress better and show resilience. Emotional quotient (EQ) accounts for 80% of life and career success. (Goleman, 1998).

Social skills and emotional wellbeing are remedies that could be offered to teacher preparatory courses to better equip them with tools to be more aware of structuring lessons that help create equity inside classrooms. Research shows that some changes could be made through policy makers to create more equality in schools and communities through education.

Some teaching related perspectives would be to train learns and educators on emotional intelligence) Goleman, 1995), introduce social emotional learning programs (CASEL) integrate diversity and inclusion training (Zeichner, 2012), promote culturally relevant pedagogy (Ladson-Billings, 1995) foster critical reflection and dialogue (Zeichner, K. M., & Conklin, H. G., 2008), implement case studies and role playing. (Cooks & Wang, 2018), develop skills for effective communication (Howard, 2006), encourage collaboration with diverse communities (Gay, 2010) and ongoingly evaluate and adjust curricula to meet the needs of the community and the society (Banks & Banks, 2019).

It has been evident that the ability to manage challenging emotions in healthy ways and create calmness and resilience, offers emotion regulation tools and results in healthy relationships. Emotional intelligence allows teachers, and then learners, to become physically and emotionally healthy citizens, developing effective ways to manage relationships, minimize peer pressure and stress from society, focusing more on self-development and growth, competition with the self and creating a better version of the individual.

By integrating these recommendations into teacher preparatory courses, educators can be better equipped to address and reduce social stereotypes in their classrooms, fostering a more inclusive and equitable educational environment.

This minimizes the group formations and polarization inside societies and educational institutions, thus increasing performance of individuals who are focused and resolve conflicts, being committed to the work and are efficient (Sheykhjan, Moradi, Kamran, Rajeswari, 2014).

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A SCOPING REVIEW APPROACH TO GENERATION Z'S LEARNING STYLE IN HIGHER EDUCATION

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Abstract

Increasingly, students in institutions of higher education are from Generation Z rather than the Millennial generation. This young generation represents individuals born between 1995-1997 and 2010-2012. Like each predecessor generation—Silent, Baby Boomer, Generation X, and Millennials in order from old to new—Generation Z also has unique characteristics. The literature has started to clarify the unique characteristics of this generation. Yet, empirical research on the learning style of Generation Z recently began in the context of higher education; thus, it remains unclear what learning style Generation Z students have as a whole. Accordingly, the aim of this study was to understand characteristics of Generation Z's learning styles by mapping emerging empirical results of learning styles for Generation Z. This study was a systematic scoping review applying the PRISMA flowchart. Following the identification of 945 potential studies, we identified 21 empirical studies of Generation Z in relation to the four groups of existing learning style theories with scales. We found that a single dominant learning style of Generation Z students could not be specified because each empirical study reported a particular learning style according to the learning style theory applied. Thus, the predominant learning styles of Generation Z depended on the learning theory and scales: that is, Concrete Sequential learning style of the Gregorc theory as a unimodal type; a Diverging learning style of the Kolb's model; an Active, Sensing, Visual, and Sequential learning style as dominant of the Felder-Silverman's/Felder-Soloman's paradigm; and a Visual style of the VAK and a Kinesthetic one of the VARK.

Keywords: *Learning style, Generation Z, scoping review, higher education.*

1. Introduction

Studies on Generation Z have recently come out that illustrate its characteristics. For example, Seemiller and Grace (2017) described three distinct characteristics of Generation Z with regard to learning preferences, community engagement, and career aspirations based on their empirical findings. Isaacs, Scott, and Nisly (2020) discussed Generation Z's characteristics and integrated them into seven key themes—learning style, teaching preference, communication, feedback, technology, social media, and risk/financial views—which can differentiate between Generation Z and Millennials even though both generations have grown up in a similar era of advanced technology. To more profoundly understand unique learning aspects of Generation Z students, learning style has been specifically considered (Seemiller & Grace, 2017). Since learning style is an indicator of an individual's preferred way of learning in learning situations (Kolb & Kolb, 2017), it is critical to know how Generation Z students typically learn in higher education institutions, which reflect today's technological and digitalized information environments. Yet, empirical research on the learning style of Generation Z only recently began in the context of higher education, and it remains uncertain to what extent recent work clarifies the learning style of Generation Z. Accordingly, the aim of the current study was to understand the learning style of Generation Z as a whole with inclusion of only empirical evidence-based research related to any educational program, major, or discipline by applying a scoping review approach. Consistent with our study aim, we had one research question: What are the learning styles of Generation Z?

2. Learning style and Generation Z

Multiple definitions of learning style exist in the literature and may overwhelm educators and researchers. Coffield et al. (2004) identified 71 learning style models and categorized five groups based on 13 significant models. Using their classification, we focused on the descriptions of style models

categorized into either the genetic component family, including human functioning modalities, or flexibility in stable learning preferences (see Coffield et al., 2004). Here, five learning style models are particularly relevant to those categories: Kolb's (1984) learning model (Kolb & Kolb, 2017), Gregorc's learning model (1982), Fleming's VARK model (Fleming & Bonwell, 2019), Felder-Silverman's (1988) learning model, and Dunn and Dunn's learning styles model (Honigsfeld & Dunn, 2003).

Several studies have highlighted certain learning characteristics of Generation Z (see Shorey et al., 2021). For example, Seemiller and Grace (2017) pointed out two aspects of Generation Z's learning characteristics: observation and intrapersonal learning. Regarding observation, Generation Z students prefer watching others do an assigned task before doing it themselves (Seemiller & Grace, 2017). As an example, Generation Z seeks information from videos or YouTube when encountering something difficult or hard to understand (Seemiller & Grace, 2017). The other aspect is Generation Z's preference for intrapersonal learning (Seemiller and Grace, 2017).

3. Methods

To execute a scoring review approach, we relied principally on the guideline for review proposed by Arksey and O'Malley (2005) and the PRISMA flowchart (Moher et al., 2009). Searches were carried out applying the key term with searching formula: ("Generation Z" OR "Gen Z" OR "iGen" OR "Digital Natives" OR "Net Generation") AND ("learning style" OR "preferred learning way"). The literature search was conducted on June 1, 2024. The search was limited within English-language publication categories of articles, conference papers, and book chapters, and it was conducted with no time boundary. The database search resulted in a total of 938 potentially eligible studies: 819 from ProQuest Central, and 119 from Scopus. In order to further find potentially eligible researches, we also conducted an additional search by using the reference section of the studies selected and our learning style researches, as suggested by Siddaway, Wood, and Hedges (2019). With this effort, we added 5 articles and 2 conference paper, resulting in a total of 945. Then, we eliminated 199 studies published in 2012 or before because students born in 1995 typically started to enter into a higher educational institution in 2013, resulting in a total of 746. Next, we checked for duplicates and identified 32 duplicates to be eliminated from 746 studies. Consequently, 714 studies were left to be further investigated through title and abstract screening.

For the inclusion criteria, studies needed to be empirical studies in English that used a scale to measure learning styles of the participants of Generation Z and showed quantitative results related to the participants' learning style that measured by the five learning style scales discussed earlier. The publication types included were journal articles, conference proceedings, and book chapters. Two authors separately screened and analyzed the titles and abstracts of the 714 studies by applying the inclusion and exclusion criteria. Then, the authors compared their results for the screened studies and discussed discrepancies until reaching consensus. As a result, a total of 628 studies were removed, whereas 86 eligible studies remained to conduct a subsequent process of eligibility. Then, those studies were further analyzed independently by the same authors to determine which studies were included or excluded as final study selections. In the occasion of disagreement, the third author was consulted. Among the 86 studies, 65 were removed due to the reasons of exclusion. Accordingly, 21 studies were eventually included in the final study selection based on criteria. Table 1 lists the 21 included studies. Detailed citation information of the 21 studies is listed in Appendix A separately from the section of references.

4. Results

As illustrated in Tables 1 and 2, different types of learning style models and scales were applied among the 21 identified studies. First, only one study used the Gregorc Style Delineator. For that study, results showed that the dominant learning style of Generation Z is Concrete Sequential learning style (43%) as a unimodal style. The second analysis was conducted for seven studies applying Kolb's Learning Style Inventory. For 32%, the most dominant learning style was the Diverging learning style. Five studies employed the Felder-Silverman's or Felder-Soloman's Index of Learning Style. Among them, the study of Reesman and Birdsong (2023) was excluded because it did not present learning style frequency of Generation Z. Most study results for the dominant learning style of Generation Z were consistent: the dominant learning style was composed of an Active, Sensing, Visual, and Sequential learning style. The final analysis concerned the VAK/VARK learning model. The Visual learning style with 55% as a single dominant learning style modality was showed in the VAK model. The analysis using the VARK model was conducted in two different ways. The first analysis focused on unimodal learning styles, while the second one emphasized each four styles relevant to not only unimodal styles but also multimodal ones including unimodal learning modes. Regardless of two ways of analyses, a dominant learning style was the Kinesthetic one with 34% of a unimodal type as well as with 28% of the other one.

Table 1. Characteristics and Results for Each of the 21 Studies Included in the Review.

Authors & year	Study characteristics				Results
	N	**Educational Institution**	**Faculty/major/ program**	**Scale/learning style model**	**Major learning style of Generation Z**
Albadi and Zollinger, 2021	466	University, USA	Interior design	Gregorc Style Delineator	Bimodal learning style; Concrete Sequential learning style as a unimodal one
Baherimoghadam et al., 2021	85(1)	University, Iran	Dentistry	Felder-Soloman's Index of Learning Styles	Reflective, Sensing, Visual, & Sequential modes
Eid et al., 2021	113	University, Saudi Arabia	Medicine	VARK learning model	Multimodal learning style; Additionally, Aural learning style as a unimodal style
Fahim et al., 2021	1473	University, Pakistan	Medicine & dentistry	VARK learning model	Multimodal learning style; Additionally, Kinesthetic learning style as a unimodal style
Galingan, 2019	149 (360)(2)	University, Philippines	Engineering	Kolb's Learning Style Inventory and Felder-Silverman's Index of Learning Style	Reflector(3)(Diverging) learning style; Active, Sensing, Visual, & Sequential modes
Hanawi et al., 2022	84	University, Malaysia	Biomedical science	Learning Style Questionnaire (VAK learning model)	Visual learning style
Ishak et al., 2022	300	Undergraduate, Malaysia	Medicine, pharmacy, & allied health	VARK learning model	Multimodal learning style; Additionally, Kinesthetic learning style as a unimodal style
Joonas et al., 2021	120(1)	Undergraduate, Mexico	Not described	Kolb's Learning Style Inventory	Converging learning style
Manzoni et al., 2021	592 (870)(2)	University, Italy	MSc and executive education	Kolb's Learning Style Inventory	Assimilating learning style
Maulina et al., 2020	165	College, Indonesia	Physics teaching	VAK learning model	Visual learning style
Nossoni, 2021	33	University, USA	Engineering	Felder-Silverman's Index of Learning Style	Active, Sensing, Visual, & Sequential modes
Nwajiuba & Onyeneke, 2023	133	University, Nigeria	Science, social science, & humanity	VARK learning model	Auditory learning style
Othman et al., 2019	305	University, Malaysia	Poly-tech	VAK learning model	Visual learning style
Payaprom & Payaprom, 2020	372	University, Thailand	Language	VARK learning model	Multimodal learning style; Additionally, Kinesthetic learning style as a unimodal style
Reesman & Birdsong, 2023	112 (706)(2)	University, USA	Pilot flight	Felder-Soloman's Index of Learning Styles	Active, Sensing, Visual, & Sequential modes
Seemiller et al., 2019	701	College, USA	Not described	Kolb's Learning Style Inventory	Logic(3) (Assimilating) learning style
	1481	College, Brazil	Not described	Kolb's Learning Style Inventory	Logic (Assimilating) learning style
Silvestre et al., 2022	95	University, USA	Dentistry	VARK learning model	Visual learning style
Sousa, Mendonça, J., & Fontão, 2023	519	University, Portugal	Engineering	Kolb's Learning Style Inventory	Accommodating learning style
Toyama & Yamazaki, 2021	423	University, Japan	Business administration	Kolb's Learning Style Inventory	Diverging learning style
Turner & Gurenlian, 2023	89 (150)(2)	University, USA	Dental hygiene	Felder-Soloman's Index of Learning Styles	Active, Sensing, Visual, & Sequential modes
Yamazaki, Toyama, & Wijayanti, 2024	423	University, Indonesia	Elementary education	Kolb's Learning Style Inventory	Diverging learning style

Note. (1) Sample might include those who were born before 1995. (2) The number in parentheses indicates the total study sample, including those not in Generation Z. (3) This study used the original names for the learning styles based on Kolb's learning theory: the learning style of Theorist and Logic is Assimilating learning style; that of Activist and Experience is Accommodating learning style; that of Pragmatist and Practicality is Converging learning style; and that of Reflector and Imagination is Diverging learning style.

Table 2. Learning Style Frequency Tendencies Shown in the 21 Studies Included in the Review[1].

Learning style model or scale	**Dominant learning style and mode**							
Gregorc Style Delineator	Concrete Sequential		Concrete Random		Abstract Random		Abstract Sequential	
Albadi & Zollinger (2021)[2]	43%		26%		24%		6%	
Kolb's Learning Style Inventory[3]	Diverging		Assimilating		Converging		Accommodating	
Galingan (2019)	42%		7%		27%		23%	
Joonas et al. (2021)	15%		24%		37%		24%	
Manzoni et al. (2021)	25%		28%		22%		25%	
Seemiller et al. (2019):Brazil	19%		28%		25%		27%	
Seemiller et al. (2019):USA	23%		30%		24%		24%	
Sousa et al. (2023)	20%		22%		27%		30%	
Toyama & Yamazaki (2020)	46%		17%		4%		33%	
Yamazaki et al. (2024)	63%		28%		5%		4%	
Average % of each learning style	32%		23%		21%		24%	
Felder-Silverman's/Felder-Soloman's Index of Learning Style	Active	Reflective	Sensing	Intuitive	Visual	Verbal	Sequential	Global
Baherimoghadom et al. (2021)	47%	53%	72%	28%	85%	15%	64%	36%
Galingan (2019)	56%	44%	70%	30%	79%	21%	73%	27%
Nossoni (2021)	64%	36%	67%	33%	82%	18%	67%	33%
Turner & Gurenlian (2022)	71%	29%	82%	18%	78%	22%	74%	26%
Average % of each learning style	59%	41%	73%	27%	81%	19%	69%	31%
VAK learning model	Visual		Auditory		Kinesthetic			
Hanawi et al. (2022)	62%		29%		10%			
	64%		1%		35%			
Maulina et al. (2020)	55%		27%		18%			
Othman et al. (2019)[4]	38%		31%		31%			
Average % of each learning style	55%		22%		23%			
VAKR learning model	Visual		Auditory		Kinesthetic		Read/write	
	Only Unimodal	Unimodal/Multimodal	Only Unimodal	Unimodal/Multimodal	Only Unimodal	Unimodal/Multimodal	Only Unimodal	Unimodal/Multimodal
Eid et al. (2021)	24%	23%	41%	31%	26%	26%	9%	20%
Fahim et al. (2021)	31%	26%	23%	24%	34%	27%	13%	23%
Ishak et al. (2022)	14%	24%	15%	24%	42%	28%	29%	24%
Nwajiuba and Onyeneke (2023)[5]		25%		27%		25%		22%
Payaprom and Payaprom (2020)		12%		25%		42%		22%
Silvestre et al. (2022)		39%		19%		24%		18%
Average % of each learning style	23%	25%	26%	25%	34%	28%	17%	22%

Note: (1) The study of Reesman and Birdsong (2023) was excused because of no learning style frequency. Several percentages of each learning style were calculated for this study. The percentage of each study represented a ratio of each learning style frequency divided by total sample or total frequency in each study. (2) The study of Albadi and Zollinger (2021) represented only unimodal styles. (3) This study used an original name of learning style based on Kolb's learning theory. (4) The study of Othman et al. (2019) in this study showed results of combined unimodal and multimodal learning styles. (5) The name of learning style was changed to Tactile from Kinesthetic, and to Social Interpersonal from Read/write (Nwajiuba & Onyeneke, 2023).

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VALIDATION OF THE GEORGIAN ADAPTIVE BEHAVIOR SCREENING INSTRUMENT

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Abstract

No reliable and valid measure of adaptive behavior is available in the Republic of Georgia. Thus, the Georgian Adaptive Behavior Screening Instrument-Research Version (GABSI-RV) was designed to provide data from which individual educational plans can be designed and monitored. This study's aim was to determine the psychometric features of the GABSI-RV with emphasis on evaluating the discriminatory capacity of the GABSI-RV using clinical (intellectual disability) and non-clinical groups of different ages. Participants were children and adolescents ages 4-18 divided into clinical (N=315); intellectual disability) and non-clinical comparison (N=296) groups. Results showed strong test-retest and inter-rater reliability. Analyses showed high internal consistency and that the measure discriminated across age groups. This measure has strong potential to fill and important gap in Georgia's education and mental health service delivery systems. The strategies deployed in this study have broad applicability for similar efforts in developing countries.

Keywords: *Adaptive behavior, assessment, levels of the independence, screening instrument.*

1. Introduction

The adaptive behavior concept is widely recognized in the field of intellectual disability. Initially the term was introduced to describe individuals previously diagnosed with "mental retardation", and since 1959, adaptive behavior assessment, alongside IQ measures, are the internationally recognized gold standard for making the diagnosis of intellectual disability (Nihira, 1999). Early research on measures to assess adaptive behavior focused on developing strong psychometric support for the purpose of valid diagnosis. Later work has focused on broadening the adaptive behavior construct so that it can be used to determine an individuals' specific areas of need for support and targets for intervention.

Validation of this measure was timely as Georgian professionals are dealing with development of community services and with increasing inclusion of the population with special needs. The present study was timely, in that it was conducted in three regions of Georgia in 2005-2008 during the preparatory phase of state-wide de-institutionalization and implementation of the compulsory inclusive education. The development of GABSI-RV was aimed at addressing this urgent need (Gogichadze et al.,2007). The framework for this format was based on the Pupil Developmental Schedule (unpublished) used in Hamilton North School, New Zealand.

2. Method

2.1. Participants

For the research purposes, intellectual disability is used as the summative construct and the vision incorporated was very much in line with the definition introduced by the WHO "*a group of developmental conditions characterized by significant impairment of cognitive functions, which are associated with limitations of learning, adaptive behaviour and skills*" (Salvador-Carulla et al., 2011, p. 175).

Two groups of participants contributed to the present study: a clinical sample comprising 315 participants; and a corresponding a non-clinical comparison sample of 296 children from similar locations with no medical history of intellectual disability or developmental disorders. The inclusion criteria for the clinical group were age (4-18 years), enrollment in special education due to a diagnosis of intellectual disability, or exclusion from mainstream education due to such a diagnosis and identified inability to follow formal curricular requirements. Exclusion criteria applied to the clinical group were having a medical

diagnosis unrelated to intellectual or developmental disability or denial of parental consent for participation in the study.

The potential members of the clinical sample were initially identified by reviewing Georgia's mandatory State Registry. These participants were selected on the basis of their medical records, identifying them as developmentally or intellectually disabled.

The children comprising the clinical group were evaluated in the special educational settings such as their special school, integrated class or day care center in the capital city Tbilisi, and/or they were reached at home in the Regions of Zugdidi and Zestafoni, as in these two locations they were, at the time, still deprived of participation in the mainstream education. In order to ensure group comparability, case-control methods guided the selection of the control participants. After each representative of the clinical group was identified, where possible, a corresponding age and gender-related peer was located through the school systems in the matching geographical areas. The inclusionary criteria for the comparison group were age (4-18), an absence of documented or teacher reported problems in the mainstream education, school attendance and residence in the area as their corresponding counterparts from the clinical group.

Initial sample was combining 8 age groups composed almost equal number of participants and balanced across the gender:Igroup 4-5 years,IIgroup 6-7 years,IIIgroup 8-9 years,IVgroup 10-11years,V group 12-13 years,VIgroup 14-15 years,VIIgroup 1-5 years,VIIIgroup 18 year, but amended group cohorts were subsequently identified by comparison analyses using the Kruskal–Wallis H test indicating significant difference in all or almost all test items in age pairs. The summary of modified groups visualized in Table 1. Therefore, for further analyses participants were divided into 5 age cohorts (4-5 years, 6-9 years, 10-13 years, 14-17 years and 18).

Table 1. Age and Gender distribution of Clinical and Comparison Groups.

Baseline Characteristics	Clinical		Comparison		Full Sample	
	n	%	n	%	n	%
Gender						
Male	148	50	169	54	317	52
Female	148	50	146	46	294	48
Age groups						
I. 4-5 years	36		35			
II. 6-9 years	88		94			
III. 10-13 years	78		87			
IV.14-17 years	72		75			
V. 18 years	22		24			

Table 2 shows a stratified sample in both groups by age and gender where no significant difference was identified.

Table 2. Comparative analyses of modified age groups across test dimensions.

Dimensions	Compared pairs of age groups									
	I-II	I-III	I-IV	I-V	II-III	II-IV	II-V	III-IV	III-V	IV-V
1.1										
1.2					*					
1.3										
1.4										*
1.5										
1.6										
2.1										*
2.2								*		
2.3						*	*	*	*	*
2.4								*		
3.1										
3.2										
3.3								*		
3.4								*		*
4.2										
4.3										
4.4										
4.5								*		
5.1										
5.2					*	*		*		
5.3										
5.4										
5.5					*					

** There is no significant difference (p>.05).*

2.2. Procedures

Research staff collected all data relating to this study after obtaining signed informed consent from each child's legal guardian. When educational settings such as schools and daycare centers were the first

point of contact, the principal or a child's teacher contacted parents and obtained written consents. Each child's natural environment, such as their home or typical educational setting, was used as the assessment venue. Instructions regarding the protocol for administering the GABSI-RV are described in the procedural manual. Research assistants were post-bachelor's-level (psychology or social work) specialists with experience in the provision of services for special needs children.

2.3. Measure

The GABSI-RV is designed to gain data from three major sources: a semi-structured interview with the caregiver, direct observation, and behavior probing (direct demonstration) of adaptive behavior mastery. Detailed standardized instructions in the test manual guided the administration of all three components. All data obtained from the assessment were recorded on a test-specific evaluation sheet. Content validation for the items in the GABSI-RV was conducted in a prior pilot study using theoretical grounding and a survey of other well-accepted measures of adaptive behavior (Gogichadze et al., 2007).

The GABSI-RV consists of 5 adaptive behavior domains including: 1) *Personal Independence:* key skills related to self-care of eating, toileting, dressing, personal hygiene, personal health-care and domestic skills. 2) *Physical Competence:* fine and gross motor skills, including assembly and artistic skills, ball skills, balance and body movement, 3) *Social Skills and Respect:* skills around relating to and interacting with others, and responding to authority figures, 4)*Communication Skills:* expressive (speaking) and receptive (listening) language including reading and writing skills and self-awareness, and 5) *Community Participation Skills:* skills of helping at home (domestic), shopping, ability to use money (economic), independent travel, work skills, and broader engagement in the community.

The GABSI-RV also includes a *Maladaptive Behavior* domain which identifies behaviors commonly associated with five domains including: autism spectrum disorder, expression and self-control, self-harm, withdrawal, and epilepsy.

2.4. Data analyses

Data analyses are conducted in several directions such as Reliability, Construct validation and Convergent and Divergent validity.

Mann-Whitney (U) test was used to indicate test-retest reliability. The Construct validation was calculated by evaluating the relationship between age and mastery of adaptive behavior domains for typically developing and the comparison groups. This data was analyzed by calculating Pearson correlation coefficient. Convergent and divergent validity was analyzed, item correlation was calculated to identify less congruent sections of the whole measure by deriving Cronbach's Alpha scores.

3. Results

3.1. Reliability

Test-retest reliability was analyzed by application of Mann-Whitney U test with two independent selections. Inter rater reliability was assessed for 16% of the total sample. Analyses (Mann-Whitney U test) revealed that there was no significant test-retest and inter-rater reliability difference between raters' initial and second assessment across all GABSI-RV domains with the exception of only sphere Expression of emotions and self-control (6.1) which identified a significant difference in reassessment over the retest period of 6 weeks.

3.2. Construct validation

The comparison group data were analyzed to evaluate the relationship between age and mastery of adaptive behavior domains for typically developing children. As expected, the Pearson correlation coefficient indicated that there was a significant positive correlation at ($p<.001$) between age and the mastery of skills on adaptive behavior 9 domains. The highest correlation was identified between age and Time skills (5.5) from the domain of Community participation skills ($r=.81$) and also other 3 spheres, from the fifth domain, such as Travel (5.1) ($r=.79$), Economic Skills (5.4) ($r=.77$) and Shopping Skills (5.3) ($r=.71$). The first domain of Personal Independence indicated high correlation in two spheres Dressing (1.3) ($r=.74$) and Personal health-care (1.5) ($r=.74$). The third domain Social Skills and Respect, was presented by two spheres Peer Relations (3.1) ($r=.71$) and Social Interaction (3.2) ($r=.71$) and the only one sphere Verbal Receptive (4.3) ($r=.73$) from the forth domain of Communication Skills showed high correlation.

All Spheres indicating high correlations with the age at the significance level of ($p<.001$), are presented in the Table 3.

Table 3. The high Correlation between Sphere of Adaptive behaviors with age.

Domain	Code	Sphere	Correlation coefficient (r)
Community Participation Skills	(5.5)	Time skills	.81***
	(5.1)	Travel	.79***
	(5.4)	Economic Skills	.77***
	(5.3)	Shopping Skills	.71***
Personal Independence	(1.3)	Dressing	.74***
	(1.5)	Personal health-care	.73***
Social Skills and Respect	(3.1)	Peer Relations	.71***
	(3.2)	Social Interaction	.71***
Communication Skills	(4.3)	Verbal Receptive	.73***

***p<.001

There was moderate (.46≤r≤.69) correlation of eleven GABSI-RV spheres and the age at the significance level of (p<0,001). Four spheres from the first domain The Personal Independence showed moderate correlation Eating (1.1) (r=.60), Toileting (1.2) (r=.55), Personal hygiene (1.4) (r=.69), Domestic skills (1.6) (r=.61).Only one sphere form the second domain of Physical Competence, Gross Motor Skills-Movement (2.4) (r=.52), also one from Social Skills and Respect, sphere Respect for others (3.3) (r=.67), and sphere Work skills (5.2) (r=.55) from fifths domain Community Participation Skills have moderate correlation with age. The almost all spheres from the fourth domain of Communication Skills, such as Self-awareness (4.1) (r=.68), Verbal Expressive (4.2) (r=.69), Reading (4.4) (r=.63) and Writing (4.5) (r=.66).

A weak correlation at the (p<.001) level of significance was observed between age and two spheres form the second Domain -Physical Skills, such as Fine Motor Skills-Artistic (2.2) (r =.46) and Gross Motor Skills - Movement (2.3) (r=.31). Data obtained using the GABSI-RV reliably differentiates the comparison sample from the clinical sample showing a significant difference between them.

The correlation is very low (.001≤r≤.43) between comparison and the clinical groups across ages showing that the GABSI-RV can discriminate those groups from each other, indicating that comparison and the clinical groups significantly differ from each other in the demonstration of Adaptive Behavior skills across all ages.

3.3. Convergent and Divergent validity

3.3.1. Adaptive Behavior section. Cronbach's Alpha scores for each of the spheres on the Adaptive Behavior section for the clinical group was higher than ($\alpha \geq .9$). The same tendency was calculated for the comparison group indicating that spheres of Adaptive Behavior are well-connected and GABSI-RV is characterized with high internal consistency (Schalock.1999 p.109).

The test item correlation analyses identified less congruent sections of the whole measure. Cronbach's Alpha scores for each of the spheres on the Adaptive Behavior section for the comparison group indicated four spheres: (1.2) Toilet skills (α=.691), (2.2) Fine Motor Skills-Artistic (α=.573) and (2.3) Gross Motor Skills-Movement (α=.524), (5.2) Work skills (α=.545), having Cronbach's Alpha coefficient less than (α =.7) in presence of the item.

In the clinical group Cronbach's Alpha scores on the Adaptive Behavior section showed spheres with weaker correspondence to the other spheres. In the data of clinical group there were three spheres such as Gross Motor Skills-Movement (2.3) (α=.552) and Work Skills (α=.628) (5.2) and Domestic skills (1.6) (α =.638). The data analyses of both groups has identified the weakest segment of the measure for both groups, such as Gross Motor Skills-Movement (2.3) and Work Skills (5.2).

3.3.2. Maladaptive behavior section. In Maladaptive Behavior section, the Cronbach's Alpha coefficient was above ($\alpha \geq .7$) for the clinical group but was (α=.26) for the comparison group. The section was designed especially for clinical group and these data indicate that scores of Maladaptive Behavior section effectively discriminates the clinical sample from the comparison sample making it possible to consider this section as a useful and integral part of the whole instrument.

An correlational analysis comparing two spheres of maladaptive behavior scale in the comparison sample indicates that there are only three spheres with very slight degree of overlap; The Pearson correlation coefficients vary (.15≤r≤.29), in spheres such as (6.1) Emotional Expression and Self-Control with (6.2) Self-harm Behaviors (r=.15) (p<.05), and (6.3) Withdrawal with (6.1) Emotional Expression and Self-Control (r=.29) and (6.3) Withdrawal with (6.2) and Self-harm Behaviors (r=.16), (p<.01).

According to the data obtained from clinical samples responses to the GABSI-RV domain of maladaptive behavior, a reliable (p<.05) and strong internal connection was indicated only for two

components, (6.3) Withdrawal and (6.4) Autism Spectrum Behavior (r=.56). On average connection was calculated between 6.1 Emotional Expression and Self-Control and (6.2) Self-harm Behaviors (r=.47), all other spheres were shown to have a low relationship with in each other (.04≤r≤.37), (p≤.1).

The analysis of construct validity was calculated using the α coefficient. The Domain of maladaptive behavior was considered to be as independent from other adaptive domains, because it has specifically designed for clinical group.The analyses of comparison group data indicated a very low prevalence of maladaptive behavior, therefore the correlation between items was rather weak and not statistically significant (α=.26) This leads us to conclusion that application of GABSI-RV maladaptive domain should be considered as having little relevance for the comparison (non-clinical) group.

4. Discussion

The results of this study point to the preliminary validation of a measure of adaptive behavior using the Georgian language. The results of reliability analyses confirm that GABSI-RV is reliable instrument as measured by test-retest reliability and when used by different evaluators (inter-observer agreement). Moreover, the GABSI-RV appears to effectively measure adaptive behavior as demonstrated by results from analyses evaluating validity of the measure. Analyses evaluating the consistency of items within domains as well as in split-parts of the whole GABSI-RV showed strong properties. An evaluation of typically developing comparison children showed increases in adaptive behavior consistent with chronological age as expected, another indicator that the measure is valid. With these results, the GABSI-RV represents a potentially strong measure for clinical use in Georgia.

The presented data showed some significant differences in children's performances on the measure across three different regions of Georgia. It is possible that cultural norms specific to these regions influence the development and nature of some adaptive behaviors. The research uncovered relatively weak components of GABSI-RV, including the Works Skills section, which appears to be more applicable to children above the age of fourteen. In addition, the Maladaptive Behavior domain is completely distinct from other domains and has unique features that did not allow its full evaluation in this study. Future research should evaluate these idiosyncratic domains and determine their test properties and identify areas for amendment.

5. Conclusion

The GABSI-RV is an easily administered questionnaire for assessing the mastery of adaptive behaviours and related skills for children aged 4 to 18 years old. The information gained through the GABSI-RV indicates the level of independent function in accordance with the conceptual framework of adaptive behavior. Data obtained by GABSI-RV reliably differentiated a comparison sample from a clinical sample, showing significant differences between them. The psychometric features of the GABSI-RV evaluated in the present study allow it to be considered a sound and reliable instrument for screening the level of mastery of the targeted skills across several domains and spheres of adaptive behavior relevant to assessing Georgian special needs children.

The limitation of the data obtained on GABSI-RV is related to its construct validity. At the time of researching this study there was no Georgian version of alternative measures available for conducting comparative analyses. This leaves a further opportunity for research in direction of expanding dimension by adding item related to digital literacy.

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WHEN BEING AT UNIVERSITY (ALSO) MEANS LEAVING HOME: CAN FAMILY SUPPORT MAKE A DIFFERENCE TO DROPOUT INTENTIONS?

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Abstract

Dropout is a major concern in higher education (HE) across countries, with long-lasting consequences. Previous research has shown that undergraduate students living away from home may be at higher risk of dropping out of HE, comparatively to those that keep living with their families, but results have been inconsistent. Moving away from home, living and studying independently are major steps for young people. While studying outside family homes may give HE students greater opportunities to exercise autonomy, it also brings added challenges that may interfere with students' academic adaptation, and lead to dropout. One factor for optimum academic integration may be the support students receive from their families. This study aimed to: (1) compare students away from home with students living with their families in their levels of dropout intentions (DOI), and in a set variables potentially related to dropout; (2) identify predictors of DOI and (3) examine the moderating role of perceived family support on the links between specific predictors and DOI. A stratified sample of 584 Portuguese undergraduate students aged <23 years (mean age = 20.18, *SD* = 1.3), selected through a convenience quota method, was assessed for psychological, academic and economic variables through self-report instruments. Descriptive, (M)ANOVA, regression and moderation analyses were conducted. The findings showed that students away from home (n = 300; 51.4%) presented higher levels of dropout intentions, academic exhaustion, vocational, and economic difficulties, and lower levels of academic self-efficacy, well-being, perception of course value, and satisfaction with education. Students away from home also perceived higher levels of social support, namely family support. No differences were found in the levels of social connectedness to campus or autonomy difficulties between the two groups. Academic exhaustion, vocational, autonomy difficulties, perception of course value and social connectedness to the campus were significant predictors of DOI, explaining 43% of the variance. Moderation analyses showed that the effects of academic exhaustion, autonomy difficulties and vocational difficulties (the three strongest predictors of DOI) were weakened when students perceived moderate levels of family support (but not for higher levels). Overall, students away from home are at greater risk of emotional, academic and economic difficulties, and should receive differentiated attention from HE institutions. Despite being at distance, families play a protective role in preventing student dropout. Families may need help in providing support that enables their young adult students to thrive on their academic path, while fostering autonomy and competence.

Keywords: *Dropout intentions, higher education, emergent adulthood, students living away from home, family support.*

1. Introduction

Transition to higher education may be considered a major life event, demanding adjustment to a new reality in the academic, social and financial domains. Being a displaced student requires overcoming greater obstacles, and financial, environmental, and social issues make studying away from home more difficult than students thought it would be (Nghiem et al., 2021). Homesickness and difficulty in making friends can generate stress, anxiety and depression, affecting students' well-being and academic performance (Trieu & Nguyen, 2022). Feelings of loneliness, which can lead to problems as sleeping difficulties, and a progressive disconnection from classmates and the course, can be more evident in

students living away from home (Casanova et al., 2023; Medani et al, 2024). Without adequate levels of autonomy and maturity, these students find it more difficult to manage their responsibilities and daily activities, and also experience isolation or anxiety (Newlon & Lovell, 2017). Finally, the need to establish new households away from the parental home involves considerable costs (Hauschildt, 2024). Although several studies report a higher dropout risk in students living away from home (e.g., Casanova, 2021; Sosu et al., 2019; Toyon, 2024), Cocorada (2021) has not found this result, and further research is needed.

Social support is a relevant feature in higher education, with a positive effect on low dropout intentions, and successful integration (e.g., Lopez-Angulo, 2023). Pertaining specifically to support from families, a cross-cultural study of university students found this support was significantly associated with several components of subjective well-being in all the countries (Brannan et al., 2013). For students living away from home, which have to establish new social relations and friendships, this support may be especially crucial, as availability of family support may also compensate for a lack of social integration at university, one of the important predictors of dropout (Sosu et al, 2019).

2. Objectives

This quantitative cross-sectional study aims at (1) comparing undergraduate students living away from home with students living with their families in their levels of dropout intentions (DOI), and in a set of academic, psychological and economic variables that are potentially related to dropout decision; (2) identifying predictors of DOI and (3) examine the moderating role of perceived family support on the links between specific predictors and DOI.

3. Methods

3.1. Participants

584 Portuguese undergraduate students aged <23 years (M_{age} = 20.18, *SD* = 1.3), 51% feminine, were selected through a convenience quota method, based on a matrix that crosses Sex and Age variables (based on 2021 Census). Being an Erasmus student was an exclusion criterion.

3.2. Instruments

A **Sociodemographic** questionnaire was used to assess characterization variables, namely the **r**esidence status (studying away from home or not).

The **Screening instrument for students at-risk of dropping out from HE** (Casanova et al., 2021) was used to assess the Dropout Intention (7 items), Academic Exhaustion (5 items), and Satisfaction with Education (5 items). Each item is answered on a 5-point Likert scale, ranging from 1 (never) to 5 (always). In the current study, the Cronbach's alpha was .87 for the Dropout Intention subscale, .83 for the Academic Exhaustion subscale, and .85 for the Satisfaction with Education subscale.

The **Instrument for Exploring Difficulties in Academic Adaptation** (Casanova & Almeida, 2017) was used to assess 1) Adaptation to the institution, 2) Learning, 3) Interpersonal, 4) Economic, 5) Autonomy, and 6) Vocational. Each type of difficulty is assessed through a single item, and the answers are graded from 1"no difficulties" to 5 "several difficulties".

The Portuguese version of the **Social Connectedness Scale** (SCS; Lee & Robbins, 1995) was used to assess the social connectedness to the campus. This unidimensional 8-item scale assesses HE students' personal sense of belonging on campus. Students indicate on a 6-point Likert-type scale (1 = strongly disagree; 6 = strongly agree). In the current study the Cronbach's alpha was .92.

The Satisfaction with family subscale of the **Social Support Satisfaction Scale** (ESSS; Pais-Ribeiro, 1999) was used to assess satisfaction with social support by the family members. This 3-item subscale is answered on a 5-point Likert-type scale, ranging from 1 (never) to 5 (always). In the current study, the Cronbach's alpha of this subscale was .85.

The 3-item **Emotional wellbeing subscale** of the Mental Health Continuum Short Form (MHC-SF; Keyes, 2009; Matos et al., 2010) was used to assess well-being. This 3-item scale is rated on a 5-point Likert-type scale from 1 (once or twice in the last month) to 5 (every day). In the current study, the Cronbach's alpha was .90.

The Academic self-efficacy scale (Santos et al., 2019) was used to assess academic self-efficacy. This 4-item scale is rated on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). In the current study, the Cronbach's alpha was .88.

The Perception of course value in face of personal and future goals scale (Santos et al., 2019) assesses the dree to each the student perceives the course he is attending as useful and valued. This 3-item

scale is rated on a 5-point Likert-type scale from 1 (strongly disagree) to 5 (strongly agree). In the current study, the Cronbach's alpha was .85.

3.3. Procedure

After approval by the Ethics Committee of the Lusófona University, data collection took place via online and telephone. All participants gave informed consent. The telephone data collection was carried out using the CATI system (Computer Assisted Telephone Interviewing), by experienced interviewers. The online data collection was done through an online survey directly accessed by the participants, who had previously accessed the survey link, through the CAWI system (Computer Assisted Web Interviewing).

4. Results

There are significant differences in all variables between students living away from home and the others, except for social connectedness to the campus, and learning, interpersonal, and autonomy difficulties. Students living away from home present higher dropout intentions (M = 2.37, SD = 1.13, F = 9.853, p = .002). The MANOVA showed significant differences in the composite of Difficulties in academic adaptation (Wilks' Lambda = 0.343, $F(6, 577) = 2.395$, p = .027, η^2_{par} = .024), and the students living away from home had significantly higher values in the institutional (M = 2.29, SD = 1.13, F = 4.796, p = .029), economic (M = 2.44, SD = 1.15, F = 8.520, p = .004) and vocational difficulties (M =2.29, SD = 1.19, F = 8.857, p = 003). They also showed higher academic exhaustion (M = 2.92, SD = 0.98, F = 5.991, p = .015), lower well-being (M = 3.03, SD = 1.03, F = 21.744, p <.001), lower academic self-efficacy (M = 3.42, SD = 0.10, F = 8.180, p = .004) lower satisfaction with education (M = 3.51, SD = 0.92, F = 8.396, p = .004) and lower perception of course value (M = 3.50, SD = 1.03, F = 7.303, p = .007). On the opposite direction, students living away from home present more satisfaction with family support (M = 2.73, SD = 0.89, F = 17.230, p < .001).

A multiple regression using the enter method showed the model explains 42.9 % of the variance of the dropout intentions of students living away from home ($F(12, 287) = 17.953$, p < .001, R^2 = .429, $R^2_{Adjusted}$ = .405).

Table 1. Multiple regression analysis on variables predicting dropout intentions in students living away from home.

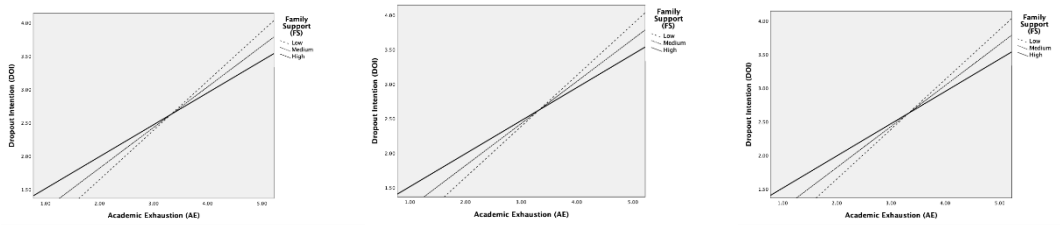
			95% CI			
Variable	B	SE	LL	UP	β	*p*
Institutional difficulties	-.049	.065	-.177	.080	-.049	.455
Learning difficulties	-.009	.065	-.137	.119	-.008	.890
Interpersonal difficulties	-.018	.064	-.145	.109	-.018	.785
Economic difficulties	-.065	.055	-.173	.044	-.066	.243
Autonomy difficulties	.163	.057	.050	.276	.158	.005
Vocational difficulties	.217	.054	.110	.324	.230	<.001
Social connectedness to the campus	-.134	.053	-.239	-.030	-.146	.012
Satisfaction with education	-.031	.076	-.180	.118	-.026	.681
Academic exhaustion	.466	.033	.342	.590	.405	<.001
Academic self-efficacy	-.010	.087	-.181	.161	-.009	.906
Perception of course value	-.171	.078	-.325	-.018	-.157	.028
Well-being	-.003	.057	-.116	.110	-.003	.953

To examine the moderating effect of family support (FS) on the relationship between each of three predictors—Academic Exhaustion (AE), Autonomy Difficulties (AD), and Vocational Difficulties (VD) – and dropout intentions (DOI), three moderation analyses were conducted using the PROCESS macro for SPSS (Model 1, Hayes, 2022). Results show that the three moderating models were significant, and explained 30%, 17% and 25% of DOI variability, respectively.

When Academic Exhaustion (AE) was the predictor, AE by FS interaction significantly increased the explained variance of DOI ($\Delta R^2 = 0.0181$, $F(1,296) = 7.69$, $p = 0.006$, 95% CI [-0.26; -0.04]). The positive relationship between EA and DOI, despite significant for the different levels of FS, was weaker for higher levels of FS (b = .48, t = 6.59; p < .001) than for medium (b =.61, t = 10.91; p < .001) and for lower levels of FS (b = .74, t = 10.1; p < .001) (see Figure 1). Autonomy difficulties (AD) by FS interaction

significantly increased the explained variance of DOI ($\Delta R^2 = 0.029$, $F(1,296) = 10.36$, $p = 0.0014$, 95% CI [-0.87; -0.21]). The positive relationship between AD and DOI, despite significant for the different levels of FS, was weaker for higher levels of FS (*b* = .20, t = 2.57; p = .011) than for medium (*b* = .36, t = 6.53; p < .001) and for lower levels of FS (b = .52, t = 7.38; p < .001) (see Figure 1). However, for values of FS over 3.8, the moderating role of FS was no longer significant. Vocational difficulties (VocD) by FS interaction significantly increased the explained variance of DOI ($\Delta R^2 = .012$, $F(1,296) = 4.71$, $p = .0308$, 95% CI [-.65; -.03]). The positive relationship between VocD and DOI, despite significant for the different levels of FS, was weaker for higher levels of FS (*b* = .34, t = 4.65; p <.001) than for medium (*b* = .44, t = 9.06; p < .001) and lower levels of FS (b = .54§, t = 8.79; p < .001) (see Figure 1). However, for values of FS over 4.6, the moderating role of FS was no longer significant.

Figure 1. The moderating effects of Family Support (FS) on the associations between three different predictors (Academic Exhaustion (AE), Autonomy Difficulties (AD) and Vocational Difficulties (VocD)) and Dropout Intentions.



These outcomes imply that the more students perceived FS, the weaker is the positive relationship between Academic Exhaustion, Autonomy Difficulties and Vocational Difficulties (the three strongest predictors of DOI) and DOI. Therefore, FS acts as a buffer which decreases the positive influence of either AE, AD and VocD on DOI. This buffering effect of FS does not apply for moderate-high and extreme levels of FS in the case of AD or VocD, respectivelly.

5. Discussion

Students living away from home present higher dropout intentions then their colleagues, which is in accordance with the literature (e.g., Casanova, 2021; Sosu et al., 2019; Toyon, 2024). They seem to be worse than their colleagues in the majority of variables, both academic (e.g., satisfaction with education, academic self-efficacy) and of well-being and mental health. They report more economic difficulties, which is concordant with higher expenses they necessarily face (Hauschildt, 2024). They also present higher academic exhaustion, which is the higher predictor of dropout intentions in these students, and may be related with the daily responsibilities and tasks they have to face, in addition to the academic ones. The fact that these students report more satisfaction with social support by the family is probably due to a higher need to resort to this support, due to the aforementioned difficulties. The family support has shown the ability to decrease the effect of the stronger predictors of dropout intentions, when this support has moderate levels, what stresses its protective role and is in line with the literature (Brannan et al., 2013; Sosu et al., 2019). However, pertaining to autonomy or vocational difficulties, family support at too high levels loses its moderator effect. This seems to show that too much support by the family may have a detrimental rather than a protective role, possibly reinforcing autonomy or vocational difficulties, which was also one of the strongest predictors of dropout intentions. Moreover, it is possible that these students already are in a more negative academic and personal situation, intending to leave higher education, what leads them to search for more intense family support. Future research should explore this topic to clarify this issue. In conclusion, programs to decrease dropout in higher education should consider the specific needs and conditions of students living away from home, which may be at higher risk.

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EXPLORING COOPERATIVE LEARNING: A COMPARISON OF SCENE IMAGINATION AND VIRTUAL REALITY

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Abstract

This study developed virtual reality cooperative learning material titled "ayalab Save ayami!" in which participants navigated a Western-style floating house in nocturnal darkness to rescue the main character. The study involved 30 female university students who participated in pairs, with each pair assigned either a "university student" or "detective" avatar. Within each pair, one participant was designated as the leader and the other as the non-leader. In the scene imagination experiment, participants viewed a Western-style house displayed on a tablet and engaged in cooperative learning, by deciphering codes associated with the seven treasures needed to save the main character and identifying the locations of each of the seven treasures hidden in the house (time limit: 10 minutes). In the virtual space experiment, participants used a 9th-generation iPad to enter the virtual environment, wore designated avatars, and searched for the seven treasures in the virtual space (time limit: 10 minutes). The leader was tasked with taking pictures of the pair and each treasure and identifying each of the seven treasures, which were combined with cipher numbers. Questionnaires measuring group cohesion, critical thinking attitude (CTAS), the Interpersonal Reactivity Index (IRI), and the short version of the Sense of Direction Questionnaire (SDQ-S) were administered before and after cooperative learning in both conditions. In the scene imagination condition, inquisitiveness regarding CTAS increased among non-leaders using the university student avatar. Regarding the IRI, the perspective-taking score increased for participants using the university student avatar, suggesting that these avatars may provide learning effects similar to those of real-life experiences. In the virtual space condition, the inquisitiveness of CTAS also increased for university students. Additionally, IRI scores for perspective-taking and fantasy scores increased for the university student leaders and detective non-leaders but decreased for university student non-leaders, detective leaders, and detective non-leaders. Group cohesion and SDQ-S scores remained unchanged. These findings suggest that there are differences in cooperative learning outcomes between scene imagination and virtual space conditions.

Keywords: *Cooperative learning, scene imagination, critical thinking attitude, sense of direction, avatar.*

1. Introduction

Recent advancements in virtual reality (VR) technology have enabled the application of scene imagination methods used in psychological research to virtual spaces, but findings in this area remain limited. This study compared cooperative learning outcomes in scene imagination with those in virtual spaces, aiming to elucidate the unique characteristics of each.

The scene imagination method involves envisioning oneself in a specific scenario, estimating cognition, emotion, and behavior, and is often employed when it is difficult to implement the method in a laboratory. For example, participants may imagine being in a different place, a manipulated social situation, or as a person unlike themselves. While this method is meaningful, and knowledge gained has yielded significant insights, VR technology now enables the recreation of experimental scenarios in virtual environments. Through body transference by wearing avatars, participants can virtually experience the target scene rather than merely imagining it. Previous research has explored VR simulations and compared them with watching video recordings (e.g., Richter et al., 2022; Huang et al., 2023). However, comparisons of scene imagination and VR-based cooperative learning remain scarce.

Research on cooperative learning using VR indicates positive outcomes. For instance, VR cooperative games enhance social skills among children with autism aged 10–14 years (Ke & Moon, 2018) and among native English-speaking children aged 7–11 years (Craig et al., 2016). Studies have also shown that even partial moral skills and high task achievement performance are enhanced in cooperative learning in VR environments, such as paired classroom tidying tasks (Fujisawa, 2024a) and VR giant maze navigation (Fujisawa, 2024b), which can improve moral skills and task performance. Moreover, VR

facilitates perspective-taking, a phenomenon confirmed by several studies (Herrera et al., 2018; van Loon et al., 2018), and enhances perspective-taking scores in moral dilemma discussions (Fujisawa, 2023c).

VR environments offer advantages beyond replicating real-world experiences, such as three-dimensional interactions influenced by spatial cognitive abilities. These abilities, emphasized in Science, Technology, Engineering, and Arts education, exhibit gender and individual differences (Lyons et al., 2018) and are related to perspective-taking (Lyons, et al., 2018; Desme et al., 2024). Although spatial cognitive abilities have been reliably self-reported (Hegarty et al., 2002), their role in VR performance remains underexplored. Experiencing a manipulated social situation in VR through avatars could enable participants to engage more concretely than in scene imagination, with potential effects varying based on individual characteristics.

This study had two objectives: (1) to determine whether cooperative learning outcomes in scene imagination differ from those in VR and (2) to examine whether VR cooperative learning, involving free movement, impacts participants' spatial cognitive abilities.

2. Methods

2.1. Participants

Thirty female undergraduate university students participated in the study in pairs.

2.2. Procedure

Development of the virtual space: Before the experiment, the VR cooperative learning material "ayalab Save ayami!" was developed. The virtual space consisted of a Western-style house with two floors above ground, a basement, and a garden. The house included several rooms, underground passages, and secret entrances, and could be accessed through multiple routes. The design ensured that the entire house could not be viewed from any single location. Seven treasures (four crystals and three beckoning cats) were hidden in difficult-to-locate spots within the house.

2.3. Experimental procedure

Participants completed the experiment in pairs and were administered a pre-test. The pairs were then randomly assigned to one of two conditions: the University Student Condition (USD) or the Detective Condition (DC). Each condition was introduced using explanatory text, accompanied by an illustration of the avatars. The text for the DC (with "detective" replaced by "university student" in the USD condition) read as follows: "You are a detective who has solved many difficult problems and helped many people. Now you heard of a problem in a large Western-style house that appeared in the dark. The only way to save the main character, ayami is to find seven treasures (four crystals and three beckoning cats). As detectives, your team must decipher the message from Thief X and find the seven treasures he has hidden."

In the scene imagination experiment, a tablet displaying the exterior of the Western-style house and seven ciphers indicating the treasures' hiding places was presented to the pairs (Figure 1). Participants were tasked with discussing potential treasure locations based on the ciphers, working collaboratively without physically interacting with the tablet. They were permitted to take notes. This phase lasted 10 minutes, followed by Post-Test 1, in which participants answered the same questions as in the pre-test.

After completing Post-Test 1, one participant in each pair designated as the leader was tasked with taking photographs of each treasure and of the pair in the virtual space upon finding them. Participants were then instructed on how to operate the tablet and avatar, check and verify their avatars, and review the rules (e.g., always searching as a pair).

In the virtual space experiment, participants searched for treasures within a 10-minute time limit. The experiment concluded either when all seven treasures were located or when the time limit expired. Post-Test 2 was then administered.

Figure 1. A tablet displaying the exterior of the Western-style house.



2.4. Measurements

The Sense of Direction Questionnaire-Simplified (SDQ-S) was used to assess the sense of direction (Yanagihara & Mihoshi, 2005). It is a five-point scale measuring the sense of direction, with a Cronbach's alpha coefficient of .92.

Group cohesion was measured using eight items from the Attitudes Towards Groups Scale (Evans & Jarvis, 1986). These items were scored on a five-point scale, with a Cronbach's alpha coefficient of .94.

The short version of the Critical Thinking Attitude Scale (CTAS) was used to measure critical thinking attitudes (Kusumi & Hirayama, 2013). It consists of four subscales: awareness of logical thinking, inquisitiveness, objectivity, and emphasis on evidence, each with three items scored on a five-point scale. Cronbach's alpha coefficients for these subscales were .68, .65, .80, and .60, respectively.

Empathy was measured using the Interpersonal Reactivity Index (IRI) (Davis, 1983), which comprises four subscales: perspective-taking (PT), fantasy (FT), empathic concerns (EC), and personal distress (PD). Each subscale consists of seven items scored on a four-point scale. Cronbach's alpha coefficients for these subscales were .66, .76, .62, and .80, respectively.

Participants were coded based on their initial SDQ-S scores. Those with scores at or above the average (58.1) and higher SDQ-S measured for the first time were assigned to the upper group, while those with lower scores were assigned to the lower group.

3. Results and discussion

3.1. Are scene imagination cooperative learning and virtual reality cooperative learning the same?

The basic statistics are presented in Table 1. To examine cooperative learning in scene imagination, an analysis of variance (ANOVA) was conducted with each subscale score as the dependent variable and survey timing (pre-test, post-test 1), condition (USC, DC), and attributes (leader, non-leader) as independent variables for the SDQ-S, CTAS, IRI, and group cohesion. The results showed that there were no significant differences for the SDQ-S and group cohesion. For the CTAS, there was a significant tendency for an interaction between survey timing and the attribute of inquisitiveness ($F(1, 26) = 3.7$, $p = .07$, $\eta^2 = .13$), which increased for non-leaders in the USC condition. Regarding objectivity, a significant trend was observed for the interaction between survey timing and condition ($F(1, 26) = 3.2$, $p = .09$, $\eta^2 = .11$) and between survey timing and attribute ($F(1, 26) = 3.4$, $p = .08$, $\eta^2 = .12$), with both increasing in the USC condition. For the IRI, the interaction between condition and attribute showed a significant trend for PT ($F(1, 26) = 3.9$, $p = .06$, $\eta^2 = .13$), which increased in the USC group.

Table 1. Basic statistics for each subscale by attribute and condition.

	condition	attribute	GC		awareness of logical thinking		inquisitiveness		objectivity		emphasis on evidence		PT		FT		EC		PD		Space	
			M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Pretest	University student	leader	34.7	4.5	11.3	2.4	14.0	1.2	12.0	3.8	11.9	2.9	22.0	3.6	22.6	3.6	20.7	2.8	20.6	3.9	63.7	11.4
		no leader	32.4	9.9	11.0	2.9	12.3	1.9	10.4	2.4	10.6	2.3	20.0	2.0	23.1	2.5	22.7	3.1	19.9	5.8	54.0	18.4
	detective	leader	33.4	6.6	11.0	2.2	12.8	2.0	11.5	1.5	11.1	1.6	20.4	3.0	24.1	4.7	21.3	3.5	22.0	5.6	49.9	13.3
		no leader	33.7	7.0	10.1	2.4	12.0	2.0	13.3	1.8	10.5	2.2	22.6	3.0	22.0	5.3	21.6	1.9	21.5	3.7	66.3	11.8
Posttest1	University student	leader	35.3	5.1	11.4	3.2	13.7	1.4	12.9	2.7	11.9	2.7	23.0	3.3	23.4	3.9	20.3	3.2	19.6	5.2	62.6	14.8
		no leader	35.1	5.1	11.4	2.9	13.6	1.9	11.9	2.5	10.6	2.9	21.1	4.5	23.1	3.3	22.4	3.9	19.3	4.8	53.6	19.8
	detective	leader	35.0	4.7	10.9	3.1	12.8	1.8	11.5	2.7	11.6	1.8	20.5	2.3	25.3	4.9	21.0	4.1	20.5	7.0	50.9	15.0
		no leader	33.4	7.7	11.8	1.8	12.1	2.1	13.4	1.8	10.6	2.7	22.4	2.4	21.1	4.7	21.5	2.1	21.6	4.5	66.3	11.9
Posttest2	University student	leader	35.6	4.4	11.6	2.6	14.0	1.4	12.6	3.2	12.4	2.2	22.9	3.8	24.1	4.2	20.1	2.9	18.4	4.3	61.7	16.9
		no leader	37.6	3.3	11.7	2.8	13.3	2.0	11.9	3.0	11.9	3.2	20.9	4.2	22.9	3.4	23.0	3.4	19.3	5.0	53.6	19.6
	detective	leader	35.4	4.0	11.8	2.6	12.9	1.9	12.0	2.7	11.8	2.0	20.9	2.5	25.0	5.0	21.8	3.2	20.8	7.1	51.1	14.3
		no leader	35.0	7.3	11.4	2.3	12.3	2.2	13.1	1.9	11.1	2.1	23.0	2.7	22.4	4.7	20.9	1.8	21.8	4.3	65.0	11.9

To examine cooperative learning in the virtual space, an ANOVA was conducted with each subscale score (SDQ-S, CTAS, IRI, and group cohesion) as the dependent variable and survey timing (post-test 1, post-test 2), condition (USC, DC), and attribute (leader, non-leader) as independent variables. The results showed no significant differences for the SDQ-S and group cohesion. For the CTAS, the main

effect of the condition on inquisitiveness tended to be significant ($F(1, 26) = 2.9$, $p = .10$, $\eta^2 = .10$), with higher scores in the USC condition. Regarding emphasis on evidence, the main effect of survey timing was significant ($F(1, 26) = 9.3$, $p = .01$, $\eta^2 = .26$), with higher scores in the post-test. For the IRI, the interaction between condition and attribute showed a significant trend for PT ($F(1, 26) = 2.8$, $p = .10$, $\eta^2 = .10$), which increased for leaders in the USC condition and non-leaders in the DC condition, while decreasing for non-leaders in the USC condition and leaders in the DC condition. For FT, there was a significant interaction between survey timing and attribute ($F(1, 26) = 7.7$, $p = .01$, $\eta^2 = .24$), which increased for leaders in the USC condition and non-leaders in the DC condition, while decreasing for non-leaders in the USC condition. The interaction between survey timing, condition, and attribute for EC showed a significant trend ($F(1, 26) = 3.0$, $p = .10$, $\eta^2 = .10$), increasing for non-leaders in the USC condition and for leaders in the DC condition, while decreasing for non-leaders in the DC condition.

3.2. Is virtual reality cooperative learning influenced by spatial cognitive ability?

The basic statistics before the analysis are listed in Table 2. To clarify the influence of the participants' spatial cognitive ability on virtual spatial cooperative learning, an ANOVA was conducted on the SDQ-S, CTAS, IRI, and group cohesion, with each subscale score as the dependent variable, survey timing (post-test 1, post-test 2), and condition (USC, DC). The results showed no significant differences in group cohesion. For logical thinking in the CTAS, a significant interaction between survey timing, condition, and spatial cognitive ability was observed ($F (1, 26) = 3.0$, $p = .10$, $\eta^2 = .10$). Scores increased in the upper USC and lower DC groups but decreased in the upper DC group. For inquisitiveness, a significant interaction between survey timing and spatial cognitive ability was found ($F(1, 26) = 3.8$, $p = .06$, $\eta^2 = .13$), with scores decreasing in the upper group and increasing in the lower group. Regarding objectivity, the main effect of spatial cognitive ability tended to be significant ($F (1, 26) = 3.3$, $p = .08$, $\eta^2 = .11$), with higher scores in the upper group .For the IRI, EC showed a significant interaction between condition and spatial cognitive ability ($F (1, 26) = 7.0$, $p = .01$, $\eta^2 = .21$), with scores increasing in the upper group of the DC group. A significant interaction between survey timing, condition, and spatial cognitive ability was observed for PD ($F(1, 26) = 3.3$, $p = .08$, $\eta^2 = .11$), with scores decreasing in the upper USC group, increasing in the lower USC group, and increasing in the upper DC group. For the SDQ-S, the main effect of spatial cognitive ability was significant ($F(1, 26) = 39.8$, $p = .01$, $\eta^2 = .60$), indicating an increase in scores in the upper group. These results suggest that it may be meaningful to conduct virtual reality cooperatives for participants with lower spatial cognitive ability. Additionally, EC, essential for morality, was higher in the upper group, suggesting that high spatial cognitive ability may promote moral development in virtual spaces.

Table 2. Basic statistics for each subscale by spatial cognitive ability.

	condition	space ability	GC		awareness of logical thinking		inquisitiveness		objectivity		emphasis on evidence		PT		FT		EC		PD		Space	
			M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prosttest 1	University student	upper	34.7	4.5	10.9	2.7	13.0	1.8	12.9	2.3	11.4	2.4	22.7	2.7	22.0	3.1	19.6	2.9	19.9	4.9	71.3	8.2
		lower	35.7	5.6	12.0	3.3	14.3	1.1	11.9	2.9	11.0	3.4	21.4	4.9	24.6	3.6	23.1	3.4	19.0	5.0	44.9	13.5
	detective	upper	36.4	6.9	12.1	1.6	12.4	2.1	13.6	1.6	11.3	3.0	22.6	2.6	22.2	5.8	22.7	2.3	21.4	4.6	70.4	8.6
		lower	32.9	5.5	10.7	3.0	12.4	1.9	11.6	2.6	11.0	1.7	20.6	2.2	24.1	4.7	20.1	3.4	20.8	6.7	48.0	10.6
Posttest 2	University student	upper	35.4	4.3	11.3	2.2	13.3	2.0	13.1	2.5	12.4	1.9	22.0	3.7	22.1	3.4	19.7	3.0	18.0	3.7	71.3	8.3
		lower	37.7	3.3	12.0	3.1	14.0	1.4	11.3	3.3	11.9	3.4	21.7	4.5	24.9	3.8	23.4	2.6	19.7	5.4	44.0	14.4
	detective	upper	36.7	6.2	11.3	2.4	12.9	2.2	13.4	1.4	11.6	2.2	23.1	2.9	23.5	5.4	21.9	2.5	21.9	4.6	70.1	8.6
		lower	33.9	5.5	11.8	2.4	12.3	1.9	11.9	2.7	11.3	1.9	21.0	2.4	24.0	4.8	20.9	2.6	20.8	6.7	48.7	10.7

3.3. Differences in task achievement in cooperative learning in virtual reality: Are there differences in learning achievement between university student avatars and detective avatars?

Task achievement in the virtual space was examined by evaluating the success of finding and photographing the seven treasures across the two conditions (USC and DC). Three pairs (USC = 1, DC = 2) successfully located and photographed all seven treasures within the time limit. Two pairs (USC = 1, DC = 1) located and photographed up to six treasures, four pairs (USC = 1, DC = 3) located and photographed up to five treasures, and six pairs (USC = 4, DC = 2) located and photographed up to four treasures. There were no significant differences between the conditions or in task achievement. These findings suggest that the type of avatar does not affect task achievement in virtual reality cooperative learning.

4. Conclusions

In the scene imagination method, inquisitiveness, objectivity, and PT partially increased in the USC group. In the virtual space, inquisitiveness, emphasis on evidence, PT, FA, and EC partially increased. The effects of the avatars (university student and detective) differed between the scene imagination method and the virtual space. In the scene imagination method, ability increased in the USC group, consistent with the participants' own attributes. In the virtual space, however, the attributes of leader and non-leader were more strongly associated with changes in abilities than with the type of avatar. Regarding the SDQ-S, the CTAS scores increased in the lower groups for both conditions. This suggests that virtual space cooperative learning may be especially beneficial for participants with lower spatial cognitive abilities. However, EC, critical for morality, was higher in the upper group, indicating that virtual spaces may promote moral development when spatial cognitive ability is high.

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EKSIS: A WEBSITE-BASED FOR MENTAL HEALTH PROMOTION PLATFORM TO ENHANCE ADOLESCENTS' RESILIENCE

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Abstract

Adolescent mental health poses a significant challenge worldwide. According to WHO data from 2019, the global prevalence of mental health conditions before the pandemic was 13%, or approximately 970 million people living with mental health issues, with 52.4% being female and 47.6% male. According to the Indonesia-National Mental Health Survey (I-NAMHS) in 2022, the prevalence of mental health problems among adolescents aged 10-17 years in 34 provinces in Indonesia was 34.9%. Approximately 11 million adolescents in Indonesia experience mental disorders, placing the country in the category of a mental health emergency for adolescents. This alarming prevalence places Indonesia in a mental health emergency for its youth. Among these adolescents, 52.58% are aged 10–13 years, and 47.42% are aged 14–17 years, with no significant gender differences in risk levels. Resilience is a part of mental health that refers to successful adaptation to stress. Adolescents with high resilience tend to have lower risk of having mental health problems. This study aims to develop the EKSIS Program, a community-based health promotion initiative designed to enhance adolescent resilience in stress management through a website-based platform. The program enables adolescents to access mental health resources, receive psychological support, and engage in tailored activities to build resilience. Grounded in the theory of internal self-resiliency, the study adopts a participatory action research design with a multi-method sequential exploratory approach, comprising three cycles. Cycle 1 involves investigating mental health problems in youth using intervention mapping and phenomenological methods with 18 informants. Cycle 2 focuses on developing instruments, content modules, the EKSIS Program, and digital media using intervention mapping and design thinking approaches. Cycle 3 evaluates website usability acceptance in adolescents. The study involved 60 adolescents aged 15–18 years from SMA Sooko Mojokerto, East Java, Indonesia. This research provides a foundation for developing adolescent mental health programs tailored to their specific needs. The proposed program aims to effectively and sustainably enhance resilience and stress management among adolescents in Mojokerto. This article focuses on the development of the EKSIS website which is used in the program.

Keywords: *Mental health, adolescents, resilience, health promotion, website-based media.*

1. Introduction

According to WHO (1948), mental health is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (Ruiz-Ranz & Asín-Izquierdo, 2024). Several factors of a person can be defined as mentally healthy are capable of showing emotion, having resilience, and ability to adapt so that person is able to face obstacles and address problems with the best knowledge. In this research, mental health is scoped only focus on resilience in youth. Resilience itself is defined as the ability of someone recover from the trauma, impactful life changes, or serious illness (Kalisch & Kampa, 2021). This article, which is part of the research, aims to explain a website development as a

part of bigger research project, EKSIS. Our research protocol has explained the motivation, research stages, and relevant literature used in this research (Rachmayanti et al., 2024).

There are web-based applications that relates to young people, related to mental health in general, and more specific in resilience. A result in qualitative design research shows that three main components in these kind of website are (1) basic information about mental health services and how-to manuals, (2) knowledge about misconceptions and stigma in mental health and how to counter those correctly, (3) stories in digital platform will likely to be chosen as a form of giving those information (Adeane & Gibson, 2023). However, user requirement for EKSIS focus on deploying useful materials and put them into one place. So that young people can find validated and relevant information related to what they need. Our previous research findings (Rachmayanti et al., 2024) shows that there is *sequence* and *relatedness* in the knowledge about mental health for teenagers. For example, someone need to understand his own feelings first, therefore they need information about how to express feelings. Thereafter, he may try to need information on how to communicate the feeling to other person, such as to guardians or parents. This *sequence* is exist and must be assisted so the teenager can understand the mental health related information with the same view. Besides that, to increase the *relatedness*, records about what kind of materials they already read and understand should be easily accessed by parents or by professionals. By having the records, parents or professionals can review and implement the materials in the real life. A news-like information is useful to attract website users without any requirement to sign-in and submit further personal information. This information is also preferable to adolescents who are reluctant to share their identity during sign-up process.

Another web-based project focused on female adolescents combating depression. The research used a randomized controlled trial to 128 female students with mild to moderate depressive symptoms (Moeini et al., 2019). This website offer more types of information media rather than text only (Adeane & Gibson, 2023), this website consists of short videos, animations, and Power-Point slides. In our previous interview results, Indonesian teenagers are attracted to animation and visual approach rather than text. So, this website is close enough to user requirement for EKSIS. However, besides the preference of *visual* media that can boost their motivation to read, our need-finding interview results show that teenagers need a place to *express* their feelings with least negative judgements. A feature that allows teenagers to express their ideas, current situation, and feelings is not exist yet in both websites. Both websites are mainly providing information to be read by the users (one-way).

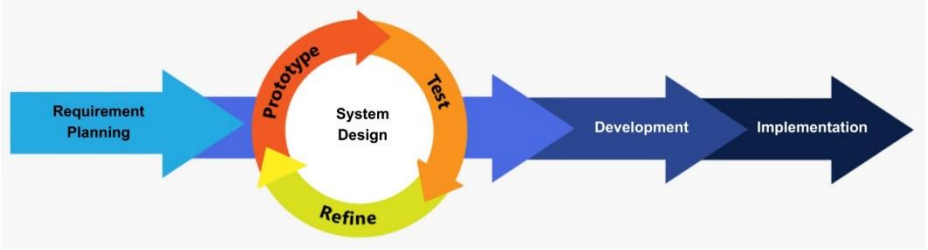
A program that utilizes a website is also developed specially for cancer survivors (Mizrach et al., 2022). The website supports adolescents and youth after receiving cancer treatments in order to improve physical health that is closely connected to healthy mind. The resiliency program, Bounce Back, is delivered through video conferences, and relaxation training as a website feature. In the context of cancer survivors, there is an important need to have face-to-face consultation rather than written media. However, in general, young adults and adolescents likes to *remain anonymous* so they have no burden to express their mood or showing their authenticity (Ellison et al., 2016). This anonymity is one main important characteristics of adolescents, therefore, EKSIS is expected to facilitate anonymous interactions. But Bounce Back have a structured training program that have *sequence* and make sure that the participants follow and pass the designed program. This feature is suitable with the need of the potential EKSIS users.

To sum up, in order to increase resilience in young adults and adolescents, EKSIS have several values that need to be put as website contents and features. Those values are remain anonymous, have sequence, have relatedness, freedom to express, minimum negative judgments, and visually-appealing media.

2. Methods

System Development Life Cycle (SDLC) approach is commonly used to develop computer-based applications. Knowing that this research will involve several people in different (study) backgrounds, thus, a life cycle approach that allows potential end-users to assess and review the prototype back and forth is required. Therefore, Rapid Application Development (RAD) is chosen in this research implementation. RAD is widely used in developing computer programs in biomedical, health, medicine (Glez-Peña et al., 2010).

Figure 1. Rapid Application Development.



The website development process starts with cycle 1 interviews with potential users (i.e., need finding). There are three types of potential users: users that need to know basic information about mental health issues in youth and follow the sequence of modules (e.g. teenagers), users that give directions to teenagers on a daily basis, either at school or at home (e.g. teachers, counselors, parents, homeroom class), professional users that advise both teenagers and parents (e.g. psychiatrist, psychologist, academic counselors). The interviews aim to seek out common mental health problems in youth and their expectations on the web. There are 18 informants that cover all three potential users: 8 subjects are teenagers aged 16-18 years old, 8 subjects are their parents, and 2 professionals in psychology subject. Interviews were conducted in their houses in order to make them relaxed and open to sharing their stories.

After getting their requirements, the next step in RAD is to make a **prototype**. The first prototype contains several *basic requirements*. Then, this first prototype is delivered to high school students to gain feedback (i.e., **test phase**). Their feedback, *extended requirements*, is used to improve the EKSIS website and deploy a second prototype (i.e., **refine phase**). After refining the EKSIS website three times and getting the *final requirements*, the website is **deployed** using WordPress platform and **implemented** during several months to measure the resilience of the youth. The resiliency score is measured before and after using EKSIS website as explained in this research protocol (Rachmayanti et al., 2024). The results of the youth resiliency will be written in a separate research article.

3. Results

As explained in the previous section, there are three types of requirements. Each requirement type is obtained from two **system design** loops. *Basic requirements* are learning modules for both parents and teenagers (see Figure 2), and quizzes (see Figure 4) related to the modules, a place to express happiness for teenagers, general information about mental health that no sign-in requirement to read it (see Figure 3). Thus, everyone that visits the EKSIS website can get knowledge about mental health in youth, especially resiliency. The first and second prototypes are delivered to the 18 students and their parents that participate in this research. Whereas the second prototype is shown to two psychologists who are focused on youth study. The inclusion of two experts here are to seek out advice from professional views and create access for teenagers to visit them when in need without any hesitation.

During this session, several feedbacks were obtained. Three students shared their opinion about the modules: they need motivation to stay enrolled in the modules. They are already overwhelmed with homework and school activities; hence, they requested a reward scheme to make them finish their modules. Another feedback was given, there is a need for positive gestures from viewers about happiness posts. By having support from unknown visitors, the user becomes less reluctant to share their happiness. The support should be limited, but it has to have positive impacts. Last, a voice from parents that requires articles for them to understand teenagers more. They argued that they live in different eras compared to these generations. Their parents, teenagers' grandparents, have a very different approach to educating them. So, the ones that need to learn about mental health are not only the students, but also their parents (see Figure 5). Thereafter, feedback obtained in this first system design loop is the *extended requirements*.

After tailoring both basic and extended requirements, another test is delivered. This test is not only given to the 18 students and two psychologists. Views from students and parents are positive, and they lightly suggest to have some entertainment besides the learning modules. The entertainment here could be an interactive game, or a chatbot. So, the users can balance between learning and playing on the EKSIS website. Meanwhile, psychologists have a view about summary that can give information about module sequence and trace each user's learning progress (e.g., gradebook). Besides that, psychologists suggest that there is a special menu for parents. This menu contains tips for coping with teenagers' daily problems (see Figure 5). Feedback gathered from this second system design loop is the *final requirements*.

Figure 2. Basic Requirement: Learning Modules.

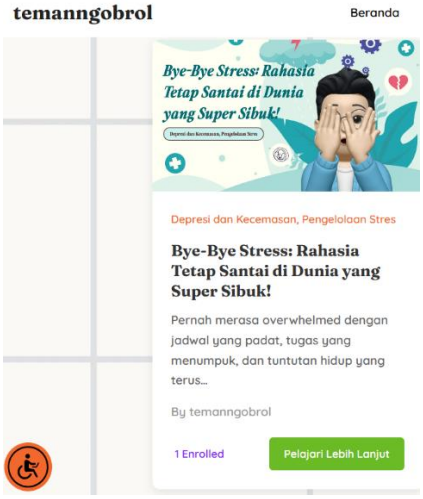


Figure 3. Basic Requirement: Happiness Corner.

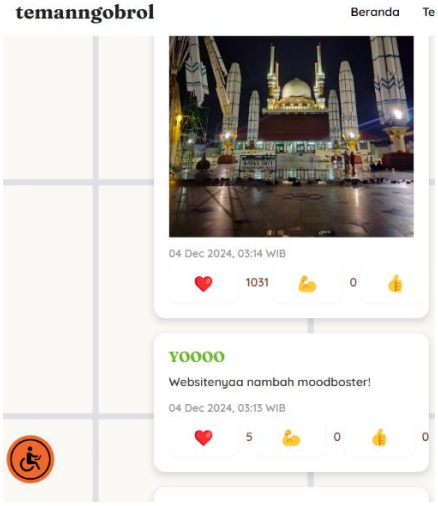


Figure 4. Basic Requirement: Quizzes.

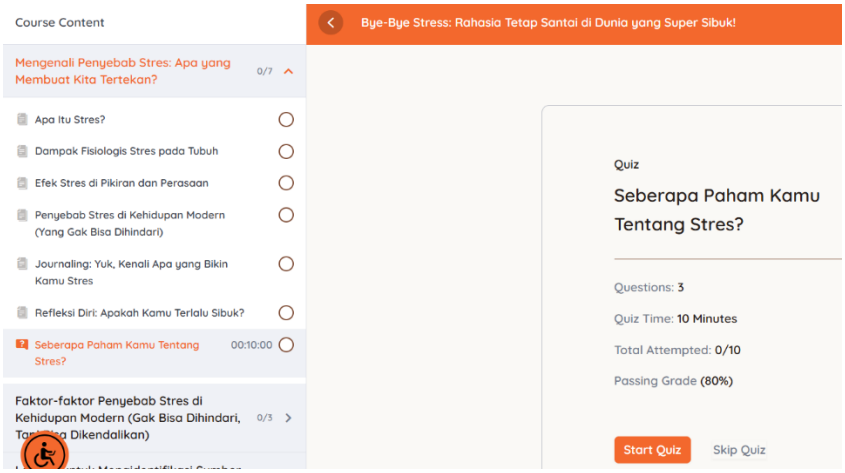


Figure 5. Extended Requirement: Information for Parents.



Figure 6. Final Requirement: Rewards and Activity Log in a Gradebook.



Lastly, EKSIS is deployed in WordPress platform (https://temanngobrol.org/) and performed user acceptance testing to 60 high school students. While disseminating this website, a 5-scale System Usability Scale (SUS) questionnaire is also distributed to the subjects. The SUS questionnaire aims to measure the system in accessibility, usability, content, user interaction, and the overall aspects of the EKSIS website. The SUS results show that the overall website is satisfying (81,6%). The highest and the lowest score in the EKSIS is the content (91,02%) and usability aspect (78.17%). Two questions that receive the lowest score: the motivation to learn many new things on the website (63.39%), and the motivation to visit the website regularly (67.8%). The complete questionnaire and score result can be found in https://its.id/SUSq.

4. Conclusions

This article aims to create a tool that is used in a community-based program to increase resiliency in youth. The tool is developed using Rapid Application Development and results in a website application, EKSIS. The website is built through three system design loops in which each loop yields a set of requirements. These requirements are suggested by three typers of users: teenagers (18 subjects), parents of teenagers (18 subjects), and psychologists (2 subjects). At the end of the loop, the website is deployed in WordPress platforms and a System Usability Scale questionnaire is displayed to measure the usability of the website final version in a user acceptance test. This acceptance test involved 60 high school students who are in different subjects with the ones who participated in requirement planning and design phase. During the acceptance test, EKSIS website received an overall score of 81% which means the website usability is satisfying. However, there are two aspects that need to be improved: the users' motivation to learn new things through the website; and their willingness to visit the website regularly.

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GENDER DISPARITIES IN ICT: EXPLORING SELF-EFFICACY AND MOTIVATION TO STUDY ICT AMONG HIGH SCHOOL STUDENTS

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Abstract

In an increasingly digitized world, ICT self-efficacy plays a critical role in shaping individuals' engagement with technology. This study explores the gender gap in ICT-related fields, examining factors such as academic performance, motivation, and technology self-efficacy among high school students. The research, based on a sample of 993 participants (68.2% female, 31.8% male), highlights significant gender differences. To measure key constructs, the study utilized the Brief Inventory of Technology Self-Efficacy (BITS) (Weigold & Weigold, 2021; Weingold, 2023) to assess ICT self-efficacy at novice, advanced, and expert levels. General self-efficacy was evaluated using the New General Self-Efficacy Scale (NGSE) (Chen & Eden, 2001). Motivation to study ICT was assessed through a five-item scale inspired by Mladenović et al. (2015) and Jenkins (2001), distinguishing between intrinsic, extrinsic, and achievement motivation. Gender-related stereotypes and discrimination were measured using the Stereotypes of Computer Science (CS) scale (Beyer et al., 2003). Statistical analyses included Welch's t-tests to examine gender differences across these measures. Despite female students outperforming males in mathematics and informatics, they demonstrate a lower intention to pursue ICT studies. Male students report higher intrinsic motivation and ICT self-efficacy at advanced and expert levels, while female students perceive greater formal discrimination in the field. The findings suggest that academic performance alone is insufficient to encourage female participation in ICT. Instead, interventions addressing intrinsic motivation, stereotypes, and skill development are crucial to fostering gender inclusivity in ICT careers.

Keywords: *ICT self-efficacy, gender differences, motivation, stereotypes, technology skills.*

1. Introduction

The persistent underrepresentation of women in Information and Communication Technology (ICT) fields represents a significant challenge for educational systems and labor markets worldwide (Cheryan et al., 2017). This gender imbalance is particularly concerning given the growing importance of digital skills and the expanding role of technology across professional domains.

Self-efficacy, defined as belief in one's capabilities to execute courses of action (Bandura, 1997), has emerged as a critical predictor of educational and career choices. In technology domains, computer self-efficacy reflects individuals' confidence in their ability to successfully use and master digital tools. Studies consistently demonstrate gender differences in technology-related self-efficacy, with males typically reporting higher confidence despite similar or sometimes lower actual performance (Huang, 2013).

Complementing self-efficacy, motivation represents another crucial determinant of educational choices. According to expectancy-value theory (Eccles, 2009), individuals are more likely to pursue activities they both value and expect to succeed in. Gender differences in interest toward ICT emerge early and persist through adolescence, potentially shaped by stereotypes and limited exposure to female role models in the field.

Perceptions of gender stereotypes and discrimination create "belonging uncertainty" among female students (Master et al., 2016), potentially undermining their interest and confidence despite strong academic capabilities. These perceptions may be particularly influential during adolescence, when identity formation and career exploration are key developmental tasks.

This study investigates how these three factors—self-efficacy, motivation, and stereotype perceptions—relate to high school students' intentions to pursue ICT studies in Slovakia, addressing the following question: How do male and female high school students differ in technology self-efficacy, motivation to study ICT, and perceptions of gender stereotypes?

2. Method

2.1. Participants and procedure

The final research sample consisted of 993 participants (68.2% female and 31.8% male), aged 16-20 years (M = 17.05; SD = 0.97). Participants were from gymnasiums (38.3%) and secondary vocational schools (61.7%) across all eight administrative regions of Slovakia. Data collection occurred between September and December 2022 following approval from the ethical review board of the Centre of Social and Psychological Sciences, Slovak Academy of Sciences.

2.2. Measures

Academic Performance: Participants self-reported their most recent grades in mathematics and informatics on a scale from 1 (excellent) to 5 (insufficient), following the Slovak educational grading system.

Intention to Study ICT: Measured using three items assessing participants' intentions to enroll in IT programs and pursue careers in the IT sector (ω = .86).

Computer Self-Efficacy: Assessed using the Brief Inventory of Technology Self-Efficacy (BITS) (Weigold & Weigold, 2021; Weingold, 2023), measuring self-efficacy across three levels: Novice (ω = .84), Advanced (ω = .80), and Expert (ω = .84).

General Self-Efficacy: Measured using the New General Self-Efficacy Scale (NGSE) (Chen & Eden, 2001) consisting of eight items (ω = .89).

Motivation to Study ICT: Assessed using five items categorized into three subscales: Intrinsic motivation (2 items, ω = .78), Achievement motivation (1 item), and Extrinsic motivation (2 items, ω = .72).

Stereotypes and Discrimination: Measured using eight items from the Stereotypes of Computer Science scale (Beyer et al., 2005), with subscales for stereotypes (ω = .75) and formal discrimination (ω = .82).

2.3. Data analysis

Welch's t-tests were performed to examine gender differences, with effect sizes calculated using Cohen's d.

3. Results

Welch's t-tests revealed significant gender differences across various measures, as shown in Table 1.

Female students demonstrated significantly better grades in mathematics (d = -0.301) and informatics (d = -0.267) compared to male students. Despite this academic advantage, male students showed a markedly higher intention to study IT (d = -0.664).

Regarding motivation, male students reported significantly greater intrinsic motivation toward ICT (d = -0.466), while female students demonstrated higher achievement motivation (d = 0.207). No significant difference was observed in extrinsic motivation (d = 0.019) or general self-efficacy (d = -0.048).

Female students reported experiencing significantly more formal discrimination (d = 0.644), while male students perceived slightly more stereotypes in the field (d = -0.138). In computer self-efficacy, male students scored significantly higher on both advanced (d = -0.687) and expert (d = -0.598) levels, while female students performed slightly better at the novice level (d = -0.169).

Table 1. Comparison of Males and Females (Welch's t-test).

	Group	N	Mean	SD	t	df	p	d
grade mathematics	female	675	1.778	0.853	-4.296	538.547	p < 0.001	-0.301
	male	316	2.057	0.997				
grade informatics	female	669	1.188	0.493	-3.710	477.308	p < 0.001	-0.267
	male	313	1.345	0.667				
intention to study IT	female	675	1.329	0.585	-9.065	437.688	p < 0.001	-0.664
	male	316	1.842	0.923				
intrinsic motivation	female	677	2.705	1.117	-6.728	564.311	p < 0.001	-0.466
	male	316	3.253	1.232				
extrinsic motivation	female	677	3.826	0.828	0.269	531.765	0.788	0.019
	male	316	3.809	0.982				
achievement motivation	female	677	3.792	1.113	2.983	567.787	0.003	0.207
	male	316	3.551	1.219				
stereotypes of the field	female	677	4.160	0.951	-1.998	579.777	0.046	-0.138
	male	316	4.296	1.017				
formal discrimination	female	676	4.451	1.130	9.352	586.263	p < 0.001	0.644
	male	316	3.703	1.194				
general self-efficacy	female	677	3.798	0.699	-0.701	620.986	0.484	-0.048
	male	316	3.831	0.691				
BITS novice	female	675	5.932	0.181	-2.607	796.162	0.009	-0.169
	male	316	5.959	0.136				
BITS advanced	female	674	3.687	1.118	-10.156	642.075	p < 0.001	-0.687
	male	315	4.437	1.064				
BITS expert	female	673	1.996	0.872	-8.393	497.838	p < 0.001	-0.598
	male	315	2.597	1.123				

Note: Lower grades indicate better academic performance in the Slovak educational system (1 = excellent, 5 = insufficient).

4. Discussion and conclusion

One of the most striking findings of this study is the paradox between female students' academic performance and their intentions to pursue ICT studies. Despite outperforming male students in both mathematics and informatics, female students reported significantly lower intentions to study ICT. This contradicts meritocratic assumptions that academic excellence naturally leads to corresponding career choices and aligns with previous research by Stoet and Geary (2018), who identified similar patterns across different educational contexts. According to expectancy-value theory (Eccles, 2009), career choices are influenced not only by ability beliefs but also by subjective task values and perceived costs. Our finding that male students reported higher intrinsic motivation toward ICT supports this explanation, suggesting that enjoyment and interest in the field—rather than merely performance—significantly influence career intentions. This gender difference in intrinsic motivation is consistent with research by Cortright et al. (2013), who found that intrinsic motivation was more strongly correlated with performance for male than female students.

The gender differences in computer self-efficacy provide additional insights into the persistent gender gap in ICT. While both genders demonstrated similar general self-efficacy, substantial differences emerged in domain-specific self-efficacy, particularly at advanced and expert levels. The increasing magnitude of gender differences as skill level increases suggests that gender disparities in technology self-efficacy widen with task complexity, consistent with previous research by Pethö and Bozogáňová (2023) on university students. According to Bandura's (1986) social cognitive theory, self-efficacy beliefs are shaped by mastery experiences, vicarious experiences, social persuasion, and psychological states. Male students may have more opportunities for mastery experiences with complex technologies through informal learning and tinkering (Margolis & Fisher, 2002), more abundant role models in technology fields, and more positive social messaging about their technological capabilities. These advantages could create a

self-reinforcing cycle where higher self-efficacy leads to greater engagement with advanced technology, which further enhances skill development and efficacy beliefs.

The significant gender difference in perceptions of formal discrimination provides another important perspective on the persistent gender gap in ICT. Female students reported substantially higher perceptions of discrimination in the field, which likely influences their career considerations. This finding aligns with research by Master et al. (2016), suggesting that awareness of gender bias in male-dominated fields may deter women from pursuing careers in these areas. Interestingly, male students perceived slightly more stereotypes about the field itself, though this difference was relatively small. This might reflect different aspects of stereotyping that young men and women notice or internalize. While female students may be more attuned to discrimination directed at their gender, male students might be more aware of general stereotypes about people in ICT, such as the "nerd" stereotype often associated with computer science professionals.

Despite lower intrinsic motivation and higher perceptions of discrimination, female students demonstrated higher achievement motivation compared to male students. This finding, consistent with research by Clarke and Chambers (1989), suggests that female students may be more driven by the desire to excel and achieve high standards in their work. This higher achievement motivation represents a potential resource that could be leveraged to increase female participation in ICT. Educational interventions that connect achievement goals with ICT careers might help bridge the gap between female students' academic excellence and their career aspirations. For instance, highlighting how ICT careers can satisfy achievement-oriented goals such as solving important problems, making significant contributions, or achieving recognition could appeal to female students' achievement motivation.

From a practical perspective, addressing the gender gap in ICT requires multifaceted approaches. Enhancing advanced technology self-efficacy through structured opportunities for female students to develop and demonstrate advanced technology skills could help narrow the self-efficacy gap. Fostering intrinsic motivation by designing ICT education that connects to female students' interests and values, emphasizing the creative, collaborative, and socially impactful aspects of technology, might be particularly effective. Explicit efforts to counter stereotypes about who belongs in ICT fields and to create inclusive learning environments are essential, including diverse representation in teaching materials, addressing implicit biases among educators, and establishing clear anti-discrimination policies. Additionally, framing ICT careers in terms that appeal to achievement-oriented goals could help bridge the gap between female students' academic excellence and their career aspirations. Given that gender differences in technology self-efficacy appear to widen with skill level, early interventions that provide equal opportunities for skill development before these disparities become entrenched are critical for promoting gender inclusivity in ICT education and careers.

This study highlights the complex interplay of factors contributing to gender disparities in ICT education. Our findings reveal that despite female students' superior academic performance, they demonstrate lower intentions to pursue ICT studies. This paradox appears to be influenced by differences in intrinsic motivation, technology self-efficacy at advanced levels, and perceptions of discrimination.

Addressing the gender gap in ICT requires multifaceted approaches that go beyond promoting academic excellence, focusing on enhancing female students' advanced technology self-efficacy, fostering intrinsic motivation, combating stereotypes and discrimination, and leveraging their achievement motivation.

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PUBLIC AND PRIVATE UNIVERSITY STUDENTS: A COMPARATIVE ANALYSIS OF SOCIODEMOGRAPHIC, ACADEMIC, ECONOMIC AND PSYCHOLOGICAL VARIABLES

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Abstract

The Covid-19 pandemic has had a vast impact on society, particularly in the higher education (HE) context, with online classes and social isolation recommendations. While much of the post-pandemic research on this topic does not distinguish between public and private institutions or focuses mainly on public institutions, exploring students' realities (similarities and differences) in public and private universities deserves special consideration. Along with other aspects, considering the pandemic's economic challenges and discrepancies in tuition fees between institutions, such a topic might be of particular interest. Financial distress may encourage students to seek employment alongside their studies, which may lead to additional difficulties or potentially negative outcomes. This cross-sectional study aimed to: (1) compare students enrolled in public and private universities in a set of relevant variables, including dropout intentions; (2) assess if there are interaction effects between type of institution (public vs. private) and work status (being or not a working student). A stratified sample of 1070 Portuguese university students aged between 19 and 45 years (M = 22.87 ; SD = 3.64), selected through a convenience quota method, was assessed for sociodemographic, academic, economic, and psychological variables using self-report instruments. The data were collected between November 2022 and February 2023. Descriptive, two-factor ANCOVAs, and MANCOVAs, controlling for the study cycle (bachelor, master), were conducted. Regarding the type of institution, the findings showed that there were more displaced students in public universities, while private universities had more working students. Students from public universities showed greater adaptation difficulties in several domains. Although students from private institutions reported higher monthly expenses, no differences were found regarding economic difficulties or in the perception of income decrease in the last two years. No differences were found in the levels of academic self-efficacy, academic exhaustion, social connectedness to the campus, or dropout intentions between students from public and private universities. Working students showed higher economic difficulties than non-working students. No interaction effects were found between type of institution and work status. These findings provide valuable insights into the profiles of university students in both public and private institutions in a post-pandemic context. Many students in both public and private institutions work part-time or full-time to afford their education because of the rising cost of living. However, being a working student does not seem to imply greater academic exhaustion or association with dropout intentions, which may suggest a positive impact of this condition on academic performance and students' well-being. Further contributions to research and higher education stakeholders are discussed.

Keywords*: *Higher education, public and private institutions, students' work status, academic adaptation difficulties, dropout intentions.

1. Introduction

Over the past few decades, higher education in Portugal and across Europe has undergone significant transformations, marked by the expansion and diversification of both public and private sectors. These changes have been driven by a combination of policy reforms, societal demands, and economic factors, leading to a more inclusive and varied educational landscape (European Commission, 2024).

In Portugal, the late 20th century witnessed a substantial increase in higher education enrollment. This was partly due to the democratization of education and the extension of compulsory schooling, which collectively fostered a greater demand for tertiary education. The public sector, traditionally the primary provider of higher education, faced challenges in accommodating this growing demand, leading to the emergence and rapid expansion of private institutions. Between 1985 and 1996, the private higher education sector in Portugal transformed from a peripheral entity into a mass system, significantly increasing its share of student enrollments. This expansion was facilitated by legislative changes, notably the Decree-Law No. 100-B/85 and Decree-Law No. 121/86, which provided a legal framework for private higher education institutions. These laws aimed to regulate and promote private initiatives, enabling them to complement the public sector and address the educational needs of a diversifying student population (Cabrito, 2010). Despite the growth of private institutions, public higher education in Portugal continued to have a dominant role. Data from the Directorate-General for Education and Science Statistics (DGEEC) indicate that, as of the 2022/2023 academic year, public universities and polytechnics enrolled most higher education students. In the academic year 2020/21, there were 36 public and 70 private higher education institutions (HEIs). Over 81% of students were enrolled in public-sector institutions, 19% enrolled in private HEIs (OECD, 2022). This trend reflects ongoing efforts by the public sector to expand capacity and adapt to changing educational demands (DGEEC, 2024).

The expansion of higher education in Portugal has also been accompanied by efforts to increase the population's educational attainment. In 2023, 41.5% of young adults aged 25 to 34 held a higher education degree, reflecting a steady increase over the past decade, though still slightly below the European Union average of 43.1% (European Commission, 2024). This upward trend underscores the country's commitment to enhancing educational outcomes and aligning with broader European targets. Students enrolled in public universities are more likely to relocate from their hometowns compared to their counterparts in private institutions. This trend is attributed to the geographical distribution and prestige associated with public universities, which often impose students to move to urban centers to access desired programs. According with Sá et.al (2011), as far as cultural and socio-economic background are concerned, income and parental education have been shown to play a role in determining the decision to leave home to attend higher education. Students from disadvantaged economic backgrounds appeared to be more constrained in their choices than other students. In fact, the Organization for Economic Cooperation and Development (OECD) 2022 country report points out that, in Portugal, displaced students accounted for around one-third of students attending public higher education institutions, more than double the proportion in the private higher-education sector. Among these “displaced students”, around 40% were defined as in financial need. Students at private institutions are often faced with higher monthly costs than those at public universities, which means that they are more likely to be working students. This difference is primarily due to elevated tuition fees in private institutions. Given the higher tuition fees associated with private institutions, students attending these institutions may seek employment to offset educational expenses.

2. Objectives

The first aim of this cross-sectional quantitative study was to compare students from public and private universities (institution type) on sociodemographic variables (geographical displacement and work status), academic and psychological variables (adaptation difficulties, academic self-efficacy, academic exhaustion, social connectedness to the campus, and dropout intentions), and economic variables (monthly expenses, perceived economic difficulties, and perceived income reduction over the past two years). The second aim was to examine whether institution type (public vs. private) and work status (working vs. non-working students) interact to influence students outcomes, particularly in terms of academic adaptation, self-efficacy, economic struggles, academic exhaustion, social connectedness, and dropout intentions.

3. Methods

3.1. Participants

The study included the participation of 1070 higher education university students (44.8% male and 55.2% female), with 77.9% from public institutions and 22.1% from private institutions. The majority were enrolled in courses that were their first choice (82.4%). Also, 50.8% of the students were displaced, and 61.2% of students were exclusively dedicated to their studies, while 38.8% combined work and study (working-students). Most participants attended daytime courses (85.2%), and the mean age of students was 22.87 years (SD = 3.64).

3.2. Instruments

A **Sociodemographic** questionnaire was used to assess characterization variables, namely the **r**esidence (displaced or not) and working status.

The **Screening Instrument for Students at Risk of Dropping Out from HE** (Casanova et al., 2021) was employed to measure Dropout Intention (7 items), Academic Exhaustion (5 items), and Satisfaction with Education (5 items). Responses are given on a 5-point Likert scale, ranging from 1 (never) to 5 (always). In this study, the internal consistency in the subscales, as measured by Cronbach's alpha, was .84 for Satisfaction with education, .83 for Academic exhaustion and .87 for Dropout intention.

To evaluate academic adaptation difficulties, the **Instrument for Exploring Difficulties in Academic Adaptation** (Casanova & Almeida, 2017) was used. This instrument assesses six areas: 1) Adaptation to the Institution, 2) Learning, 3) Interpersonal, 4) Economic, 5) Autonomy, and 6) Vocational. Each domain is measured with a single item, rated on a scale from 1 (no difficulties) to 5 (several difficulties).

The Portuguese version of the **Social Connectedness Scale** (SCS; Lee & Robbins, 1995) was used to assess students' sense of social connectedness to the campus. This unidimensional scale consists of 8 items and evaluates students' personal sense of belonging in higher education settings. Responses are recorded on a 6-point Likert scale (1 = strongly disagree; 6 = strongly agree). In this study, the Cronbach's alpha was .92.

Academic self-efficacy was assessed using the **Academic Self-Efficacy Scale** (Santos et al., 2019), a 4-item scale rated on a 5-point Likert scale, where 1 represents strongly disagree and 5 indicates strongly agree. In the current study, this scale demonstrated strong reliability, with a Cronbach's alpha of .89.

3.3. Procedure

After approval by the Ethics Committee of the Lusófona University, data collection took place via online and telephone. All participants gave informed consent. The telephone data collection was carried out using the CATI system (Computer Assisted Telephone Interviewing), by experienced interviewers. The online data collection was done through an online survey directly accessed by the participants, who had previously accessed the survey link, through the CAWI system (Computer Assisted Web Interviewing).

3.4. Data analysis

Statistical analyses were conducted using ANOVAs, Chi-Square tests, and (M)ANCOVAs to examine the effects of institution type (public vs. private) and work status (*working vs. non-working students*) on various academic, economic, and psychological variables. Given the significant effect of the study cycle variable (bachelor vs. masters) and differences between sub-samples (a higher proportion of undergraduate students in private institutions), this variable was controlled in the analysis. Chi-Square tests, one-way ANOVAs were used. Two-way (M)ANCOVAs were used to analyze the main and interaction effects of institution type and work status on economic, academic, and psychological variables.

4. Results

Before conducting the main analyses, assumption checks were performed. Levene's test indicated that the assumption of homogeneity of variances was met for all dependent variables ($p > .05$). Box's M test for equality of covariance matrices was non-significant ($p > .05$), indicating homogeneity of covariance matrices.

Regarding sociodemographic differences, public university students were significantly more likely to be displaced (54.1%) than private university students (39.40%), $F(1,1066) = 15.84$, $p < .001$, $\eta p^2 = .015$. Additionally, students from private institutions were significantly more likely to be working-students (47.9%) compared to those from public institutions (36.20%), $F(1,1066) = 10.55$, $p = .001$, $\eta p^2 = .010$. Concerning academic and psychological variables, public university students reported greater adaptation difficulties compared to private university students in these areas: institutional (public: $M = 2.25$, $SD = 1.10$; private: $M = 2.09$, $SD = 1.01$, $F(1,1065) = 4.66$, $p = .031$, $\eta p^2 = 0.004$), interpersonal (public: $M = 2.38$, $SD = 1.21$; private: $M = 2.20$, $SD = 1.17$, $F(1,1065) = 4.00$, $p = .046$, $\eta p^2 = 0.004$), learning (public: $M = 2.42$, $SD = 1.07$; private: $M = 2.23$, $SD = 0.98$, $F(1,1065) = 6.34$, $p = .012$, $\eta p^2 = 0.006$), and vocational (public: $M = 2.25$, $SD = 1.20$; private: $M = 1.88$, $SD = 0.98$, $F(1,1065) = 15.84$, $p < .001$, $\eta p^2 = 0.020$). However, no significant differences were observed between institution types in terms of academic self-efficacy ($F(1,1066) = 2.34$, p = .493, $\eta p^2 = .002$), academic exhaustion ($F(1,1066) = 1.79$, $p = .519$, $\eta p^2 = .002$), social connectedness to the campus ($F(1,1066) = 0.98$, $p = .957$, $\eta p^2 = .001$) and dropout intentions ($F(1, 1066) = 0.982$, $p = .322$, $\eta p^2 = .001$).Students from private universities reported significantly higher monthly expenses (in euros) than those from public universities (private: $M = 656.40$,

SD = 547.43; public: *M* = 523.29, *SD* = 542.06), $F(1,1066) = 8.77$, $p = .003$, $\eta p^2 = .008$). However, there were no significant differences in perceived economic difficulties ($F(1,1066) = 0.94$, $p = .519$, $\eta p^2 = .001$) or perceived income reduction over the past two years ($F(1,1066) = 1.21$, $p = .272$, $\eta p^2 = .001$). Also, no significant differences were found between groups in terms of academic exhaustion ($M = 2.82$, $SD = 0.97$ vs. $M = 2.70$, $SD = 0.99$, $F(1,1066) = 1.78$, $p = .183$, $\eta p^2 = .002$) or dropout intentions ($M = 2.24$, $SD = 1.12$ vs. $M = 2.17$, $SD = 1.10$, $F(1,1066) = 0.98$, $p = .322$, $\eta p^2 = .001$). However**,** working-students reported significantly greater economic difficulties ($M = 2.48$, $SD = 1.21$) than non-working students ($M = 2.21$, $SD = 1.15$), $F(1,1066) = 20.42$, $p < .001$, $\eta p^2 = .019$.

Finally, interaction effects between institution type and work status were tested for all dependent variables. No significant interaction effects were found for academic adaptation ($F(1,1066) = 1.213$, $p = .271$), academic self-efficacy ($F(1,1066) = 0.982$, $p = .322$), economic difficulties ($F(1,1066) = 1.112$, $p = .292$), academic exhaustion ($F(1,1066) = 0.743$, $p = .389$), social connectedness ($F(1,1066) = 0.678$, $p = .410$), or dropout intentions ($F(1,1066) = 1.003$, $p = .317$). These results indicate that institution type and work status independently influence student experiences, with no significant interaction effect observed.

5. Discussion

Results show that students attending public universities had a much higher chance of being away from home than those attending private universities. This seems to be linked to family financial constraints, which may also influence students' academic pathways (Sá et.al, 2011). Displacement of students can negatively impact their lives - homesickness; difficulties in managing daily household responsibilities (Sosu et al, 2019), and the promptness at which the campus community is able to repair the disruption is crucial. Public policy and stakeholders can help by integrating mentoring programs and implementing school social action policies.

Students from private universities were substantially more likely to be working students than those from public institutions. Moreover, while perceived economic challenges did not differ significantly across institution type, individuals attending private universities reported far greater mean monthly expenses (in euros) than students at public universities. Although students from all backgrounds might work to support themselves, some research suggests that those from low-income families are more likely to do so than their higher income peers, and tend to work more hours than others (Anane & Curtis, 2022). Working more than 20 hours a week is associated with lower grades and higher retention rates (Logan et al., 2016). In our study, employed students reported much more financial difficulties than students who did not work. Private institutions must be aware of this challenge; not only the mismatch between income and expenditure is likely to mean that extra money is needed to study, considering the higher tuition fees, but the resulting need for part-time employment is likely to limit both the completion of studies and the ability to develop the skills necessary for 'employability' (Hordósy et al., 2018). These results underscore the importance of reinforcing financial assistance measures for higher education students.

Students from public universities report more academic and psychological challenges, including problems with institutional support, vocational and learning difficulties, than those from private universities. Vocational and learning difficulties often result from a mismatch between expectations and reality. Therefore institutions, particularly public institutions, could take proactive measures, namely by creating materials that accurately portray the institution and its academic programs; or implement tutorial or vocational reorientation activities from the moment students begins to show signs of difficulty in academic performance (Merkle et al, 2024). By the other hand, no differences were found between public and private students in terms of academic exhaustion and dropout intentions, with mean reported levels above the mean scale level for academic exhaustion. During pandemics, university students showed increased levels of anxiety, depression, and dissatisfaction with education formats (Calizaya-López et al., 2022). Dropout rates increased during pandemic years (Dargon & Moulin, 2025). It is expectable that changes brought by the "Covid-19 experience" have had a lasting and cumulative impact on students' education trajectories. Therefore, academic institutions in general should give greater attention to symptoms of academic exhaustion, since it evolves over time and becomes a strong predictor of dropout (Turhan, 2023).

While previous research suggests that private university students, especially working students, experience more stress from academic demands (Calizaya-López et al., 2022), in the present study, no significant interaction effect between work status and institution type was found. Future studies with qualitative and longitudinal studies may contribute to clarify the role of students' working status on academic trajectories and well-being. In conclusion, present study highlights differences and similarities in relevant academic features between students in public and private universities, and thus makes an important contribution to research and institutions that can play a role in changing educational contexts.

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DEFINING HUMAN INTELLIGENCE TO CONTROL THE CURRENT DISSONANCE BETWEEN NEURODIVERGENT AND NEUROTYPICAL PEOPLE AMONGST YOUNGER YOUTH

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Abstract

The ongoing dissonance between young neurodivergent individuals who are diagnosed with any spectrum of Autism, Speech Delay, Dyslexia, OCD, etc. and neurotypical people has been pushed aside as a complex scenario for a long time due to the nature of difficulty and our lack of understanding of individual minds. Research shows that there are many factors e.g., increased awareness and societal shifts, contributing to the rising trend of neurodivergent children who need to be properly accommodated in modern social and educational settings. As a result of earlier negligence, studies predict that younger generations e.g., Gen Alpha and Gen Beta will encounter drastically worse effects of this disconnect with their neurotypical counterparts. My hypothesis is that current society tries to define human intelligence using either a standard intelligence quotient (IQ) or an emotional intelligence quotient (EQ) test to quantify specific analytical or mental abilities as well as empathy, motivation and social abilities. However, these techniques do not apply to all mental makeup equally and neurodivergent minds suffer from poor evaluation from these existing techniques. This fosters an inferiority complex amongst many neurodivergent young adults, showing a trend of lack of confidence and often depression. Many children who are tested as neurodivergent fall on the borderline and are often left in the wrong group of neurotypical children or clubbed with far extreme cases of neurodivergence which require medical therapy. These individuals are neglected today for whom a model is required to be built by integrating behavioral traits, learning abilities, and unique strengths and talents of these individuals alongside with their neurodivergence measure. Therefore, a tool that can assess neurodivergent minds e.g., developing neurodivergence quotient (NQ) is required to categorize their strength and make them feel wanted and useful for their contributions in society. This paper intends to establish the need of the model and initiate the formation of a methodology with a pilot study containing 70 survey respondents showing inherent natural inclinations for certain neurodivergent conditions, e.g., Autism, Asperger's, and ADHD.

Keywords: *Neurodivergent, neurotypical, human intelligence, youth, education*.

1. Introduction

As a 12th grade student who experienced both virtual and in-person learning in schools, I was a datapoint and during my in-person schooling, I felt outcasted due to my speech delay, context interpretation issues, and how I perceived the world. This led me to be placed in certain classes where "additional support" was needed during my elementary school. In the United States, these supplementary classes are a part of the Individualized Education Program (IEP). In theory, it sounds very beneficial for maximizing a neurodivergent child's potential, including myself. Unfortunately, my experience in this program was unsatisfactory. Being a part of the IEP program felt humiliating as my early childhood mind interpreted this deficiency as the reason why I was looked down upon. I realized that I was not alone, most of my neurodivergent peers in the IEP classes dealt with the same frustration and expressed that the program was not adequately helpful and challenged its existence. Moreover, the consensus experience was that being part of IEP sparked a barrier in creating friendships with the majority of neurotypical students in the classroom. This made most of the neurodivergent kids feel unfit in the class.

This observation has stayed with me since childhood because, even when an education system aims to support young children with challenges, if the approach fosters a sense of inferiority in the students, it becomes harmful. As I grew older, I realized many of my IEP peers proved to be quite intelligent and gifted in their own ways, yet they had to deal with the feeling of inferiority at an earlier age. This seemed unfair and requires it to be addressed with a proper model that can assess the mental and emotional abilities

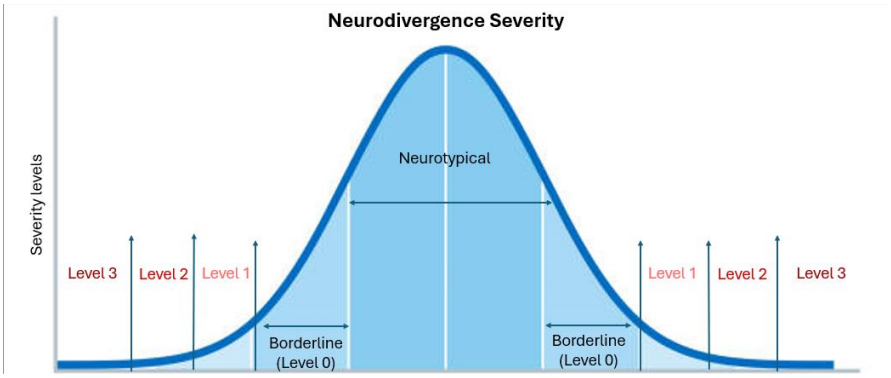
of these neurodivergent kids in a more sophisticated manner and protect their childhood mind for future nurturing. This disconnect looks magnified for “borderline neurodivergent” kids, because from many aspects – they appear neurotypical in a childhood classroom, but their minds require special nourishment. Due to their age bracket and impressionable state of mind, many complications in teenage and adult life can happen unless their mind requirement is detected early on and supported appropriately.

1.1. Neurodivergence, its cause, current trends and impact

Neurodivergence refers to variations in cognitive functioning that deviate from what is considered "typical" or "neurotypical." It encompasses a wide range of conditions and differences in how individuals think, process information, and experience the world. Example conditions include Autism, ADHD, Speech Delay, Dyslexia, Asperger’s, Obsessive-Compulsive Disorder, etc. that are often seen or felt as “shortcomings” by the majority of people in society. Recently, a rise of neurodivergence, primarily in Autism, has been observed in younger generations, with statistics rising from 6 in 1000 people in the year 2000 to 27 in 1000 people by the year 2020 (Richter, 2024).

The reason more and more children are being diagnosed on the neurodivergence spectrum today is mainly due to improved screening, information availability, change in upbringing environment, and continuous societal shifts. Some studies suggested that the percentage of cases of neurodivergence may have increased due to some genetic or other factors, which are yet to be proved. The diagnostic tools evolution not only played a critical role in identifying early childhood neurodivergence but also detected the severity level more precisely, e.g., level 1 showcasing mild/moderate behaviors that can continue the normal lifestyle with minimal support, to level 3 demonstrating extreme results, which will need medical intervention to a varied degree. Figure 1 describes a qualitative distribution of neurodivergence severity and its frequency.

Figure 1. Neurodivergence Severity.



Many neurodivergent individuals are inclined to pay attention to details, deep focus on niche subjects, display exceptional memory, unconventional problem-solving attitude, and a deep passion for learning – just at their own pace. Moreover, neurodivergence can often lead to a strong sense of fairness and justice, as many neurodivergent individuals are highly attuned to rules, equity, and ethical principles. For instance, individuals diagnosed with autism spectrum disorder might have a heightened sensitivity to unfairness or injustice, leading them to advocate for others and seek out fair solutions. Similarly, people with ADHD might be passionate and determined in fighting for what they believe is right, driven by their strong sense of integrity and empathy. However, due to the unique character of their mind, they struggle in communication or creating social connections. Research published by the NIH describes this interactive distancing between neurotypical and neurodivergent individuals exist due to the differences in perception formation in neurodivergent individuals. This study primarily focused on those diagnosed with autism (Sasson et al., 2017). Neurotypical individuals scored better than their neurodivergent peers on the IQ tests they were administered, which seem great for neurotypicals – but for neurodivergent individuals, these hurdles became sloppy. One example showed two experiments they were given (both $p < 0.001$, meaning statistically significant), autistic people scored very elevated in social awkwardness, whereas in likelihood of friendship, they scored much lower than in neurotypicals proving the challenges the autistic people face in making social connections.

Many great achievers are diagnosed with some form of neurodivergence e.g., Simone Biles with ADHD yet is considered one of the greatest American gymnasts of all time. Srinivasa Ramanujan with Asperger syndrome, an Indian mathematical prodigy who revolutionized the world of mathematics shown in the book/movie *The Man Who Knew Infinity*. John Nash, diagnosed with schizophrenia (which is in a

higher order in the spectrum), became a Nobel Laureate in his revolutionary work in game theory, shown in the book/movie *A Beautiful Mind*. Abhishek Bachchan, a talented Indian Bollywood actor – was diagnosed with dyslexia. Jimmy Donaldson, also known on social media as MrBeast, was diagnosed with a severe speech delay and level 1 OCD, became a successful businessman and social media influencer. Over the ages, many renowned reformers and talents, e.g. Michael Phelps, Albert Einstein, Neil Diamond, Woody Allen, etc. fell into the spectrum of neurodivergence. Table 1 below discusses the neurodivergent conditions and traits along with existing diagnostic tools and known personalities that lived with it.

Table 1. Conditions and Traits.

Conditions	Common Traits	Sample Tests	Personality ex.
Autism	• Difficulty with social interactions • Unorthodox problem solving • Difficulty with change in routine • Often takes info at face value • Like repetitive tasks	Autism Diagnostic Interview-Revised (ADI-R), Gilliam Autism Rating Scale (GARS), Autism Diagnostic Observation Schedule (ADOS)	Danny Keefe (Baseball player)
ADHD	• Hyperactive and energetic in behavior • Have a knack in orating • Can be impulsive in decision making • Do awful in confinement • Attention is all over the place	Conners 3, Vanderbilt ADHD Diagnostic Rating Scale, ADHD Rating Scale-5 (ADHD-RS-5)	Simone Biles (Gymnast)
OCD	• Obsessive around organization • Fearful of aspects in slight change • Rigid ritualistic, afraid if disrupted • Doubtful, and likes checking	Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), Obsessive-Compulsive Inventory-Revised (OCI-R)	Cameron Diaz (Actress)
Asperger's	• Enjoy formal orating • Like autism, unorthodox problem solving and difficulty with social interactions • Sensory sensitivity • Eidetic memory	Autism Diagnostic Interview-Revised (ADI-R), Gilliam Autism Rating Scale (GARS), Autism Diagnostic Observation Schedule (ADOS)	Srinivasa Ramanujan (Mathematician)
Dyslexia	• Difficulty in learning and interpreting guidelines • Difficulty reading despite adequate intelligence	Dynamic Indicators of Basic Early Literacy Skills (DIBELS), Kaufman Assessment Battery for Children (KABC-II)	Neil Diamond (Singer)
Speech Delay	• Can be a symptom cohesive with other conditions, or can have its own entire spectrum • Develops and learns at their own pace. • Eidetic Memory • Tone-sensitive, interprets tone more than words	Caused by a combination of ADHD, Autism, OCD and Asperger, etc.	Albert Einstein (Speech delay till age 5)

Society still fails to recognize the potential of the neurodivergent people, and current methods often disincentivize and discourage them. I felt this in my own childhood. Although I was never medicated, I was diagnosed with Level 1 Autism and Asperger syndrome, alongside Level 2 ADHD, bringing into account my speech delay and how it shaped my mind to focus on individual's victim of bullying, social media impact on neurodivergence, as well as friendship tendency in virtual world (Chakraborty, 2023, 2024a, 2024b).

1.2. Shortcomings in existing evaluation in Classic Education System

Throughout human civilization, intelligence has played a critical role and is often considered an asset to possess. However, it is a philosophical question with no clear definition. There are different kinds of intelligence and different tests are applied to measure them, in the category of IQ and EQ tests.

For example, the Talented and Gifted (TAG) is a current sub-program under the Elementary and Secondary Act (ESEA) in the United States – which categorizes kids as "above-average" in certain abilities in an educational institute. The process of categorization is done through taking models from certain IQ tests such as Mensa and Wechsler with testing students to see if they are eligible for TAG courses. This framework worked amazingly amongst many neurotypical people (with 68% success rate amongst the Caucasian) but failed miserably for neurodivergent people – large majority of whom were non-whites – resulting in the concept of IEPs being implemented in the US school systems. The IEP accommodation included plans such as extra time on crucial exams, speech/behavioral therapy, and refinement of social skills. Unfortunately, they did not adequately serve the purpose, at least for me. Later, I found a study that shows statistically 45% of neurodivergent people were bullied in school (U.S. Department of Education, 2018), on top of being 3 times more likely to drop out of school due to dissonance with neurotypical peers, alongside 85% of them more likely to repeat a grade (Ravipati, 2017).

This proves that the current existing methods of the school system are non-accommodating towards the needs of many neurodivergent children yet if the "borderline neurodivergent" students are nourished on time, their rare mental qualities can bring out a disproportionate amount of value to the society and to the future. Therefore, the development of a model e.g., Neurodivergence Quotient (NQ) to evaluate the conditions, traits, and natural inclinations must be a priority today.

2. Methodology

My methodology includes survey-based data acquisition, converting the ordinal data into a composite score with ranges and mapping the traits to measure the natural inclinations of the neurodivergent participants. A 16-questionnaire survey is devised to identify three traits e.g., Fairness, Compassion, and Creativity among the "borderline" and formally diagnosed neurodivergent responders. The severity of the conditions being confidential was not added to the questionnaire. To limit the scope of this initial pilot study, I only chose to focus on Autism, Asperger's, and ADHD as the primary causes of neurodivergence. The study will extend in the future to include the other conditions as listed in Table 1. In the "Fairness" category, this survey digs into an understanding of personal justice system, which includes questioning the validity of an established rule or custom, intolerance towards injustice, and temptation or compulsion fixing the perceived unfairness observed in society. In the "Compassion" category, this survey explores the degree of selfless motivation to help the needed even when aiding can cost inconvenience, plus delves into bent on philosophy and spirituality as a guideline for life, as well as the affinity towards abstract thinking. In "Creativity", the survey tries to find out the degree of passion, intrinsic motivation, and effort an individual commits even when the return isn't materialistic or a self-gain.

Statistically, only 10-12% of the population are neurodivergent globally, getting a high number of neurodivergent respondents became a difficult task for me. The survey contains 70 responses: 35 neurodivergent and 35 neurotypical. 33 are diagnosed with Asperger's, ADHD, Autism, or any combination. Participants who identified themselves as neurotypical are used as a reference baseline.

3. Results interpretation

The results described in Figures 2, 3 and 4 show bar graphs, each indicating an overall score alongside the components that make up the overall score. Figure 2 deals with Fairness, Figure 3 describes Compassion, and Figure 4 with Creativity. It appears that neurodivergent respondents are significantly more sensitive towards Fairness and Compassion for the affected around their surroundings. The data isn't indicative in Creativity disparity between neurotypical and neurodivergence however it showed a distinction for Asperger conditions to be abstract-minded. In addition, Figure 4 shows that ADHD and Asperger conditions tend to incline towards unfairness intolerance and philosophical bend. Autism inclines towards questioning existing rules and customs also making them very isolated from the rest of society. Additionally, Asperger tends to enjoy repetition in activities they love.

Figure 2. Fairness Score.

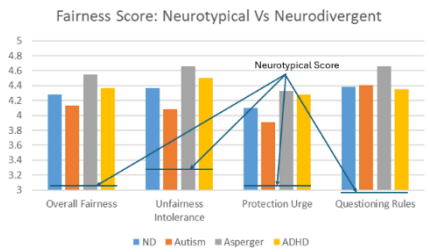


Figure 3. Compassion Score.

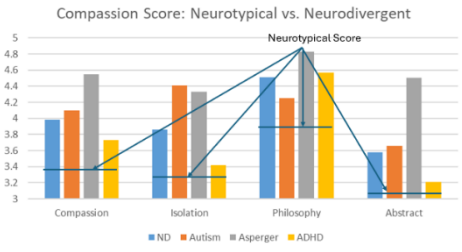


Figure 4. Creativity Score.

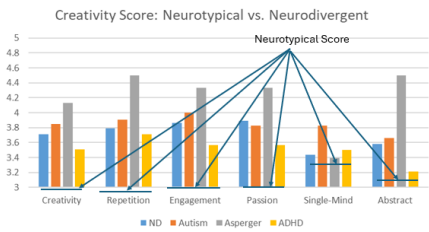
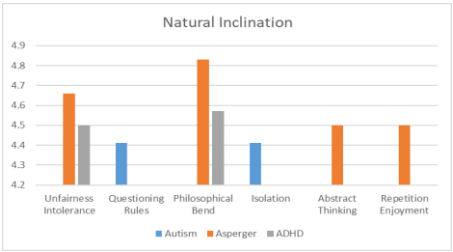


Figure 5. Natural Inclination.



4. Conclusions

Though my sample data sets were limited, the research presented shows a strong possibility to build a model that can identify early on the knacks of neurodivergent individuals and build career paths for them along with subjects where they can excel. For example, “social injustice whistleblowers” or “student assistance for whistleblowing in school systems” do not exist today, yet these may be very required. Whilsteblowing can help protect the upbringing of foster children in displaced/broken families. This trait can also bring great value in school safety related issues such as alerting guns, drugs, or mental instability in their surroundings. Today, senior care is becoming a big need of the society and often that is not nursing necessarily, but providing companionship and compassion. Neurodivergent individuals with a high compassion score can fit this bill effectively. Similarly, in the field of creativity, AI is going to revolutionize the perception and the way concepts are formed. I believe neurodivergent minds will play a major role, in conjunction with AI. This pilot study is simply to bring focus in something I believe is very crucial and much of the work may be in the rudimentary stages, but the payoff of such models and further research is immensely rewarding to the society.

I extend my thanks to my close friends, the students at my school Fulton Academy of Virtual Excellence (FAVE), my local gym, and to those unknown to me who took the survey electronically and helped me prepare this research.

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CRITICAL THINKING AND SOCIAL NORMS AS BUFFERS AGAINST HATE SPEECH ACCEPTANCE

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Abstract

This study investigates the relationship between attitudes toward hate language and demographic, cognitive, and social factors among 250 individuals from Tbilisi, Georgia, and its regions. Using a face-to-face survey methodology, participants completed three measures: The Comprehensive Thinking Style Questionnaire (CTSQ), Iowa-Netherlands Comparison Orientation Measure (INCOM), and a Hate Language Scale. The results indicated significant gender differences, with women showing stronger disagreement with hate language. Education level was inversely correlated with tolerance for ageism, while thinking styles revealed that closed-mindedness positively correlated with acceptance of hate language, whereas open-minded and effortful thinking negatively correlated. Social comparison of opinions was associated with lower tolerance for direct hate language, reflecting the influence of societal norms. These findings highlight the protective role of education, cognitive openness, and social comparison in reducing prejudice and have practical implications for designing interventions aimed at mitigating hate language.

Keywords: *Hate language, comprehensive thinking style, social comparison.*

1. Introduction

The rise of digital communication has amplified the prevalence and impact of hate speech, fostering significant social and psychological challenges. Concurrently, critical thinking and social comparison have emerged as vital components influencing individuals' engagement with hate speech and their responses to it. This literature review explores the relationships among language of hate, critical thinking, and social comparison, focusing on their interplay and implications in contemporary society.

1.1. Language of hate

Hate speech, defined as language intended to demean or harm individuals based on group characteristics such as race, gender, religion, or sexual orientation, is a pervasive issue in both offline and online settings (Sue et al., 2007). Its impact extends beyond the targeted individuals, affecting entire communities by fostering division, fear, and hostility. Studies show that hate speech can desensitize individuals over time, normalizing discriminatory attitudes and increasing societal polarization (Soral et al., 2018).

In digital spaces, hate speech is amplified by the anonymity and reach of social media platforms (Jane, 2014). Algorithms that prioritize engagement often exacerbate the problem by promoting polarizing content, creating echo chambers that reinforce hateful ideologies. Victims of hate speech frequently experience psychological harm, including increased stress, anxiety, and diminished self-esteem (Soral et al., 2018). The societal implications of this phenomenon call for an interdisciplinary approach to mitigating its effects.

1.2. Critical thinking

Critical thinking, the ability to analyze and evaluate information systematically, plays a crucial role in countering the spread of hate speech. It enables individuals to identify logical fallacies, recognize bias, and challenge the underlying assumptions of harmful rhetoric (Facione, 1998). Educational interventions that foster critical thinking skills have shown promise in reducing susceptibility to hate speech and misinformation (Kahne & Bowyer, 2017).

Media literacy programs that incorporate critical thinking principles have proven effective in equipping individuals to discern the intent and credibility of online content (Ennis, 2018). Such programs emphasize the importance of evaluating sources, understanding the influence of algorithms, and engaging

in respectful dialogue. By promoting critical engagement, these interventions reduce the likelihood of individuals contributing to or passively endorsing hate speech.

1.3. Social comparison

Social comparison theory, introduced by Festinger (1954), posits that individuals evaluate themselves by comparing their abilities, achievements, and attributes to those of others. In the digital age, social media platforms have intensified this phenomenon by curating idealized representations of others' lives (Chou & Edge, 2012). This intensified social comparison can influence individuals' perceptions and behaviors, including their engagement with hate speech.

Research indicates that upward social comparisons, where individuals compare themselves to perceived superiors, can lead to feelings of inadequacy and resentment (Vogel et al., 2015). Conversely, downward social comparisons, involving perceived inferiors, may reinforce biases and prejudices. In the context of hate speech, social comparison dynamics can either perpetuate hateful ideologies or provoke critical reflection, depending on individual and group factors.

1.4. Intersections and implications

The interaction between language of hate, critical thinking, and social comparison reveals complex dynamics that shape individuals' attitudes and behaviors. Critical thinking serves as a moderating factor, enabling individuals to critically assess the validity of social comparisons and challenge the premises of hate speech (Halpern & Gibbs, 2013). For example, individuals with strong critical thinking skills are less likely to internalize the negative effects of upward social comparisons and more likely to engage constructively with others.

Educational initiatives that integrate critical thinking and social-emotional learning can mitigate the harmful effects of hate speech and social comparison. These programs promote empathy, self-awareness, and respectful communication, fostering resilience against the psychological impact of hate speech (Kahne & Bowyer, 2017). Additionally, technological interventions, such as algorithmic moderation and content warnings, can reduce the visibility and spread of hate speech in digital spaces (Nguyen et al., 2021).

2. Method and design

2.1. Participants

The research was conducted in Tbilisi, Georgia. Participants were recruited from the capital city (70%) and various regions of the country (30%). The sample consisted of 250 individuals from diverse demographic backgrounds, encompassing a wide age range (18 to 75 years), different education levels, and various professional sectors. A face-to-face survey method was employed, where respondents were contacted individually and asked to complete a structured questionnaire.

2.2. Measures

Comprehensive Thinking Style Questionnaire (CTSQ): The CTSQ contains 24 items where respondents rate statements on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The scale comprises four subscales, each demonstrating good reliability in the current sample: Actively Open-Minded Thinking (α = .812; M = 2.8, SD = 0.8); Close-Minded Thinking (α = .826; M = 3.0, SD = 0.9); Preference for Intuitive Thinking (α = .879; M = 3.32, SD = 0.8); Preference for Effortful Thinking (α = .813; M = 3.35, SD = 0.9).

Iowa-Netherlands Comparison Orientation Measure (INCOM): The INCOM measures social comparison using 11 items rated on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The scale differentiates between two dimensions of social comparison: Social Comparison of Abilities (α = .813; M = 2.9, SD = 0.9); Social Comparison of Opinions (α = .753; M = 3.34, SD = 0.6). Each dimension includes a reverse-coded item (Items 5 and 11) to control for acquiescence bias.

Hate Language Scale: A 32-item scale assessed attitudes toward hate language. The scale comprised four subscales addressing hate language directed toward different groups: elderly individuals, women, religious communities, and LGBTQ individuals. Each subscale included two types of items: Direct Hate Language; Reversed Hate Language. Respondents rated statements on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree).

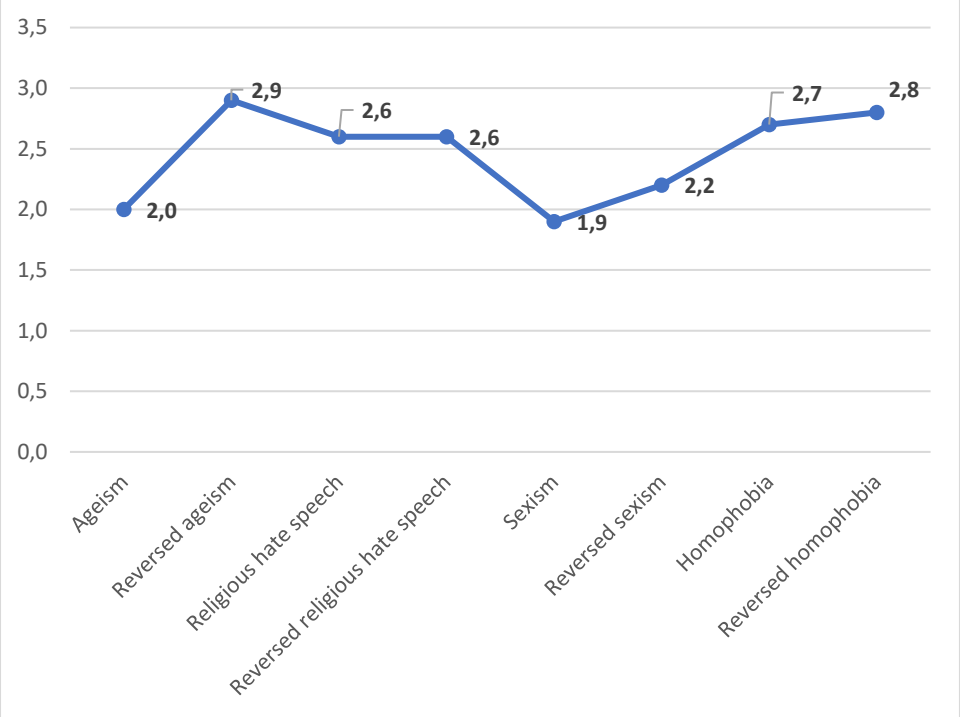
2.3. Data analysis

Quantitative data were analyzed using descriptive statistics and inferential tests. Gender and education level differences were examined. Pearson’s correlation and ANOVA were used to explore relationships among variables.

3. Perception of hate language

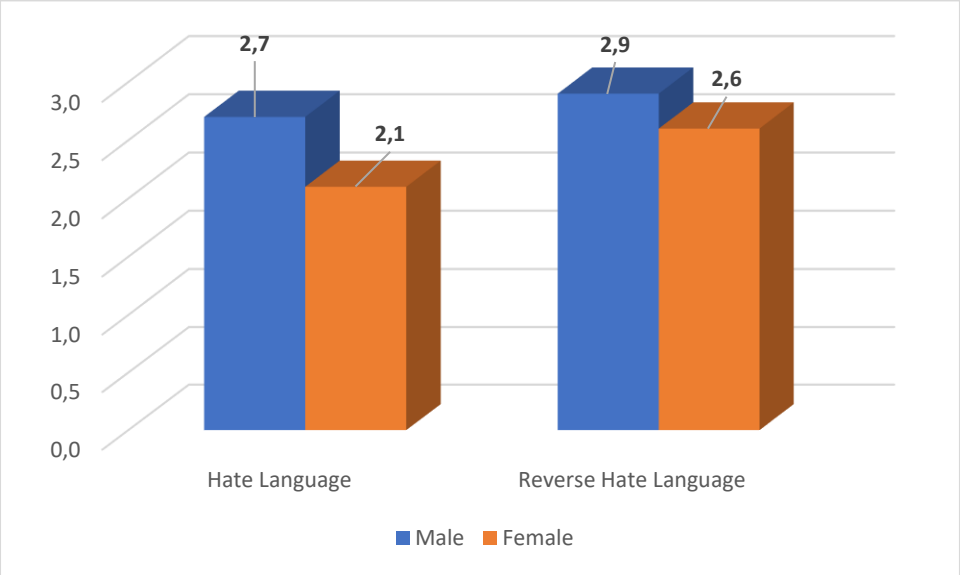
The hate language questionnaire assessed respondents' agreement with hate language statements. Lower scores indicated stronger disagreement with hate language Overall, participants disagreed with hate language, particularly expressions of sexism. However, neutral responses were more frequent for reverse ageism, homophobia, and reverse homophobia.

Figure 1. Attitudes towards different forms of hate language.



Female respondents disagreed more strongly with hate language ($F = 6.641$, $df = 4$, $p < .05$). Reverse statements showed gendered differences only for reverse ageism, where male respondents were slightly more agreeable ($M = 3.04$) compared to females ($M = 2.9$; $F = 6.152$, $df = 4$, $p < .05$).

Figure 2. Attitudes towards different forms of hate language.



ANOVA revealed that education level significantly influenced attitudes toward ageism ($F = 3.269$, $df = 3$, $p < .05$). Post hoc analysis using the Tukey HSD test indicated that respondents with higher education found hate speech less acceptable ($M = 1.9$) compared to those with secondary education ($M = 2.6$).

3.1. Hate language and its connection with comprehensive thinking style and social comparison

Language of hate, both in its direct and reversed expression positively correlated with age, closed minded thinking style and negatively correlated with actively open minded thinking style and preferred effortful thinking. It means, that both direct and reversed hate language was more accepted with the older age and also amongst the respondents having higher scores in closed minded thinking styles. On the contrary, higher the scores in preferred effortful thinking and open minded thinking style, less is the tolerance towards direct and reversed hate language. In addition, direct expression of hate language negatively correlated with social comparison in opinion, implying that higher is the score in social comparison in opinion, less is the tolerance of direct hate language. It can be mean that people for whom it is important for their opinions to be in lone with ideas accepted and spread in their community, more and more social activism in media and social media increases sensitivity towards hate language. But it does not influence sensitivity towards reverse hate language.

Table 1. Hate language and its correlation with age, social comparison and comprehensive thinking style.

		Hate Language	Reversed Hate Language	Age	Social Comparison of Opinion	Close Minded Thinking Style	Actively Open Minded Thinking Style
Hate Language	Pearson Correlation						
	Sig. (2-tailed)						
Reversed Hate Language	Pearson Correlation	.845**					
	Sig. (2-tailed)	.000					
Age	Pearson Correlation	.264**	.252**				
	Sig. (2-tailed)	.001	.002				
Social Comparison of Opinion	Pearson Correlation	-.172*	.080	-.120			
	Sig. (2-tailed)	.035	.329	.144			
Close Minded Thinking Style	Pearson Correlation	.414**	.383**	.330**	-.178*		
	Sig. (2-tailed)	.000	.000	.000	.030		
Actively Open Minded Thinking Style	Pearson Correlation	-.260**	-.273**	-.083	.073	-.402**	
	Sig. (2-tailed)	.001	.001	.315	.374	.000	
Preference for Effortful Thinking	Pearson Correlation	-.435**	-.370**	-.166*	.006	-.196*	.237**
	Sig. (2-tailed)	.000	.000	.042	.943	.017	.004

4. Discussion

The findings highlight significant patterns in attitudes toward hate language across demographic and psychological variables. Female respondents exhibited greater sensitivity toward hate language, which aligns with studies suggesting women often display higher empathy levels (Hoffman, 2008). The gendered response to reverse ageism indicates societal norms that might differently influence perceptions of intergenerational equity.

The relationship between education and attitudes toward ageism underscores the role of education in fostering critical perspectives. This finding supports theories emphasizing the role of education in reducing prejudice (Pettigrew & Tropp, 2006).

Correlations with thinking styles reveal the cognitive processes underpinning tolerance or intolerance of hate language. Actively open-minded and effortful thinking styles, associated with critical

evaluation and cognitive flexibility, reduce acceptance of hate language. Conversely, closed-minded thinking aligns with greater tolerance, supporting previous findings on the rigidity-prejudice link (Adorno et al., 1965).

Social comparison of opinions correlated negatively with tolerance for direct hate language, suggesting that media-driven social norms can influence collective attitudes. This aligns with Festinger's (1954) theory of social comparison, emphasizing the importance of normative alignment in shaping individual behaviors.

5. Conclusion

This study elucidates the complex interplay of demographic, cognitive, and social variables in shaping attitudes toward hate language. The findings emphasize the protective role of education, cognitive openness, and social comparison in reducing tolerance for hate speech. These results have implications for designing interventions to combat hate language, suggesting targeted approaches based on gender, education, and cognitive training to foster greater sensitivity and reduce prejudice. Future research could expand on these findings by exploring longitudinal changes and incorporating qualitative methodologies for deeper insights.

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BALANCING WORK-LIFE TIME: A NEW MEASUREMENT OF CORPORATE WELFARE

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Abstract

In recent decades, corporate welfare has become a central focus in modern organizations. It refers to goods, services, and actions designed to foster individuals' well-being, work, and quality of life. Current socio-cultural shifts lead people, particularly younger individuals and parents, to prioritize work-life balance (i.e., a broad set of policies implemented to enable people to better balance personal and professional time). These policies could support women's participation in the labor market and foster gender equality. Consequently, companies must adapt to attract and retain employees also through welfare policies. It is, therefore, essential to monitor and assess the usage of welfare measures provided by the organization. In this context, the present study aims to offer an initial contribution to evaluating the factorial structure and reliability of a new measurement scale designed to capture perceptions of corporate welfare measures. This scale is agile and capable of assessing how the welfare offerings are perceived in terms of personalization, communication, effective monitoring, and sustainability. Based on a literature review and consultation with a group of experts, nine items were developed to be evaluated using a 5-point Likert scale. An exploratory factor analysis (EFA) was conducted to assess the factorial structure, employing principal axis factoring as the extraction method. The Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity were applied to verify the suitability of the scale for EFA. Eigenvalues greater than 1 and the scree plot were examined to determine the number of factors, with factor loadings exceeding |.40| selected. The KMO and Bartlett's results indicated an adequate sample size. Only one eigenvalue was above 1 (5.69), explaining 63.13% of the total variance, and the scree plot confirmed the selection of a single factor. All factor loadings for the nine items exceeded |.40|. Additionally, the scale demonstrated excellent reliability, achieving a Cronbach's alpha of .92. This tool can be valuable for organizations by accurately measuring employees' perceptions of implemented welfare practices. The results are promising, and future research could confirm the factor structure, also considering the construct and criterion validity. Moreover, corporate welfare could be considered an important organizational resource that, according to the Job-Demands Resources theory, could prevent organizational distress and counterproductive work behaviors (e.g., burnout, exit and neglect behavior) and improve workers' well-being (e.g., work engagement) and performance.

Keywords: *Corporate welfare, welfare measurement, work-life balance, organizational well-being, Job-Demands Resources theory.*

1. Introduction

In recent decades, corporate welfare – initiatives designed to improve employees' comfort, intellectual growth, social well-being, and overall quality of life through services and benefits beyond basic compensation – has become a strategic tool for enhancing well-being and job performance (Patro, 2015). Most benefits are tax-exempt: they increase the purchasing power of employees and their families without increasing taxable income (Venugopal et al., 2011). Literature indicates that non-monetary benefits from employers increase employee motivation, satisfaction, efficiency, and productivity (Alam et al., 2020; Chaubey & Rawat, 2016; DeSouza & Noronha, 2011; Mendis, 2016; Tiwari, 2014; Vinitha, 2020). In addition, a company that prioritizes the well-being of its employees will attract numerous candidates and retain current employees. Thus, welfare improves the image and reputation of the company (Randhawa & Gupta, 2017).

Implementing an effective corporate welfare plan begins with analyzing employee needs through anonymous surveys or interviews to design a package of tailored flexible benefits (Edenred, 2024). These benefits (e.g., childcare facilities, healthcare coverage, supplemental retirement plans, public transportation passes) enable employees to tailor their benefits package within a set budget. Remote working is also considered a form of corporate welfare because it allows for flexible management of daily activities, provides greater autonomy in managing work-related tasks, and facilitates a better work-life balance (People&Change 360, 2024; Sullivan & Lewis, 2001). The seventh Censis-Eudaimon report on corporate welfare in Italy (CENSIS, 2024) highlights a socio-cultural shift in which younger generations prioritize personal well-being over work. Therefore, to attract and retain employees, organizations need to evolve their welfare policies from a reparative approach – supporting vulnerable groups – to an inclusive one that promotes a higher quality of life for all employees (Randhawa & Gupta, 2017). Several studies highlight the increasing demand for flexible work that allows employees to balance their personal and professional lives. Falco et al. (2013) demonstrate that unresolved work-family conflict leads to psychophysical strain, including sleep disorders, depression, and anxiety. In addition, other authors (e.g., Medina-Garrido et al., 2020; Payne et al., 2011) show that work-life balance policies reduce absenteeism, turnover, and work-family conflict while improving well-being in the workplace.

A key issue for organizations is transitioning from a compulsive consumer society to a sustainable one. Therefore, corporate welfare should promote environmental (e.g., sustainable mobility services) and social sustainability (e.g., good health and well-being, gender equality, quality education).

Finally, organizations also need to measure the tangible results of welfare policies to adjust and update them if they do not achieve the expected results (CENSIS, 2024; NoiWelfare, 2024). With particular reference to the measurement of welfare policies, several studies (Jayanthi & Ilangovan, 2019; Munywoki, 2019; Sasirekha et al., 2021; Vinitha et al., 2020) report some tools aimed at measuring perceptions of satisfaction with specific tangible and intangible welfare programs (e.g., corporate housing, medical services, flexible work arrangements). However, it may be useful to have a tool that can measure the effectiveness of a corporate welfare plan from the needs of employees during the design phase of the plan, its implementation, and dissemination through accurate monitoring from a sustainability perspective (CENSIS, 2024; Edenred, 2024).

The present study, part of a larger research project, aims to provide a first contribution to the evaluation of the factorial structure and reliability of a scale designed to assess employees' perceptions of the critical elements that contribute to the usefulness of a corporate welfare plan.

2. Method

2.1. Participants and procedure

After providing informed consent, participants were administered a self-report questionnaire online via Google Forms. Participation was voluntary and anonymous. The sample consisted of 154 participants from Italy, of whom 53.2% were women. Most participants (53.9%) were aged 18 to 29, while the remaining 46.1% were 30 or older. Regarding educational background, 44.5% held a high school diploma, 47.7% had completed university or postgraduate studies, and 7.8% had attained an elementary or middle school diploma. Regarding employment status, 84.9% were engaged in paid work, 8.2% were self-employed, and 6.9% were unemployed or retired. Among the employed participants, 76.5% worked full-time. Concerning marital status, 60.7% were unmarried, 36.3% were married or cohabiting, and 2.6% were divorced or separated.

2.2. Measure

The decision to propose a new instrument stem from the literature, which revealed that existing tools on corporate welfare primarily address employees' satisfaction or their awareness of benefits, overlooking critical dimensions for an effective welfare plan, and following a consultation with a group of experts. The proposed scale consists of nine items rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), for example: "*The welfare measures offered by my organization meet my needs (e.g., flexible working hours)*".

2.3. Data analysis

Data were analyzed using SPSS 29 (IBM Corp., 2023). An exploratory factor analysis (EFA) was conducted to evaluate the factorial structure of the scale, employing principal axis factoring as the extraction method. Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity were used to assess the scale's suitability for EFA. A KMO value above .80 and a significant p-value ($p < .05$) in Bartlett's test indicate an adequate sample size and the feasibility of EFA. Eigenvalues greater than 1 and the scree plot were

examined to determine the number of factors, with factor loadings exceeding |.40| selected. Furthermore, Cronbach's alpha was calculated to assess reliability.

3. Results

The KMO test value (.90) and Bartlett's test of sphericity ($\chi^2(36) = 861.17$, $p < .001$) indicated that the sample size was adequate, and the data were suitable for EFA. Only one eigenvalue exceeded 1 (5.69), explaining 63.13% of the total variance. The scree plot confirmed the selection of a single factor (Figure 1).

Figure 1. Scree plot.

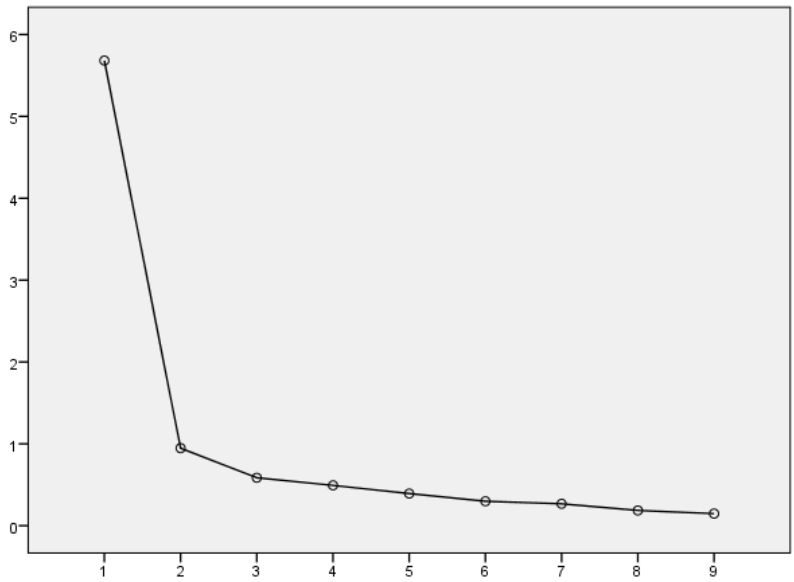


Table 1 presents the factor loadings for the nine items in the scale. All loadings were above |.40|. Moreover, the scale demonstrated excellent reliability, achieving a Cronbach's alpha of .92.

Table 1. Factorial matrix.

Factorial matrix	
	Factor 1
Item 6	.89
Item 9	.88
Item 3	.84
Item 7	.82
Item 2	.77
Item 5	.72
Item 1	.70
Item 8	.66
Item 4	.57

4. Discussion and conclusion

This study proposed a new tool for measuring employees' perceptions of corporate welfare practices and evaluated its factorial structure and reliability. The results suggest that the scale exhibits a unidimensional structure and demonstrates strong reliability.

This study has several limitations. First, using a convenience sample limits the generalizability of the findings to broader populations. In addition, the EFA is an initial contribution to validating a new scale, but it is not sufficient for its development. For future research, the authors conduct a confirmatory factor analysis (CFA) to validate the unidimensional factor structure of the scale and examine its psychometric properties, including construct validity (both convergent and divergent) and predictive validity.

Finally, this research may provide a starting point for studies that – based on the Job Demand-Resources Model (Bakker et al., 2023; Demerouti et al., 2001) – explore the direct and indirect relationships between corporate welfare (as a job resource) and other organizational outcomes, such as work engagement, burnout, performance, and withdrawal behaviors.

Organizations that want to increase employee satisfaction and productivity should invest in personalized, well-designed welfare programs that are effectively communicated and regularly monitored. In a competitive labor market, flexible benefits enhance quality of life and strengthen employer branding. Meeting the evolving needs of employees requires support for time management, work-life balance, health and mental well-being, and assistance with personal or family challenges. Sustainable welfare is also key to competitiveness (Treu, 2023).

The tool developed in this research could enable companies to measure employee perceptions of implemented welfare practices accurately. The tool identifies areas for improvement through a data-driven approach, helping companies adapt policies to meet the (ever-changing) needs of employees and avoid wasting resources. Finally, the data collected could facilitate constructive discussions with unions to address employee priorities effectively.

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ETHNOPSYCHOLOGICAL FEATURES OF RETRAUMATIZATION

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Abstract

The study of the psychological states that develop from chronic psychological–traumatic situations around the world is one of the main challenges in psychological science. In light of the Nagorno-Karabakh wars, the forced displacement of ethnic Armenians, and severe, recurring traumatic events, we view re-traumatization among ethnic populations to be a highly important subject of study. The focus of this study is individual re-traumatization. The aim is to examine the ethnopsychological characteristics of the relationship between PTSD—which develops as a result of re-traumatization—and coping strategies. To achieve this aim, we used observation and clinical interview methods, along with the Mississippi Scale for Combat-Related PTSD (M-PTSD) and the Ways of Coping Questionnaire (WCQ) by Folkman and Lazarus (1988). The study involved 30 Armenian combatants aged between 55 and 75 (n = 30), who participated in the Nagorno-Karabakh wars (1991–1994, 2016, 2020). This group includes individuals who experienced an earthquake, underwent forced displacement, and are generations of those affected by genocide; they continue to serve in combat duty under conditions of ongoing re-traumatization. The study revealed relationships among the factors obtained from the methodologies. According to the analysis of the M-PTSD data, among the participants (n = 30), 13 are well-adjusted (n = 13, Max = 86, Min = 65), approximately 15 have adaptation disturbances (PSYCH) (n = 15, Max = 108, Min = 91), and 2 of the combatants have PTSD (n = 2, Max = 134, Min = 133). According to the data obtained from the WCQ methodology, the following average scores were observed: Confrontive coping (avg = 10.7), Distancing (avg = 11.3), Self-controlling (avg = 13), Seeking social support (avg = 11.6), Accepting responsibility (avg = 7.03), Escape-Avoidance (avg = 10.7), Planful problem-solving (avg = 12.2), Positive reappraisal (avg = 13.06). There are positive and significant correlations between PTSD and Confrontive coping ($r = 0.38$, $p < 0.01$), PTSD and Distancing ($r = 0.37$, $p < 0.01$), PTSD and Self-controlling ($r = 0.6$, $p > 0.001$), PTSD and Accepting responsibility ($r = 0.33$, $p < 0.05$), PTSD and Escape-Avoidance ($r = 0.31$, $p < 0.05$), PTSD and Planful problem-solving ($r = 0.45$, $p < 0.01$), as well as PTSD and Positive reappraisal ($r = 0.41$, $p < 0.01$). Negative correlational relationships were found between being well-adjusted and Self-controlling ($r = –0.32$, $p < 0.05$), well-adjusted and Planful problem-solving ($r = –0.39$, $p < 0.01$), and well-adjusted and Positive reappraisal ($r = –0.405$, $p < 0.01$). During clinical interviews, it became clear that many participants had frequently experienced anxiety about the recurrence of traumatic events such as war, deportation, genocide, and earthquakes. They also reported sleep disorder, flashbacks, grief over the loss of comrades and family, feelings of guilt, and difficulties with attention, memory, and eating. In addition, many participants experienced physical symptoms such as asthma, allergies, heart arrhythmias, skin issues, gastrointestinal and reproductive problems, cardiovascular weakness, nervous system issues, and severe headaches. Traumatization is based on ethno-cultural and national socio-psychological factors, while re-traumatization has its roots in transgenerational and collective unconscious influences. As a result of re-traumatization, only a few individuals develop PTSD; instead, most people use coping strategies and generally adapt well despite repeated traumas.

Keywords: *War, forced displacement, PTSD, ethnos, trauma.*

1. Introduction

The study of psychological states resulting chronic psychological and traumatic situations occurring worldwide is one of the pressing issues in contemporary psychological science. Military conflicts are fraught with complex socio-economic, political, and socio-psychological consequences. In this context, given the conditions of the Artsakh wars, the displacement of ethnic Armenians, and acute and recurring psychotraumatic events, we consider it essential to study the retraumatization of the

population as a consequence of war and forced displacement. In psychology retraumatization is understood either as revictimization (a series of successive traumas) or as the "reactivation" of emotions and symptoms associated with past trauma. The relevance of this topic is determined by ongoing military conflicts, forced displacements, and their psychological consequences, which affect people both at individual and collective levels.

It should be noted that the post-traumatic stress disorders resulting from recurring traumatic events or the reactivation of past traumatic experiences, as causes of collective trauma formation, haven't been sufficiently studied from socio-psychological and, specifically, ethno-psychological perspectives. Collective trauma, as a psychological and emotional injury resulting from the shared experience of a traumatic event, remains in the collective unconscious and is transmitted to subsequent generations. This study examines the ethno-psychological characteristics of post-traumatic stress disorders and retraumatization that arise from ongoing, recurring socio-psychological traumas, historically recurring, and intergenerational traumatization.

As we know, traumatic events (such as war, captivity, loss, disability, sexual violence, displacement, etc.) experienced by individuals prior to participating in combat contribute to the intensification of their negative impact (retraumatization). As a result of retraumatization, over time, an individual may develop emotional numbness as a form of psychological resistance. Consequently, the repetition of traumatic experiences complicates the process of coping with the trauma, including the PTSD symptoms.

In fact, at the level of an ethnos, the nature of the formation of a traumatic psychological structure may be determined by the forms of trauma present in the collective unconscious of the population, such as genocide, forced displacement, earthquakes, recurring wars, and their characteristic features. Therefore, the specifics of retraumatization at the ethnos level are conditioned by the historically experienced traumas of that ethnos. Hence, in the context of the historical experiences of the Armenian people and the processes of traumatization and retraumatization, we emphasize the importance of studying the ethno-psychological characteristics of the population's retraumatization.

The concept of "traumatization" is often equated with "retraumatization" (Duckworth & Follette, 2012). Retraumatization stems from the psyche's traumatic experiences. Psychological trauma often goes unnoticed or insufficiently recognized in society. It encompasses a wide spectrum of events, from natural disasters and wars to interpersonal conflicts, leaving a deep mark on the human psyche and contributing to the development of borderline states. As a result, the development of trauma is influenced, on the one hand, by the intergenerational transmission of historical and cultural traumatic experiences and, on the other hand, by the presence of childhood traumas in an individual (Stolorow, 2016).

Fischer describes psychological trauma as the demobilization of an individual's defense mechanisms, a decrease in sensitivity, and the experience of an imbalance between threatening circumstances and the individual's ability to cope with them. Traumatized individuals are often characterized by feelings of loss and anxiety, a frustrated mental state, and a sense of unmet needs (Kalshed, 2011). Kuz'mina notes that personal development often occurs through the experience of trauma, supported by studies showing that individuals who have faced trauma in the past are less vulnerable in stressful situations (Kuz'mina, 2023).

The absence or loss of personal resources in a traumatic situation plays a key role in the intergenerational transmission of retraumatization. The chain of resource loss lies at the core of intergenerational retraumatization (Hobfoll, 1988). Transgenerational trauma, as a component of biogenic trauma, is characterized by the repetition of the unconscious patterns of the lineage. Transgenerational trauma is passed down through multiple generations, shaping recurring life scenarios among family members (the ancestor syndrome) (Yalom, 2014).

Retraumatization triggers memories of past threats and the repeated loss of loved ones, often accompanied by enduring feelings of fear, terror, and helplessness (Isaeva & Sutaeva, 2016).

The psychological consequences of traumatic experiences are not uniform; their subjective impact varies depending on the nature of the traumatization and the individual's unique characteristics (B'yudzhental' Dzh., 2001).

Brown and co-authors, in their article, highlight that prior trauma may predispose an individual to heightened reactivity to new traumatic events, thereby increasing the likelihood of retraumatization (Pazderka et al., 2021).

Combat trauma is one of the most common sources of retraumatization, occurring in combat zones. Factors that intensify PTSD symptoms and raise their likelihood include the duration of time spent in war zones, the frequency and type of involvement in combat operations, and the specific nature of the trauma (e.g., combat injuries, captivity, displacement). Conversely, the shorter the period spent in a war zone and the lower the intensity of exposure, the rarer PTSD occurs, and recovery is easier. Repeated participation in wars further exacerbates PTSD manifestations (Kolpakova, 2022).

2. Design and method

2.1. Study design

To achieve the objectives of our research, we employed observation, clinical interviews, the **Mississippi Scale for Combat-Related PTSD (M-PTSD)**, and the **Ways of Coping Questionnaire** by Folkman & Lazarus (1988). The study revealed connections between the factors identified through these methodologies. A total of 30 combatants (n=30), all Armenians aged 55 to 75, participated in the study. The participants were veterans of the Artsakh wars (1991–1994, April 2–5, 2016, and the 44-day war of 2020). Some of them have varying degrees of disability but continue to serve on border duty, remaining in conditions of ongoing retraumatization.

2.2. Data analysis

Through observation and clinical interviews, we gathered information about the participants' family status, the presence of psychosomatic symptoms, sleep disorders, eating behavior disorders, feelings of guilt, and the presence or absence of physical trauma. The participants described war as an evil, a futile act causing the death of innocent people, an act of service to the nation and homeland, patriotism, or a catastrophe.

During the clinical interviews, it became clear that some participants had been dealing with these issues since the First Artsakh War, while others had developed them after the 1988 Spitak earthquake. They reported that following these traumatic events, they frequently experienced anxiety related to reliving the trauma, sleep disorders (difficulty falling asleep, restless sleep, hypersensitivity to minor stimuli, and the sensation of being back on the battlefield while sleeping), flashbacks, grief over the loss of comrades and family members, feelings of guilt (questioning why they survived when their comrades or family members did not), attention and memory impairments, eating behavior disorders, and psychological dependencies.

The participants often experienced symptoms such as constipation, allergies, nausea, skin issues, gastrointestinal and digestive problems, cardiovascular insufficiency, nervous system disorders, acquired diabetes, and acute kidney pain. Medications were typically ineffective in alleviating acute headaches, lowering high blood pressure, resolving constipation, or addressing other problems.

The participants emphasized the issue of national traumas, such as displacement, genocide, wars, and earthquakes. They explained these traumas through ethnocultural, national socio-psychological, and religious factors, highlighting how their continuity, recurring narratives, and historical-cultural interpretations are passed down through generations, creating transgenerational connections.

3. Results

3.1. Results obtained from the first and the second scale

Below, we present the data obtained from the Mississippi Scale for Combat-Related PTSD (M-PTSD) methodology (see Table 1).

Table 1. (n=30).

Validation groups	N	Max	Min	SD
Well-adjusted	13	86	65	39.67
Psych	15	108	91	48.97
PTSD	2	134	133	33.87

Below, we present the data obtained from Ways of Coping Questionnaire methodology by Folkman, S., & Lazarus, R. S. (1988) (see Table 2).

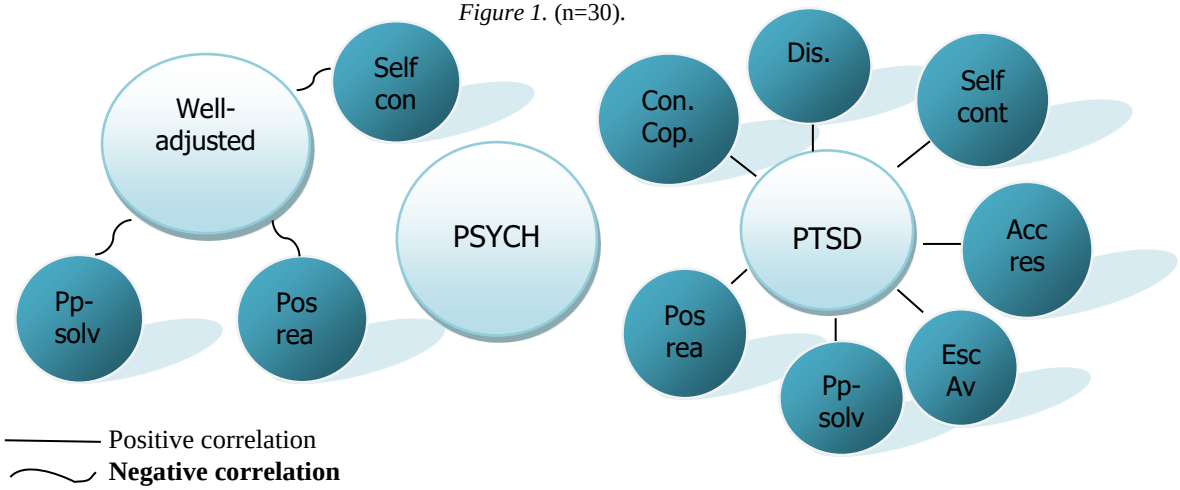
Table 2. (n=30).

Coping scales	Avg	Max	Min
Confrontive coping	10.7	15	6
Distancing	11.3	16	6
Self-controlling	13	21	9
Seeking social support	11.6	17	5
Accepting responsibility	7.03	12	1
Escape-Avoidance	10.7	18	3
Planful problem-solving	12.2	18	6
Positive reappraisal	13.06	18	5

3.2. Results obtained from the correlation analysis

Having the indicators from both methodologies, we present below the direct and inverse correlations between the data obtained from the **Mississippi Scale for Combat-Related PTSD (M-PTSD)** and the **Ways of Coping Questionnaire** by Folkman & Lazarus (1988) (see Figure 1).

Figure 1. (n=30).



There are positive and significant correlations between PTSD and Confrontive coping ($r = 0.38$, $p < 0.01$), PTSD and Distancing ($r = 0.37$, $p < 0.01$), PTSD and Self-controlling ($r = 0.6$, $p > 0.001$), PTSD and Accepting responsibility ($r = 0.33$, $p < 0.05$), PTSD and Escape-Avoidance ($r = 0.31$, $p < 0.05$), PTSD and Planful problem-solving ($r = 0.45$, $p < 0.01$), as well as PTSD and Positive reappraisal ($r = 0.41$, $p < 0.01$). Negative correlational relationships were found between being well-adjusted and Self-controlling ($r = –0.32$, $p < 0.05$), well-adjusted and Planful problem-solving ($r = –0.39$, $p < 0.01$), and well-adjusted and Positive reappraisal ($r = –0.405$, $p < 0.01$).

According to the results, only 2 out of 30 combatants displayed PTSD symptoms. The higher the PTSD score, the more pronounced the coping strategies used by the combatant. Experiencing a traumatic event, they either strive to overcome difficulties or reduce and counter/avoid its negative consequences.

The following direct correlations were found between the seven coping strategies and PTSD:

- **Confrontive coping**: Combatants using this strategy exhibit impulsivity and conflict-proneness due to traumatic events. The predictability in their actions reduces and they focus on overcoming negative emotions rather than resolving the traumatic situation itself. They display inadequate goal-directed behavior and rationality in traumatic situations.
- **Distancing**: Combatants using this strategy devalue their experiences to reject traumatic memories and negative emotions. They avoid topics related to the traumatic event, often treating them with humor or distracting themselves with various activities. This increases the likelihood of devaluing their experiences and ignoring the possibilities for overcoming the trauma.
- **Self-controlling**: Combatants employing this strategy deliberately suppress emotions stemming from traumatic events, leading to PTSD symptoms. They overly control their behavior and hide their mental state. As a result, they are often perceived as emotionally distant. They tend to distrust others, conceal their feelings and anxieties out of fear of self-disclosure, and show high self-demand.
- **Accepting responsibility**: This strategy involves a heightened sense of responsibility regarding behavior and decision-making. Combatants using this strategy are characterized by high levels of self-criticism and guilt, even though they often seek responsible roles. After taking on responsibilities, they analyze every action and link even minor mistakes to their own flaws. They frequently feel guilty about the deaths of comrades in war, associating it with their perceived failures.
- **Escape-Avoidance**: This strategy involves denial or rejection of the war as a reality, often describing it as a "bad dream." Combatants avoid taking responsibility for addressing challenges and may exhibit hyperarousal, passivity, or impatience. Some use alcohol or drugs to relieve psychological tension.

- **Planful problem-solving**: This strategy aims to overcome traumatic situations through a purposeful analysis of the situation and behavior, development of problem-solving strategies, and planning based on past experiences and available resources. However, combatants with PTSD symptoms often exhibit excessive rationality, lacking emotionality, intuition, and spontaneity in their behavior.
- **Positive reappraisal**: This strategy seeks to overcome negative emotions related to the problem by reframing them positively as a stimulus for personal growth. It reflects a transcendental orientation to the problem, emphasizing self-development.

Inverse correlations were observed between **Well-adjusted** combatants and the **Self-controlling**, **Planful problem-solving**, and **Positive reappraisal** strategies. This can be explained by the fact that well-adapted combatants do not rely on these strategies. Their emotions, cognitive sphere, and behavioral manifestations are balanced. They have developed self-regulation skills, can build healthy interpersonal relationships, and effectively address their own problems.

4. Discussion and conclusion

It can be concluded that the prevalence of PTSD resulting from retraumatization is relatively low. This is largely due to the use of coping strategies and the high level of adaptation combatants develop after facing multiple traumas. Combatants with PTSD often face not only universal traumatic events but also deeply personal losses (grief over the loss of a child, divorce, etc.). Despite these challenges, they tend to use various coping strategies to handle their symptoms.

After experiencing trauma, combatants commonly report anxiety from reliving the events, sleep disturbances, flashbacks, grief over the loss of comrades or loved ones, feelings of guilt, difficulty concentrating, memory problems, disordered eating behaviors, and psychological dependencies. Common physical symptoms among participants included constipation, allergies, nausea, skin problems, gastrointestinal and digestive issues, cardiovascular insufficiency, nervous system disorders, acquired diabetes, and acute kidney pain.

Traumatization is based on ethno-cultural and national socio-psychological factors, while re-traumatization stem from transgenerational and collective unconscious influences. As a result of re-traumatization, only a few individuals develop PTSD; instead, most people use coping strategies and generally adapt well despite repeated traumas.

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THE IMPACT OF SOCIAL NETWORK CONTENT ON AUTO-AGGRESSION AND SELF-HARMING BEHAVIOUR IN ADOLESCENTS

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Abstract

Numerous research have shown the rate of non-suicidal self-harm among young people ranges from 14% to 21%. Those who self-harm have a risk of suicide that is thirty times higher than the general population. Teens who self-harm and have suicidal tendencies look to social media for support, escape, or even inspiration. However, social media is full of disruptive content and risks of dangerous interactions.
The objective of the research was to identify the prevalence and accessibility of destructive content on different social media platforms for adolescents, and how this content can lead to auto-aggression and self-harming behaviour. We first reviewed 25 studies on the impact of destructive content on social media on the escalation of self-harming and suicidal behaviour in adolescents. We then conducted a content analysis of various social media for self-destructive content. In addition, we surveyed 236 adolescents between the ages of 12 and 19 to find out how often they encounter such content and how it affects them.
According to a review of research and content analyses, there is a wide use of different ways of showing self-harm on social media - a combination of self-harm photos, videos, text images, etc. Moreover, images of more serious self-harm attracted more attention and comments. Viewing self-harm-related images online may increase the risk of self-harm. Social networks do host harmful content: up to 71.2% of survey participants said they had encountered such content without being specifically asked to do so. It is alarming that 22% of the teenagers surveyed thought about doing something risky, hurting themselves, hurting someone, or even committing suicide.
From the results of previous and current studies, it is more than obvious that the destructive content of social networking sites affects the behaviour of adolescents, namely provoking auto-aggression and self-harm, normalises and popularises such behaviour. The results of the questionnaire survey and analysis of the content of social networking sites indicate the need to strengthen content censorship and tighten age restrictions. Of course, we need to hold classes and training on media education for children, parents and teachers to help form the right attitude to destructive content among teenagers.

Keywords: *Self-harming, auto-aggression, suicidal behaviour, destructive content, social media.*

1. Introduction

Rates of mental health problems as well as self-destructive behaviours such as self-harm, suicidal thoughts and behaviour among adolescents have increased over the last two decades (Joseph et al., 2022; Wiens et al., 2020; Walrave et al., 2022). This has justifiably led to fears that the deterioration of adolescent mental health is linked to their increased use of social media (Ivie et al., 2020; Keles et al., 2019).

As of October 2024, there were 5.52 billion internet users worldwide, which amounted to 67.5% of the global population. Of this total, 5.22 billion, or 63.8% of the world's population, were social media users. The most active and engaged users are teenagers and young adults.

A 2017-2019 survey conducted by Masaryk University in Brno as part of the EU Kids online 2020 study showed that Czech children aged 9 to 11 spent around two hours a day online, while children aged 15 to 16 spent more than four hours a day online. At this age (10-15 years), half of young people are online almost constantly. The remaining half go online several times a day. Social media have become an integral part of our lives. They simplify and expand opportunities for communication, development and self-realisation. Social sites are filled with informative, creative, educational and entertaining content. Users can easily maintain relationships, find new friends and business partners, share content, and create communities of interest. Social networks have also become a source of support and inspiration, useful

information and safe, anonymous communication for users facing mental health problems, neurodevelopmental disorders or disabilities (Frison & Eggermont, 2016). However, internet surfing has a dark side.

Numerous studies have confirmed the link between anxiety, depression, bipolar disorder, suicidal behaviour and self-injury in adolescents with their persistent, particularly problematic use of social media (Twenge et al., 2022; Ivie et al., 2020; Keles et al., 2019). A large-scale nationwide cross-sectional study of 11,356 adolescent students in schools from eleven EU countries found multiple increases in the prevalence of anxiety, depression, self-injurious and suicidal behaviour among adolescents with problematic and pathological (addictive) internet use (Kaess et al., 2014). In the maladaptive internet-users group, 17.1% were identified with moderate to severe depression and 16.4 % with moderate to severe anxiety and in the pathological internet-users group, 33.5 % reported moderate to severe depression and 27.6 % reported moderate to severe anxiety compare with only 5% in the adaptive internet-users group. These results indicate that the prevalence of self-harm behavior was almost three times higher among maladaptive users (12.2 %) and almost five times higher among pathological users (22.2 %) compared to adaptive users (4.5 %). The proportion of suicidal ideas was two and a half times higher among maladaptive users (31.9%) and three times higher among pathological users (42.3%) compared to adaptive users (12.7%), while suicide attempts were almost four times higher among maladaptive users (1.1%) and ten times higher among pathological users (3.1%) compared to adaptive users (0.3%).

The rate of non-suicidal self-harm among young people ranges from 14% to 21% compared to just 6% of adults, and onset typically occurs around age 13 or 14. (Memon et al., 2018; Klonsky et al., 2014). Teenage self-mutilation is a symptom of serious underlying distress that increases the long-term risk of suicide. Those who self-harm have a risk of suicide that is thirty times higher than the general population. The Internet is full of dangers and harmful content. Teens who self-harm and have suicidal tendencies look to social media for support, solution, escape, or even inspiration. Destructive content on social media normalizes self-harm while encouraging teens to initiate this behaviour and wound themselves with increasing severity over time. It can escalate and lead to the end of a young person's life.

2. Objectives

The objective of the research was to identify the prevalence and accessibility of destructive content on different social media platforms for adolescents, and how this content can lead to auto-aggression and self-harming behaviour.

3. Methods

First, we reviewed 25 research on the impact of destructive content on social media on the emergence and growth of self-harming and suicidal behaviour among adolescents. We then conducted content analyses on various social media platforms using different search terms to determine the extent to which content related to self-harm, auto-aggression. In addition, we surveyed 236 teenagers aged 12 to 19 (132 boys and 104 girls) to find out how often they were exposed to content showing various forms of self-destructive behaviour. The questionnaire also contained questions to determine the extent of social media engagement and adolescents' control over this behaviour. This part of the survey was aimed at identifying signs of problematic social media use.

4. Main results

4.1. Research and content analysis

The research analysis helped to identify factors associated with social media threats that can be a source of distress and affect the mental well-being of adolescents and lead them to self-harm or other self-destructive and risky behaviours such as suicidal behaviour, anorexia, or alcohol or drug use. These include: 1) cyberbullying, 2) sexual harassment, 3) discrimination on racial, national, religious or other grounds, 4) unauthorized sharing of sensitive material (e.g., sexually explicit images), 5) phishing attempts, 6) misinformation, 7) sale or distribution of drugs, 8) harmful or dangerous content that demonstrates violence, self-harm or suicidal behaviour, 9) content that negatively affects body image (Lahti et al., 2024).

According to the review of studies and content analysis, social networking sites are widely used to display self-harm in a variety of ways - a combination of photos of direct self-harm, video recordings, text images, etc. Memon et al. (2018) further write that, "Of these 100 YouTube videos, 80% had

unrestricted access, meaning that users under the age of 18 could watch the videos, 57% lacked trigger warnings, and 7% were pro-suicide. 51/100 videos had a melancholic tone, while 23/100 videos had an encouraging tone. The most common method of self-harm was cutting, which appeared in 64 videos, and the most common area of injury was hands and wrists, which appeared in 68 videos." According to this research, it is clear that such content can trigger, promote, perpetuate or exacerbate self-harm and suicidal behaviour. Shanahan et al. (2019) state that, "The results of our study show that social networking sites are widely used to display self-harm in a variety of ways - a combination of photos of direct self-harm, text images, photos of people, photos of objects, selfies, collages, archival photos, and creations such as drawings or cartoons." Viewing images related to self-harming behaviour on the internet may increase the risk of self-harm. 32.5% of participants in one of the research performed the same or similar type of self-harm which they saw on Instagram. Images depicting more severe self-harm elicited more comments or attention than images of less severe injuries. In the comments, self-harm was often normalized as an effective coping strategy for negative emotions. Users also reinforced image sharing by showing admiration, praising or encouraging other users to create and/or upload similar images, and showing empathy and offering help (Susi et al., 2023).

Memon et al. (2018) state that, "A recent study analyzed 1115 public posts found using the search term "#cutting" on Twitter, Tumblr, and Instagram. Approximately 60% of these posts displayed graphic content in the form of blood, cuts/scars, injuries, self-harm equipment, or active self-harm. "I feel depressed," "depression" was the most common mental health mention associated with 75% of these #cutting posts. In addition, 40% posts referenced eating disorders with an expressed desire of the unhealthy “thin ideal,” and 20% posts referenced anxiety."

The analysis of the results of studies of destructive content in various social networks as well as our content analysis revealed different types of content related to self-destructive behaviour such as self-harm, suicidal behaviour and pathological weight loss up to anorexia. This content is in the form of videos, photographs, graphic and animated images and text messages. Online communities have also been found on social networks, whose members practice and promote these behaviours. To circumvent censorship and bans on self-harm and suicidal content, it is hidden behind ambiguous hashtags, as described for example in one research of content on Instagram. They identified 10 ambiguous nonsuicidal self-injury (NSSI) hashtags in a sample of 201 posts. NSSI terms included #blithe, #cat, and #selfinjuryy. We discovered a popular image that described the broader community of NSSI and mental illness, called “#MySecretFamily.” Only one-third of the relevant hashtags generated Content Advisory warnings (Moreno et al., 2016).

4.2. Questionnaire results

The first 10 questions of the questionnaire were aimed at identifying the degree of participants' involvement in using social networks. According to the results of the questionnaire, no signs of problematic use or addiction were found. Positive responses were only prevalent in the gratuitous use of social networking sites and feeling connected to others.

Social networking sites do indeed depict harmful content, with up to 71.2% (Figure 1) of respondents answering that they had encountered such content, and they did not search for it themselves, but they came across it by chance. Instagram (45.2%) and TikTok (42.8%) were the leaders in the frequency of detection of destructive content (Figure 2). Videos (88%) and pictures (59.5%) got the highest percentages. 14.2% chose "Online communities" and 19% chose "Other". It is alarming that 22% of the teenagers surveyed thought about doing something risky, hurting themselves, hurting someone, or even committing suicide.

Figure 1. Have you seen content on the Internet that showed self-harmful behaviour?

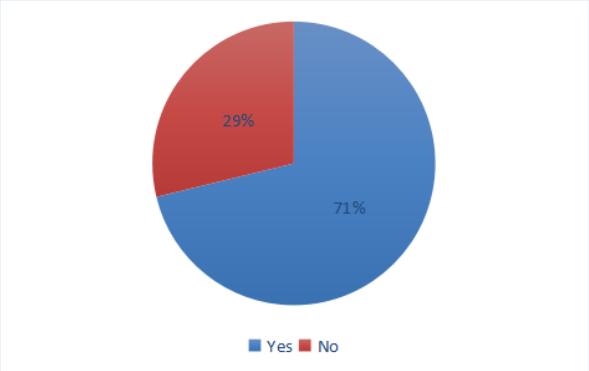
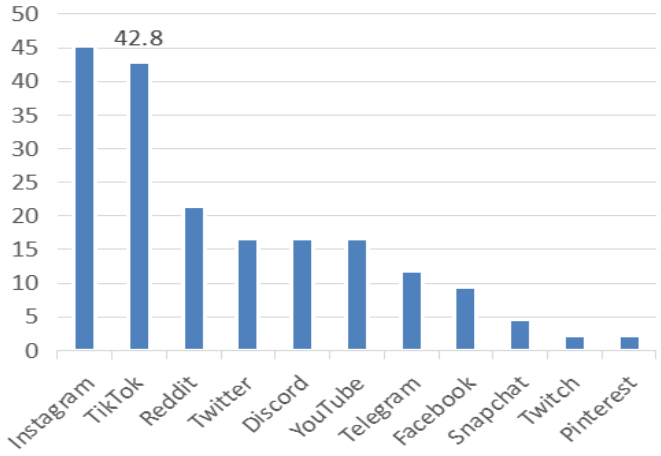


Figure 2. If you came across content that showed self-harmful behaviour, on which social network was it posted?



In response to the appearance of destructive content, participants most often experienced the following emotions: was 'disgust' (40.4%), followed by 'no reaction' (33.3%), 'fear' (19%), 'curiosity' (16.6%) and 'other' (28.5%). Some people wrote for the 'other' option that such content evoked negative reactions in them - mostly sadness. Some even wrote that when they first encountered such content they were afraid and curious. The more they saw such content, the more they got used to it and now it does not provoke any reaction.

5. Discussion

Growing evidence from various research consistently reveals both positive and negative effects of social media. On the one hand, social media can provide support, strengthen bonds, and promote positive interactions (Frison & Eggermont, 2016). On the other hand, their excessive use and exposure to negative content is associated with increased anxiety, depression, feelings of loneliness and self-destructive behaviour (Twenge et al., 2022; Keles et al., 2019). Systematic reviews and meta-analyses have shown that the relationship between social media use and mental health is complex and depends on various factors, including the type of platform used, individual differences of users, type of content and context of social interactions (Smahel et al., 2020; Arendt et al., 2019; Lahti et al., 2024). The findings suggest that while social media can be a source of distress for some, it can also serve as a valuable tool for others, demonstrating the low informativeness of research on the associations with mental health of general categories such as adolescents' social media use or screen time. In future research, it is important for us to focus more on exploring which specific content and type of social media interactions contribute to deteriorating mental health and provoke disruptive behaviour in adolescents.

6. Conclusions

From the results of previous and current studies, it is more than obvious that the destructive content of social networking sites affects the behaviour of adolescents, namely provoking auto-aggression and self-harm, normalises and popularises such behaviour. Another finding that confirmed the above studies in the theoretical part was that indeed social networking sites are visited by children under 15. For example, as reported by the interviewees, 21.4% had encountered self-harm content on Reddit. According to the questionnaires, these were children between 12 and 15 years old. Reddit has an age limit of 17+. Clearly, this restriction is not a barrier to a minor signing up for this network.

The results of the questionnaire survey and analysis of the content of social networking sites indicate the need to strengthen content censorship and tighten age restrictions. It cannot and should not be the case that 71.2% of respondents encountered destructive content without intentionally searching for it. The content must be of high quality and have a positive and motivating character.

Effective prevention is to conduct media education classes and training for teenagers, teachers and parents to raise awareness of social media threats and develop skills for safe online behaviour. We should explain to children that we are particularly vulnerable when we are nervous, depressed, tired, sad, bored, stressed or have experienced trauma. In such a state we are particularly sensitive and need to be

extremely vigilant, as harmful content can have a very negative effect on us at such times. Also, our prevention efforts should focus on improving mental health and the quality of relationships in the family and school.

The limitation of this study is a small sample of survey participants. To change this dangerous situation at the interstate level, we must provide the necessary evidence and conduct research in different countries with numerous participants.

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AUTONOMY SUPPORT AND ALCOHOL CONSUMPTION AMONG YOUNG ADOLESCENTS: THE MEDIATING ROLE OF SELF-ESTEEM

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Abstract

Introduction: Research has shown that parenting styles that support autonomy are linked to numerous positive developmental outcomes, including higher self-esteem and fewer health-risk behaviors. Autonomy support from both mothers and fathers plays a critical role in their children's development; however, previous findings on this subject, irrespective of parent-child gender dyads, have been inconsistent. *Aim*: This study aims to explore the association between autonomy support from fathers and mothers, as perceived by young adolescents, self-esteem, and lifetime alcohol consumption among boys and girls. *Methods*: The research sample consisted of 1,125 young adolescents (mean age = 12.99 years, SD = 0.77), with 50.1% being girls. Mediation analysis was conducted separately for boys and girls using PROCESS (Model 4) in SPSS version 25.0. The independent variables were autonomy support from mothers and fathers, the dependent variable was lifetime alcohol consumption, and the mediator was self-esteem. Alcohol availability and descriptive normative beliefs about alcohol consumption were included as covariates. *Results*: Boys reported significantly higher levels of self-esteem and lower levels of autonomy support from their fathers. Girls who reported no lifetime alcohol consumption demonstrated higher levels of self-esteem and received more autonomy support from both mothers and fathers. The mediation analysis revealed a significant indirect effect of autonomy support from mothers on reported alcohol consumption through self-esteem, but only among girls. Similarly, there was a significant indirect effect of autonomy support from fathers on reported alcohol consumption through self-esteem, but only among boys. This indicates that higher levels of maternal autonomy support, as perceived by girls, and higher levels of autonomy support from fathers, as perceived by boys, were each associated with an increase in self-esteem, which subsequently reduced the likelihood of reporting alcohol consumption—among girls in the first case, and among boys in the second. *Conclusion*: young adolescents' perceptions of autonomy support from both mothers and fathers were indirectly associated with alcohol consumption through self-esteem, with this effect varying by gender. These findings emphasize the importance of family-based programs that address young adolescent alcohol use, considering both the parent's and the child's gender.

Keywords: *Autonomy support, self-esteem, alcohol consumption, adolescents.*

1. Introduction

The autonomy orientation is characterized by a strong sense of choice in initiating and regulating one's behavior, allowing individuals to guide their actions based on personal goals and interests rather than external controls or constraints (Deci & Ryan, 1985). Studies from the 1970s–1980s found more parental autonomy support for boys, while those from the 1990s reported slightly more for girls. Although gender stereotypes may affect some families, a systematic review suggests minimal overall differences in the upbringing of boys and girls (Endendijk, Groeneveld, Bakermans-Kranenburg, & Mesman, 2016). In another review, it is stated that gendered parenting influences behavioral differences between boys and girls, suggesting that parental responses are shaped more by stereotypes than by actual child behavior. While many parents try to minimize gender emphasis in child-rearing, there is limited research on the impact of parenting on gender role development, which is crucial for counselling and interventions (Morawska, 2020). Morawska's review of the literature suggested that parents' responses differ depending on the child's gender, which may affect their development.

Research has highlighted the vital role of parental autonomy support in children's mental health (Ma, Ma, & Wang, 2022). The authors examined the relationship between parental autonomy support and adolescents' mental health, including life satisfaction and emotional symptoms, while also exploring the mediating role of self-esteem. Their findings indicated that parental autonomy support was positively linked

to life satisfaction and negatively linked to emotional symptoms, with self-esteem partially mediating both associations. The child's self-esteem is the key mechanism driving the impact of parenting strategies (Yang, Schaninger, & Laroche, 2013). Self-esteem is crucial for understanding how individuals perceive, value, and evaluate themselves, providing insight into their behavior (Sarkova et al., 2006). During adolescence, teens may distance themselves from family to test their independence while relying on peers for self-definition and self-esteem. Despite craving independence, they also seek nurture and friendship, grappling with self-doubt, belonging, and self-image (Plummer, 2014).

Parental monitoring, autonomy support, and warmth are essential parenting dimensions that significantly impact adolescent health behaviors, although the mechanisms through which they exert influence may vary (Kwon & Wickrama, 2014). Delayed alcohol initiation was linked to parental modelling, restricted alcohol access, monitoring, relationship quality, involvement, and communication. Lower adolescent drinking levels were associated with parental modelling, restricted alcohol access, disapproval, discipline, monitoring, relationship quality, support, and communication (Ryan, Jorm, & Lubman, 2010). Previous studies indicate that the link between parental autonomy support and alcohol use is unclear, with variations in findings potentially due to differences in samples and measures (Wolff & Crockett, 2011). Additionally, the authors suggest a reciprocal relationship between autonomy granting and risk behavior—adolescents who avoid risks may receive more autonomy, while others use their autonomy to engage in risky behaviors. If these effects counterbalance each other, the overall association between autonomy granting and risk behavior may weaken.

Based on previous research findings this study aims to explore the association between autonomy support from fathers and mothers, as perceived by young adolescents, self-esteem, and lifetime alcohol consumption among boys and girls. We expect that self-esteem will mediate the effect of autonomy support from fathers and mothers on lifetime alcohol consumption among boys and girls.

2. Measures

2.1. Sample and procedure

The research sample consisted of 1,125 young adolescents (mean age = 12.99 years, SD = 0.77), with 50.1% being girls. The data was gathered using paper-and-pen questionnaires from seventh-grade adolescents attending primary schools in Slovakia during September and October 2017. Prior to data collection, informed consent was obtained from all participants. Twelve primary schools across various regions in Slovakia participated, aiming to represent schools from diverse areas and towns of varying sizes. At each school, all seventh-grade pupils took part in the study. The questionnaires were completed during two class periods in the presence of a trained research team member, with teachers absent to ensure confidentiality. The study received ethical approval from the university's ethics committee.

2.2. Measures

The Autonomy Support subscale of the Perceptions of Parents Scale (Grolnick, Ryan, & Deci, 1991) measured the extent of autonomy support provided by mothers (7 items) and fathers (7 items) as perceived by young adolescents. Participants completed the scale separately for each parent using a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The Autonomy Support subscale demonstrated Cronbach’s alphas of 0.64 for mothers and 0.70 for fathers.

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965). The scale consists of 10 items that assess respondents' perceptions of themselves, such as “At times I think I am no good at all,” “I feel that I am a person of value, at least on an equal plane with others,” and “I take a positive attitude towards myself.” The scale includes 5 positive and 5 negative statements, each rated on a 4-point Likert scale (1 = strongly agree to 4 = strongly disagree). The total self-esteem score ranges from 10 to 40, with higher scores indicating greater self-esteem. Cronbach’s alpha for RSE total score was 0.73.

Lifetime alcohol consumption. A simple question was used: “Have you ever consumed alcohol, even just one sip? (any beverage containing alcohol)”. For the purposes of statistical analysis, the response scale was dichotomized into: 0 = No (No, never), 1 = Yes (I’ve tried it, I’ve consumed alcohol multiple times, I drink alcohol regularly, at least once a month, I drink alcohol regularly, at least once a week).

Descriptive normative beliefs was assessed using one item: "According to your estimation, how many of the pupils at your school use alcohol?" (Elek, Miller-Day, & Hecht, 2006). The item was scored on a 4-point scale ranging from 1 = almost none to 4 = most.

Perceived alcohol availability was assessed by asking respondents to rate its accessibility using the question: “How difficult do you think it would be for you to get alcohol if you wanted to?” Responses were recorded on a five-point scale: 1 = Impossible, 2 = Very difficult, 3 = Fairly difficult, 4 = Fairly easy, 5 = Very easy.

2.3. Statistical analyses

The chi-square test and Mann-Whitney U test were used to analyse the data. Mediation models were examined using the PROCESS macro Model 4 for SPSS, also performed separately for boys and girls. The bias-corrected 95% confidence interval (CI) was calculated with 5,000 bootstrap samples. A mediating effect was considered significant if the value zero was not included in the 95% CI. Statistical significance was defined as a two-tailed value of $p < .05$. The mediation analyses controlled for the covariates of descriptive normative beliefs and alcohol availability. All analyses were performed using SPSS 25.0.

3. Results

A chi-square test for independence indicated a significant association between gender and lifetime alcohol consumption, χ^2 (1, n = 1125) = 9.82, p = 0.002. Specifically, 63.3% of boys and 54.1% of girls reported alcohol consumption.

A Mann-Whitney *U* test revealed: (i) no significant difference in the mother 's autonomy support levels of boys (*Md* = 3.86, n = 529) and girls (*Md* = 4.00, n = 547), *U* = 153,120, *z* = 1.66, *p* = 0.097. (ii) a significant difference in the father 's autonomy support levels of boys (*Md* = 3.71, n = 445) and girls (*Md* = 3.86, n = 427), *U* = 103,951.5, *z* = 2.41, *p* = 0.016. (iii) a significant difference in the self-esteem levels of boys (*Md* = 2.80, n = 562) and girls (*Md* = 2.60, n = 560), *U* = 115,086, *z* = -7.81, *p* < 0.001.

Boys, in comparison to girls, reported significantly lower levels of autonomy support from their fathers and higher levels of self-esteem.

A Mann-Whitney *U* test was conducted separately for boys and girls to determine whether those who reported no lifetime alcohol consumption differed from those who reported lifetime alcohol consumption in terms of maternal autonomy support, paternal autonomy support, and self-esteem. The results of the *U* test revealed: (i) a significant difference in maternal autonomy support levels among girls who reported no lifetime alcohol consumption (*Md* =4.00, n = 252) and those who reported lifetime alcohol consumption (*Md* = 3.86, n = 293), *U* = 30,986.50, *z* = -3.25, *p* = 0.001. (ii) a significant difference in paternal autonomy support levels among girls who reported no lifetime alcohol consumption (*Md* = 3.86, n = 188) and those who reported lifetime alcohol consumption (*Md* = 3.71, n = 238), *U* = 17,910.00, *z* = -3.55, *p* < 0.001. (iii) a significant difference in self-esteem levels among girls who reported no lifetime alcohol consumption (*Md* = 2.70, n = 258) and those who reported lifetime alcohol consumption (*Md* = 2.60, n = 300), *U* = 31,230.00, *z* = -3.94, *p* < 0.001.

Girls who reported no lifetime alcohol consumption demonstrated higher levels of self-esteem and received more autonomy support from both mothers and fathers. In contrast, the results of the *U* test revealed no significant differences in maternal autonomy support, paternal autonomy support, or self-esteem between boys who reported no lifetime alcohol consumption and those who reported lifetime alcohol consumption.

The mediation analysis revealed a significant indirect effect of autonomy support from mothers on reported alcohol consumption through self-esteem, but only among girls (Figure 1).

Figure 1. Mediation model among girls.

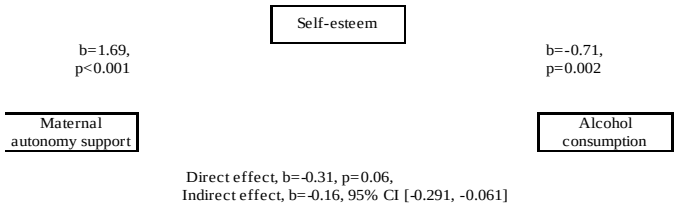
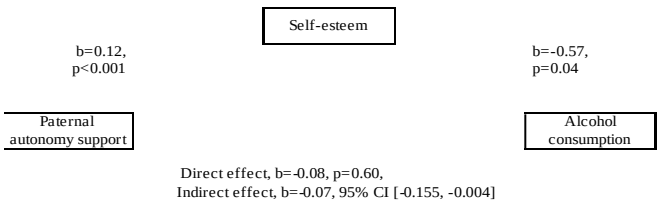


Figure 2. Mediation model among boys.



Similarly, there was a significant indirect effect of autonomy support from fathers on reported alcohol consumption through self-esteem, but only among boys (Figure 2).

This indicates that higher levels of maternal autonomy support, as perceived by girls, and higher levels of autonomy support from fathers, as perceived by boys, were each associated with an increase in self-esteem, which subsequently reduced the likelihood of reporting alcohol consumption—among girls in the first case, and among boys in the second.

4. Discussion and conclusions

Compared to girls, boys reported significantly lower autonomy support from their fathers. This finding contradicts self-determination theory (Vrolijk, Van Lissa, Branje, Meeus, & Keizer, 2020), which asserts that the need for autonomy is equally important for all individuals, regardless of sex, but women scored significantly higher than men in autonomy orientation (Deci & Ryan, 1985). Compared to girls, boys in this study reported significantly higher self-esteem. Although girls' self-esteem declines during adolescence, the decrease is small and similar to that of boys (Twenge & Campbell, 2001). However, a meta-analysis by Orth, Erol, and Luciano (2018) found that self-esteem follows a systematic trajectory: it increases in childhood, remains stable during adolescence, and rises in young adulthood. While some studies report a slight self-esteem advantage for boys, others find no significant gender difference. Nonetheless, research suggests that gender is not a direct cause of self-esteem changes.

Girls who had never consumed alcohol reported higher self-esteem and greater autonomy support from both parents. In contrast, the results showed no significant differences in maternal or paternal autonomy support or self-esteem between boys who had and had not consumed alcohol. The psychosocial influences related to the onset of puberty may partly account for the differences in alcohol consumption and self-esteem between boys and girls (Glozah, 2014).

Evidence indicates that parenting may have different effects on boys and girls (Zheng & Chen, 2025). Leaper (2005) summarized previous findings, highlighting that adolescents' relationships with their mothers are more intense, involving both greater closeness and more frequent conflict. In contrast, father–daughter relationships tend to be distant, with daughters often seeing their fathers as detached authority figures. While sons seek support from their fathers more than daughters do, father–son relationships remain less intimate than those with mothers. Female adolescents viewed their parents as less controlling but also less supportive of autonomy, indicating possible gender differences in parenting practices between boys and girls, or a difference in how adolescents perceive these practices (Young & Tully, 2022). Similarly, potential gender differences support next finding, that the father-child relationship has a greater positive impact on reducing risk behaviors in male adolescents than in female adolescents and the results provides strong evidence of a connection between paternal involvement, parenting styles, and adolescent behaviour (Bronte-Tinkew, Moore, & Carrano, 2006). In this research, the mediation analysis showed a significant indirect effect of maternal autonomy support on alcohol consumption through self-esteem, but only for girls. Likewise, paternal autonomy support had a significant indirect effect on alcohol consumption through self-esteem, but only for boys.

Although the current study contributes to understanding the mechanisms through which parenting style influences drug use initiation (O'Byrne, Haddock, Poston, & Institute, M. A. H., 2002) and confirms the mediating role of young adolescents' self-esteem in this relationship, several limitations should be acknowledged. The self-reported measures of parental autonomy support and lifetime alcohol consumption limit a deeper understanding of the relationship between gendered autonomy support and health-risk behaviors in young adolescents.

The findings of this study emphasize the importance of family-based programs that address young adolescent alcohol use, considering both the parent's and the child's gender.

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EXAMINING THE RELATIONSHIP BETWEEN PEER RELATIONSHIPS, FAMILY UNPREDICTABILITY AND SOCIAL APPEARANCE ANXIETY AND EMOTIONAL AUTONOMY IN ADOLESCENTS

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Abstract

The aim of this study is to examine the relationships between peer relationships, family unpredictability and social appearance anxiety and the emotional autonomy levels of individuals in adolescence. The sample of the study consists of a total of 442 high school students, 278 girls and 164 boys, studying in science high schools, Anatolian high schools and vocational high schools in Istanbul in the 2023-2024 academic year. The age range of the adolescents included in the study is between 13 and 18 years old. The study was conducted on a voluntary basis while collecting data. The data of the study were collected through the Emotional Autonomy Scale (EAS), Retrospective Family Unpredictability Scale (REAS), Social Appearance Anxiety Scale (SAAS), Peer Relationship Scale (PRA) and Demographic Information Forms. When the analyses were examined; it can be said that there is a statistically significant negative relationship between family unpredictability and emotional autonomy. Social appearance anxiety negatively correlates with emotional autonomy, while peer relationships show a positive correlation. Emotional autonomy levels vary by class level and high school type but not by gender. Additionally, social appearance anxiety, peer relationships, and family unpredictability predict adolescent autonomy. Findings were discussed alongside similar studies, with recommendations for practitioners and researchers.

Keywords: *Social appearance anxiety, family unpredictability, peer relationships.*

1. Introduction

Today's adolescents seek academic, social, and cultural competences to compete in a globalized world. They navigate complex environmental factors while balancing social norms and individual freedom. Healthy adolescence is crucial for social and emotional adjustment later in life. Understanding and fostering adolescents' emotional autonomy helps them realize their potential and fulfill social responsibilities It shapes future relationships, careers, and well-being, forming the foundation of key life skills like goal setting, decision-making, and problem-solving (Blos, 1979; Erikson, 1969, Steinberg, 2007). Autonomy involves individuation, resisting external pressures, self-confidence, and independent reasoning in social, political, and moral issues (Özdemir & Çok, 2011). Adolescents seek independence, make life decisions, and redefine their identities while valuing social perception (Çetinkaya et al., 2019). Friends and social support, parental consistency, and fulfilling family responsibilities are crucial for adolescent autonomy. Early relationships, attachment, family structure, and parenting styles shape emotional autonomy. Family unpredictability, linked to attachment and learned helplessness theories, affects development (Ross & Hill, 2000). Research highlights the role of parental sincerity (Kulaksız, 2011; Hazan & Shaver, 1994) and effective communication in fostering autonomy (Kalkan, 2021; Collopy, 2008). Family instability is also associated with depression and low self-esteem in adolescents (Hood, Ross, & Wilss, 2020).

Adolescents place great importance on their appearance and are sensitive to how others perceive them (Çetinkaya et al., 2019). This period involves accepting physical changes, developing gender roles, achieving emotional autonomy, forming friendships, and shaping identity (Santrock, 2021). Research shows a link between social appearance anxiety and negative, repetitive thoughts, leading to body dissatisfaction, negative emotions, reduced individualization, and increased anxiety (Reilly et al., 2018).

Peer groups help adolescents meet social and psychological needs by providing a sense of belonging and shared experiences. Increased emotional autonomy strengthens peer commitment (Çalık & Bal, 2020), while dissociation and individuation significantly impact peer relationships (Aslan & Çiçek, 2020). Positive peer relationships enhance adolescent happiness, especially as they challenge authority (Köse, 2015). Peer interactions support autonomy development. This study aims to explore adolescents' emotional autonomy and examine the influence of family unpredictability, social appearance anxiety, and

peer relationships, testing related hypotheses. H1: Does the level of emotional autonomy in adolescents differ according to gender? H2: Does the level of emotional autonomy in adolescents differ according to grade? H3: Does the level of emotional autonomy in adolescents differ according to school type? H4: Is there a significant relationship between the level of peer relationships and the level of emotional autonomy in adolescents? H5: Is there a significant relationship between the level of social appearance anxiety and the level of emotional autonomy in adolescents? H6: Is there a significant relationship between levels of family unpredictability and levels of emotional autonomy in adolescents?

2. Method

2.1. Study group

The study sample consists of 442 high school students (278 female, 164 male) from Science, Anatolian, and Vocational High Schools in Istanbul, selected through random sampling. Participants are aged 13 to 18.

2.2. Data collection tools

This study used the Emotional Autonomy Scale (EAS), Retrospective Family Unpredictability Scale (RFAS), Social Appearance Anxiety Scale (SAAS), Peer Relationship Scale (PRS), and Personal Information Forms for data collection.

2.3. Data analysis

Data were analyzed using SPSS 23.0. Descriptive statistics (mean, standard deviation, frequency) and parametric tests (t-test, ANOVA, Pearson Correlation, Multiple Regression) were applied, as the data met normality per the Kolmogorov-Smirnov test.

3. Findings

The demographic analysis showed that 37.1% (n=164) of participants were male and 62.9% (n=278) female. Grade levels were: 30.5% ninth grade (n=135), 16.1% tenth grade (n=71), 17.9% eleventh grade (n=79), 32.8% twelfth grade (n=145), and 2.7% graduates (n=12).. The school types were: 24.4% science high school (n=108), 52% Anatolian high school (n=230), and 23.5% vocational high school students or graduates (n=104). The mean age was 2.27 (SD=0.69).

Table 1. Independent Sample T-Test Results of Emotional Autonomy Scores According to Gender.

	Men Mean			Women Mean			t	p
	n		ss	n		ss		
Emotional Autonomy	164	32,02	7,155	278	31,5	7,526	-0,717	0,474

It was observed that the difference in the mean scores obtained was not statistically significant in terms of gender (t= -0.71, p>.050).

Table 2. Results of One-Way Analysis of Variance (ANOVA) Conducted to Determine Whether the Mean Scores Obtained by Adolescents from the Emotional Autonomy Sub-dimensions Differ According to School Type.

	Science High School			Anatolian High School			Vocational High School			F(2,439)	p
	n	Mean	ss	n	Mean	ss	n	Mean	ss		
Idealization	108	10,96	2,513	230	10,92	2,924	104	12,13	3,516	6,369	0,002
Independence	108	9,06	2,291	230	9,08	2,553	104	9,87	2,709	3,923	0,020
Individuation	108	10,96	2,808	230	11,08	3,137	104	11,8	3,472	2,281	0,103
Emotional Autonomy total	108	30,98	6,243	230	31,08	7,277	104	33,8	8,346	5,556	0,004

The analysis showed significant differences in the idealization (F(2,439)=6.36, p<0.010) and independence (F(2,439)=3.92, p<0.05) sub-dimensions, while individuality showed no significant difference (F(2,439)=2.28, p>0.05). Adolescents in vocational high schools scored higher in emotional autonomy sub-dimensions than those in science and Anatolian high schools.

Table 3. Results of One-Way Analysis of Variance (ANOVA) Conducted to Determine Whether the Mean Scores Obtained by Adolescents from the Emotional Autonomy Sub-dimensions Differ According to Grade Level.

	9th Class			10th Class			11th Class			12th Class			Graduate			F (4,437)	p
	n	Mean	ss	n	Mean	ss	n	Mean	ss	n	Mean	ss	n	Mean	ss		
Idealization	135	11,9	3,139	71	11,34	2,803	79	10,58	2,687	145	10,87	3,094	12	10,08	2,392	4,103	0,003
Independence	135	9,76	2,558	71	9,51	2,535	79	8,7	2,446	145	9,06	2,564	12	8,25	1,913	3,164	0,014
Individuation	135	11,73	3,146	71	11,1	2,977	79	10,72	3,025	145	11,14	3,34	12	10,33	2,146	1,683	0,153
Emotional Autonomy total	135	33,47	7,426	71	31,94	6,885	79	30	6,831	145	31,08	7,73	12	31,08	7,73	3,875	0,004

The analysis showed significant differences in the idealization ($F(4,437)=4.10$, $p<0.05$) and independence ($F(4,437)=3.13$, $p<0.05$) sub-dimensions, while individuation showed no significant difference ($F(4,437)=1.68$, $p>0.05$). Ninth grade students scored higher in emotional autonomy sub-dimensions than tenth, eleventh, and twelfth grade students.

Table 4. Correlational Relationship Between Social Appearance Anxiety and Emotional Autonomy and Emotional Autonomy Sub-dimensions in Adolescents.

	1	2	3	4	5
Idealization	1				
Independence	0,621**	1			
Individuation	0,553**	0,558**	1		
Emotional Autonomy total	0,859**	0,837**	0,845**	1	
Social Appearance Anxiety total	-0,212**	-0,187**	-0,324**	-0,29**	1

**p<.001

Significant negative relationships were found between social appearance anxiety and idealization ($r=-0.212$, $p<.001$), independence ($r=-0.187$, $p<.001$), individuation ($r=-0.324$, $p<.001$), and total emotional autonomy ($r=-0.290$, $p<.001$). Adolescents with social appearance anxiety had lower emotional autonomy than those without.

Table 5. Correlation Relationship Between Peer Relationships and Peer Relationship Sub-dimensions and Emotional Autonomy and Emotional Autonomy Sub-dimensions in Adolescents

	1	2	3	4	5	6	7	8	9
Idealization	1								
Independence	0,621**	1							
Individuation	0,553**	0,558**	1						
Total Emotional Autonomy	0,859**	0,837**	0,845**	1					
Closeness	0,136**	-0,023	-0,069	0,018	1				
Popularity	0,248**	0,131**	0,10*	0,189**	0,430**	1			
Trust	0,184**	0,123**	0,129**	0,173**	0,636**	0,552**	1		
Understanding	0,246**	0,233**	0,133**	0,238**	0,477**	0,231**	0,468**	1	
Total Peer Relations	0,231**	0,10*	0,049	0,15**	0,908**	0,65**	0,837**	0,652**	1

**p<.001

Significant positive relationships were found between peer relationships and idealization ($r=0.231$, $p<.001$), independence ($r=0.10$, $p<.05$), total emotional autonomy ($r=0.15$, $p<.005$), closeness ($r=0.90$, $p<.001$), popularity ($r=0.65$, $p<.001$), trust ($r=0.83$, $p<.001$), and understanding ($r=0.65$, $p<.001$). As peer relationships increased, emotional autonomy levels also increased.

Table 6. Results of Relationships Between Family Unpredictability and Family Unpredictability Sub-Dimensions and Emotional Autonomy and Emotional Autonomy Sub-Dimensions in Adolescents.

	1	2	3	4	5	6	7	8	9	10	11
Idealization	1										
Independence	0,621**	1									
Individuation	0,553**	0,558**	1								
Total Emotional Autonomy	0,859**	0,837**	0,845**	1							
Meal	-0,275**	-0,187**	-0,201**	-0,263**	1						
Financial	-0,382**	-0,316**	-0,291**	-0,389**	0,368**						
Unpredictability						1					
Mother Physical-Emotional Satisfaction	-0,526**	-0,555**	-0,486**	-0,614**	0,273**	0,612**	1				
Father Physical-Emotional Satisfaction	-0,518**	-0,526**	-0,420**	-0,572**	0,283**	0,395**	0,539**	1			
Mother Discipline	-0,413**	-0,321**	-0,463**	-0,477**	0,263**	0,448**	0,432**	0,239**	1		
Father Discipline	-0,353**	-0,269**	-0,436**	-0,423**	0,209**	0,331**	0,228**	0,368**	0,568**	1	
Total Family Unpredictability	-0,619**	-0,564**	-0,573**	-0,692**	0,559**	0,704**	0,780**	0,755**	0,676**	0,625**	

**p<.001

Negative significant relationships were found between family unpredictability and idealization (r=-0.61, p<.001), independence (r=-0.56, p<.001), individuation (r=-0.57, p<.001), and total emotional autonomy (r=-0.69, p<.001). As family unpredictability increased, emotional autonomy decreased.

4. Discussion

This study analyzed adolescents' emotional autonomy in relation to family unpredictability, social performance anxiety, and peer relationships. It found that as family unpredictability increased, emotional autonomy decreased. Autonomy is closely linked to adolescents' mental health (Özdemir & Çok, 2011). Researchers (Ryan & Lynch, 1989) argue in their studies that autonomy is a global need and that satisfying this need to a sufficient degree is important for psychological resilience. There are no studies examining the relationship between emotional autonomy and family unpredictability, but similar studies show that family unpredictability, parental attitudes, and emotion regulation difficulties significantly impact personality disorders in adolescents, with a positive relationship between family unpredictability sub-dimensions and personality disorders (Kalkan, 2021). In another study, family unpredictability was found to be a predictor of substance use tendencies (Atlı, 2022). Chirkov and Ryan (2001) concluded in their study that autonomy support from parents and teachers towards the adolescent individual increases academic motivation and influences the adolescent's success. Similar studies suggest that consistent, supportive, and predictable family attitudes help adolescents succeed in autonomy. This study found that emotional autonomy decreased as social appearance anxiety increased. A study with Chinese adolescents showed that those dissatisfied with their appearance were more introverted, pessimistic, insecure, socially uncomfortable, and had dysfunctional thoughts leading to anxiety and avoidance. It was hypothesised that self-efficacy and self-esteem may mediate the relationship between appearance anxiety and social anxiety (Liao et al., 2023). Another study found that social appearance anxiety leads to intense anxiety about the evaluation of the adolescent's physical appearance by others and increases the adolescent's introverted behaviour (Gümüş, 2000). The results of the studies in the literature also support the findings of this study. The final variable of the study was to examine the relationship between peer relationships and emotional autonomy. It was found that positive peer relationships were associated with higher levels of emotional autonomy. The literature in general supports this finding. It has been found that the ability of adolescents to develop strong relationships with their peers can facilitate the development of autonomy (Allen & Loeb, 2015). Adolescents with high psychological capital, who are more determined in their career choices and career goals, were found to have more positive relationships with their peers (Zhou et al., 20-23). The study examined the link between adolescents' emotional autonomy and demographics. Gender, grade, and school type influenced autonomy levels, with females, vocational high school students, and ninth graders showing higher autonomy. Literature supports these findings on gender and school type (Flannery, 2006). Examining

the predictability of parental behavior and its impact on adolescent emotional autonomy is crucial. Guidance and psychological counseling experts should stay updated on dissociation-individuation research to enhance counseling quality in secondary schools. Assessing social interaction, peer relations, and individuation levels is recommended, along with individual or group counseling for related difficulties. Additionally, therapeutic programs should be developed for students struggling with individuation and socialization.

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CAREGIVER ROLE AND LIFE PROJECT OF SIBLINGS OF PERSONS WITH DISABILITIES

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Abstract

In Uruguay, the last decade has seen a deepening of care issues; this is reflected in public policies and in the academic interest in addressing, teaching and researching these topics. According to Uruguay's National Integrated Care System (SNIC), there are three populations requiring care: children, people dependent due to disability and/or old age. A fourth population becomes relevant: caregivers, both formal and informal. This project focuses on an intrafamily caregiving figure, the siblings of people with disabilities. Although there are studies at the international level, work with these figures has not been systematized or promoted at the local level. They have remained invisible, but they are the ones who assume care when parents are unable to do so. This study aims to characterize the profile of siblings in relation to the burden of care, as well as their perception of family health and social support. Results related to the intersection of these three dimensions are presented, as well as the presence of double burden of care and whether the participant lives with his/her sibling with a disability.

Keywords: *Siblings, disability, caregiving, family, social support.*

1. Introduction

This study seeks to characterize intrafamilial caregivers, particularly siblings of people with disabilities (Meltzer, 2021). Along with the demand, both from state and international agencies, social organizations and academia, to produce scientific information on how people with disabilities live (Massé & Rodriguez, 2015), there is also the need to characterize caregivers (Araujo Guimarães & Hirata, 2020).

After the COVID 19 pandemic, families with members with disabilities have suffered the impact of state retraction, making it evident that these nuclei precariously meet the care needs (PAHO, 2020). According to relevant studies, little is what they expect but much is what they need (Abellán Lopez et al., 2021).

When the main caregivers, who are generally mothers (Echegoyemberry, 2016), cannot sustain these tasks, those who assume this place, when the family structure allows it, are the siblings (Nuri et al., 2020). How this place is assumed may vary depending on, for example, whether the disability is congenital or acquired, the gender of the sibling, family practices, the burdens of stigma and prejudice associated with the type of disability, communication of the diagnosis, among others (Caldin & Cinotti, 2016; Sommantico et al., 2020). Added to this is the assessment made by siblings of people with disabilities in relation to how they care compared to how their parents do it (Avieli, 2020). Some studies show that, compared to their parents, care by siblings promotes autonomy, spaces for participation and inclusion and has lower levels of overprotection (Nuri et al., 2020).

In America Latina, data show that it is the most impoverished women who assume caregiving tasks at younger ages (Batthyány, 2018; Gailán et al., 2023). Particularly, in Uruguay, according to the National Survey of Adolescence and Youth (INJU, 2020) 38.0% of young people between 18 and 24 years of age care for at least some dependent population (children, people with disabilities and/or older adults). It also shows that the burden of care increases with age: 48.2% are caregivers between 25 and 29 years old and 64.1% between 30 and 35 years old.

These data illustrate how care-related tasks begin before adulthood and may be conditioning decision making in relation to personal and collective projects (Burke et al., 2015). This trend is a worldwide phenomenon that must be addressed as it has great impacts, for example, on the economic, health and labor aspects; both in the individual and collective spheres (Echegoyemberry, 2016). Recent studies (Sommantico et al., 2020, Zúñiga et al., 2023) suggest that there are differences between siblings

of people with and without disabilities when analyzing results in relation to, for example, social skills, academic achievement, empathy and closeness between siblings. This variability also appears when comparing these results between siblings of people with different types of disability or health conditions.

Recent studies (Burke et al., 2017; Casale et al., 2021) show two fundamental dimensions: i) involving siblings, with and without disabilities, in decision-making and family planning is fundamental to obtain what is called anticipatory or future care and ii) those who access this planning show a reduction in the burden of care, an improvement in the self-determination of siblings and a lower risk of family crisis.

The analysis of family functioning is relevant, since the family structure and the dynamics of family functioning is an effective predictor of the degree of life satisfaction of its individual members. For this reason, when there is a member with a disability in the family, it is of interest to evaluate both the family's ability to adapt to this situation and the cohesion among its members, including siblings, at different stages of the life cycle (Serrano et al., 2023).

Added to this is the emergence of a phenomenon of separation between cohorts of grandparents, children and grandchildren (Alburez-Gutierrez et al., 2021). This generates the so-called dual or composite care: one generation cares for fathers, mothers and children (Williamson & Perkins, 2014). In some cases, care for siblings with disabilities is added.

Considering the above, the present study aims to characterize the profile of siblings in relation to the burden of care, as well as their perception of family health and social support.

2. Method

A mixed, exploratory study is presented, which aims to be a precedent in the study of the psychosocial dimensions of siblings of people with disabilities. The device implemented were biweekly workshops where aspects related to care and the role of the caregiver were worked on. The meeting brought together siblings of participants from different Uruguayan social organizations working with people with disabilities.

Before starting the first meeting, participants were presented with a self-administered questionnaire where different dimensions of interest were surveyed. The following section presents the results obtained from the application of this battery of instruments to 38 participants. Each participant signed an informed consent form guaranteeing the anonymity and confidentiality of the data and that, if they did not wish to continue participating in the workshop, they could withdraw at any time.

First of all, sociodemographic variables were collected about the participant, such as sex, age, highest level of education attained, whether he/she is working, whether he/she has a therapeutic space, whether he/she lives with a sibling with a disability and whether he/she has other dependents such as, for example, children or elderly people. At the same time, aspects related to the sibling with a disability were surveyed, such as, for example, age and whether he/she has a diagnosis.

Secondly, three standardized instruments were applied. The first was the APGAR scale which is a five-question questionnaire that seeks to assess the functional status of the family (Serrano et al., 2023). The second instrument was the MOS questionnaire that measures perceived social support (Martín-Carbonell et al., 2019). Finally, the Zarit Scale was proposed to measure caregiving overload (Albarracín Rodríguez et al., 2016).

Due to the sample size, statistical tests were not applied; instead, what is presented are frequency analyses between the different variables of interest.

3. Results

The sociodemographic characteristics of the participants are presented below (Table 1), followed by a description of the results obtained from the different crosstabs of these variables and the instruments applied. It is necessary to clarify that when we speak of participants, we are referring to the siblings of persons with disabilities.

71.1% of the participants are women and those with the highest level of education. Although both sexes are concentrated in the younger age groups, in the case of men more than 80% are under 45 years of age. Most of the participants are working, and more than 90% of the women are working.

Based on the data on the nuclear family, more than twice as many men as women live with their sibling with a disability. In relation to the variable of double burden of care, most of the participants present it, with men being the ones who most frequently declare that they have a double burden of care.

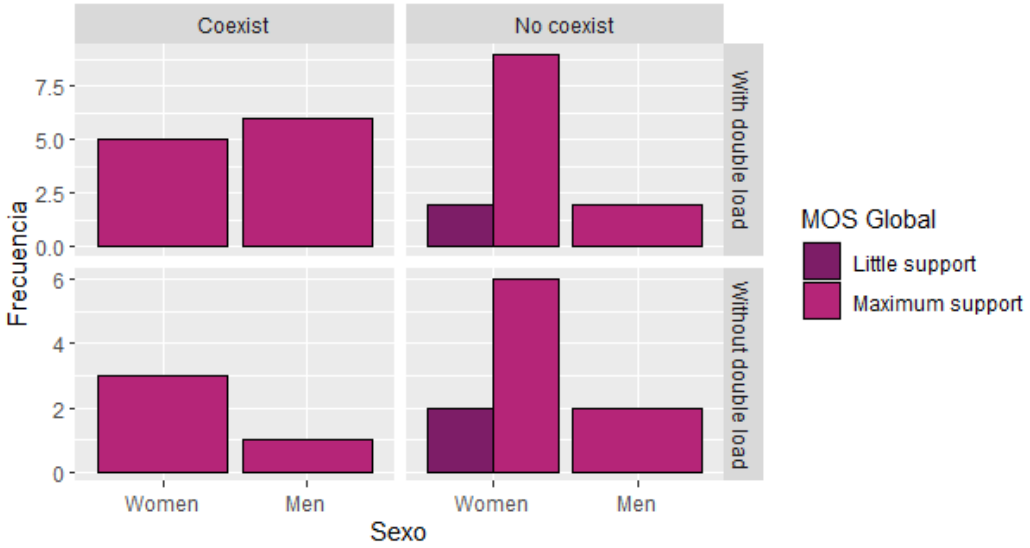
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Table 1. Sociodemographic characteristics of the participants.

	Women (%)[1]	Men (%)[2]	Total (%)[3]
Age			
17 -30	44,4	54,5	47,4
31-45	25,9	27,3	26,3
46-59	14,8	7,4	15,8
60 and more	14,8	0	10,5
Highest level of education achieved			
Basic Secondary	14,8	9,1	44,7
Secondary school	40,7	54,5	13,2
University	33,3	36,4	31,6
Postgraduate	11,1	0	7,9
Working	92,6	72,7	86,8
Siblings living together	29,6	63,6	39,5
Presence of double burden of care	59,3	72,7	63,2
It has a therapeutic space	33,3	27,3	29,0
It has a space for the exchange of information about siblings	26,0	18,2	23,7

[1] This value is based on the total number of women in the sample; [2] This value is based on the total number of men in the sample;
[3] This value is based on the total number in the sample.

Figure 1. Global MOS results by sex, presence of double burden of double burden of care and cohabitant.



With respect to the intersection between perceived social support, caregiving overload, living with a sibling with a disability and sex (Figure 1), it can be said that:

(i) the total number of participants who cohabit with their siblings declares to perceive maximum social support. ii) participants who obtain, in global terms, little social support and intense overload are women, from the youngest and oldest groups of the sample, who do not live with their sibling.

With respect to the intersection between perceived overload, living with a sibling with a disability and gender (Figure 2), it can be said that:

(i) the majority of men who live with their sibling with a disability, regardless of whether they have a double burden of care or not, have an absence of overload. When considering the double burden of care, the perception of overload goes from absence to slight. In contrast to women, most of the women who live together and have a double burden of care have a heavy overburden.

ii) some of the non-cohabiting women who do not have a double burden of care obtain light overload; when considering the presence of double burden, the third category of the scale appears, with women declaring absence, but also intense and light overload.

Finally, we present the results obtained from the intersection between family functioning, caregiving overload, living with a sibling with a disability and sex (Figure 3): (i) almost all the cohabiting women, regardless of whether there is a double burden of caregiving or not, reported some level of family dysfunction. ii) most participants, both men and women who do not live with a sibling with a disability, report some level of family dysfunction.

Figure 2. Global Zarit results by sex, presence of double burden of double burden of care and cohabitant.

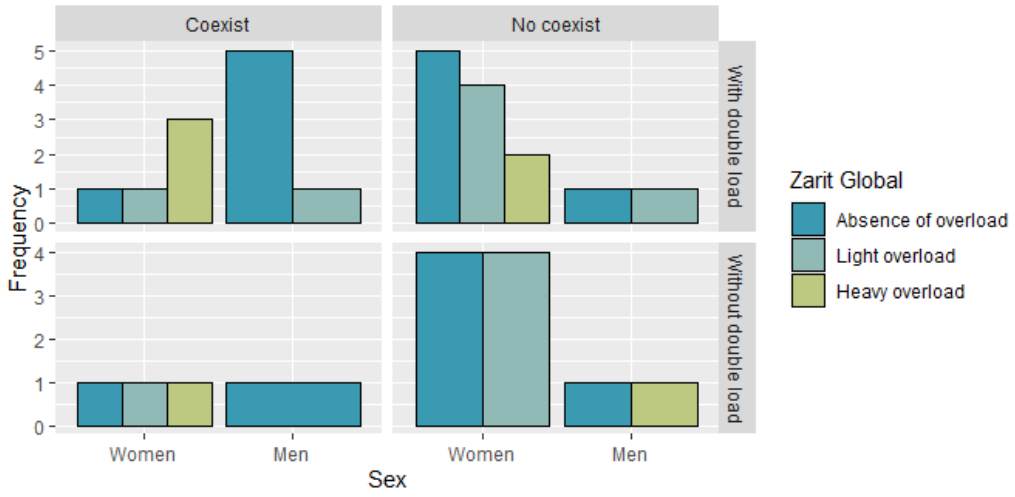
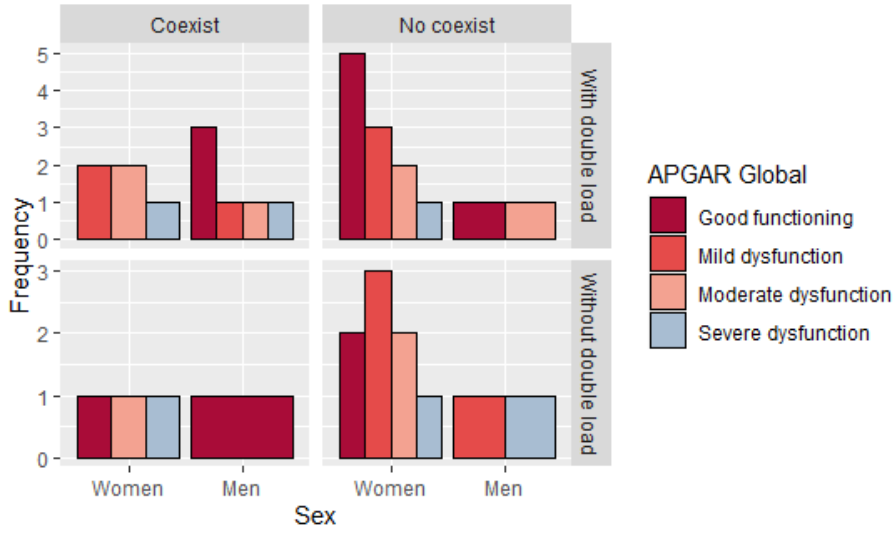


Figure 3. Global APGAR score according to sex, presence of double burden of double burden of care and cohabitant.



With respect to the MOS subscales, the total of women who obtained low perceived social support, at the global level, present maximum support in the emotional subscale but low support in the affective subscale. These women, in turn, report low and lack of support in the material subscale and low support in the subscale of support for leisure and distraction.

All participants who fall into the category of low support in the emotional subscale are male and obtained maximum support in the overall result; the opposite is true for women.

At the intersection between intense caregiving overload and perception of low support are the most prevalent diagnoses within the nosological groups: schizophrenia, Down syndrome and autism spectrum disorder.

4. Discussion

The present study reports on gender-related differences in the perception of caregiving burden, family functioning and social support among siblings of persons with disabilities.

In this sense, one of the findings is the difference between men and women in the perception of caregiving overload. While the majority of men who live with their sibling with a disability report an absence of overload or, in cases of a double burden of care, a light overload, women in the same situation tend to experience an intense overload. In addition, the majority of participants, both male and female non-cohabitating caregivers, report some level of family dysfunction. This suggests that physical distance does not necessarily preclude the family tensions associated with caring for a sibling with a disability.

Although the results of the present study are not generalizable due to the size of the sample, they allow an approach to the characteristics present in the experiences of siblings of people with disabilities, to be taken into account in interventions and policies aimed at this population.

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A SOCIODEMOGRAPHIC PERSPECTIVE ON TRAIT ANGER AND ANGER EXPRESSION IN ROMANTIC RELATIONSHIPS

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Abstract

Intimate partner violence constitutes a significant socioeconomic and public health issue. Consequently, recognizing variables that may elevate the vulnerability to physical attack is crucial for both prevention and intervention. Extensive research indicates that anger is a significant risk factor for interpersonal violence. The aim of this study is to examine trait anger and anger expression styles in terms of demographic variables in individuals in romantic relationships, which present early examples of domestic violence dynamics. The sample of the study consisted of 262 participants between ages 18-56, of which 49.6% (130) were women and 50.4% (132) were men. Participation in the study was on a voluntary basis and consisted of people. Data collection instruments included a sociodemographic information form and the trait anger and anger expression scale. Data were collected online through Google form, and the analyses was conducted using SPSS 27.0. The study found that gender was not significantly associated with trait anger, but women scored higher on the Anger/In and Anger Control subscales. This suggests that women tend to direct their anger inward, while men tend to express their anger more. However, these tendencies may vary with individual and cultural differences. A meta-analysis of theses in Türkiye concluded that anger levels did not differ according to gender. Women are more successful in anger management, and their anger levels are found to be lower than men. The 18-25 age group scored higher on both Trait Anger and Anger/In and Anger/Out subscales, but no significant difference was found on the Anger Control scale. University graduates scored higher on Trait Anger and Anger/In subscales, but better results on the Anger Control scale. Low socioeconomic status increases stress and anger, resulting in higher levels of trait anger. The data are consistent with general trends in the literature, but some findings may be influenced by the cultural context. Social norms in Türkiye may contribute to women's introverted anger expressions and young individuals experiencing more anger.

Keywords: *Anger, anger expression, romantic relationships.*

1. Introduction

Relationship violence is a serious societal and public health problem. Therefore, identifying factors that may increase the susceptibility to physical assault is important for both prevention and treatment. There is a lot of research indicating that anger is a risk factor for interpersonal violence (Taylor & Novaco, 2005). For this reason, researchers have primarily defined and conceptualized anger in various ways. According to Mikulincer (1998), anger out is a way of openly expressing anger felt towards others or the environment. On the other hand, anger in is the individual's tendency to think/construct the feeling of anger without openly expressing it. Internalized and externalized anger are considered unhealthy, while anger control is healthy anger expression styles (Spielberger, 1988). Trait anger is considered as a concept that reflects how often situational anger is generally experienced by the individual. Trait anger is the state of being angry in general. State anger is explained as the state of anger in which the person experiences feelings of tension, anger and rage as a result of the prevention of the person's goal-oriented behavior or the person's perception of injustice (Spielberger, 1988). According to Berkowitz (1989), one of the most important characteristics that distinguishes people with trait anger from others is that they are very ready to perceive aggression, threats, and dangers in their environment. Studies have shown that individuals with high trait anger exhibit higher levels of physical aggression compared to those with low trait anger, both in natural (Deffenbacher et al., 1996) and laboratory settings (Parrott et al., 2000). Beasely and Stoltenberg (1992) reported that men who use violence against their wives report higher levels of trait anger than married men who do not use violence, and similarly, Leonard and Senchak (1996) reported that trait anger predicts aggression toward the female partner and linked trait anger and aggression in both marital and premarital couples.

In the light of this information obtained from the literature, the aim of this study is to examine trait anger and anger expression styles in terms of demographic variables in individuals in romantic relationships, which present early examples of domestic violence dynamics.

2. Methods

2.1. Participants and instruments

The sample of the study consisted of 262 participants between ages 18-56, of which 49.6% (130) were women and 50.4% (132) were men. Participation in the study was on a voluntary basis and consisted of people. The “Sociodemographic Information Form” and the “Trait Anger and Anger Expression Scale” were used in the study.

Sociodemographic Information Form: The Sociodemographic Information Form was prepared by the researchers to obtain demographic information about the participants. It includes questions about variables such as gender, age, education level, income level, and marital status.

Trait Anger-Anger Expression Style Scale: In the study, the "Trait Anger-Anger Expression Style Scale", developed by Spielberger (1983) and adapted to Turkish by Özer (2006), was used to determine the students' trait anger and anger expression style levels.

2.2. Procedure

In this study, data were collected from voluntary participants to evaluate the trait anger and anger expression in romantic relationships. The collected data were stored in a computer, and the SPSS 27.0 statistical package program was used for data analysis. The data obtained from 273 participants were examined, outliers were analyzed and removed, and the final analysis was conducted on 262 participants. First, descriptive statistics, including frequency and percentage distributions, were calculated to summarize the demographic characteristics of the participants. For continuous variables, mean, standard deviation, skewness, and kurtosis values were examined, and the normality assumption was evaluated using the Shapiro-Wilk and Kolmogorov-Smirnov tests. Pearson correlation analysis was conducted to determine the relationships between variables. Finally, an independent samples t-test and ANOVA was conducted to determine group differences in the dependent variables. For all analyses, the significance level was set at $p < .05$.

3. Results

There was no statistically significant difference between the total mean scores of the gender groups and the total mean scores of the Trait Anger Scale; $t (260) = 0.917$; $p = 0.18$. There was a statistically significant difference between the total mean scores of the gender groups and the total mean scores of the Anger/In subscale; $t (260) = -2.253$, $p = 0.01$. According to the result, the mean scores of women ($M = 17.15$) were higher than the mean scores of men ($M = 18.34$), and the Cohen's d effect was small to medium size (-0.278). There was no statistically significant difference between the total mean scores of the gender groups and the total mean scores of the Anger/Out subscale. There was a statistically significant difference between the total mean scores of the gender groups and the total mean scores of the Anger Management subscale; $t (260) = -3.440$, $p < 0.00$. According to the result, the mean scores of women ($M = 21.52$) were higher than the mean scores of men ($M = 23.46$), and the Cohen's d effect was medium-sized (-0.425).

There was a statistically significant difference between the total mean scores of the Trait Anger Scale of the age groups; $F (4, 257) = 8.008$, $p < 0.01$. According to the results of the Tukey Multiple Comparison Test conducted to determine the difference between the groups, the total mean score of the Trait Anger Scale of the 18-25 age group was higher than the other age groups. There was also a statistically significant difference between the total mean scores of the Anger/In subscale of the age groups; $F (4, 257) = 5.868$, $p < .00$. According to the results of the Tukey Multiple Comparison Test conducted to determine the difference between the groups, the total mean score of the Trait Anger Scale of the 18-25 age group was higher than the 26-35 age group. There was also a statistically significant difference between the total mean scores of the Anger/Out subscale of the age groups; $F (4, 257) = 9.388$, $p < 0.00$. According to the results of the Tukey Multiple Comparison Test conducted to determine the difference between the groups, the Trait Anger Scale total mean score of the 18-25 age group was higher than all other age groups. There was no statistically significant difference between the Anger Control subscale total mean scores of the age groups; $F (4, 257) = 2.445$, $p = 0.04$.

There was a statistically significant difference between the total mean scores of the education groups on the Trait Anger Scale; $F (3, 258) = 3.37$, $p < .01$. According to the result of the Tukey Multiple Comparison Test conducted to determine the difference between the groups, the total mean score of the

University group on the Trait Anger Scale was significantly higher than the Postgraduate group. There was a statistically significant difference between the total mean scores of the education groups on the Anger/In subscale; $F (3, 258) = 4.26$, $p = .00$. According to the result of the Tukey Multiple Comparison Test conducted to determine the difference between the groups, the total mean score of the University group on the Anger/In subscale was significantly higher than the High School group. There was no statistically significant difference between the total mean scores of the Anger/Out subscale. There was a statistically significant difference between the total mean scores of the education groups on the Anger Control subscale; $F (3, 258) = 2.95$, $p < .05$. According to the results of the Tukey Multiple Comparison Test conducted to determine the difference between the groups, the total mean score of the Anger Control subscale of the Master's group was significantly higher than the Primary/Secondary School group.

There was a statistically significant difference between the Trait Anger Scale total mean scores of the income level groups; $F (4, 257) = 2.502$, $p = .043$. According to the results of the Tukey Multiple Comparison Test conducted to determine the difference between the groups, the Trait Anger Scale total mean score of the group with an income level below the minimum wage was significantly higher than the group with an income level twice the minimum wage and above.

4. Discussion and conclusion

In this study, gender was not significantly associated with trait anger, while women scored higher on the Anger/In and Anger Control subscales. No significant difference was found on the Anger/Out subscale. Gender differences in anger expressions are a frequently discussed topic in the literature. Most studies have shown that women tend to direct their anger inward (e.g., self-blame, passive-aggressive behaviors), while men tend to express their anger more (e.g., physical or verbal aggression) (Archer, 2004). However, some studies have indicated that these tendencies may vary with individual and cultural differences (Fischer & Evers, 2011). In a meta-analysis of theses conducted in Türkiye, it was concluded that anger levels did not differ according to gender (Manap & Kış, 2019). Again, according to a study conducted in Turkey, women's anger levels were found to be lower than men (Gülveren, 2008; Albayrak, 2009). In another study, women's anger levels were found to be higher than men (Kılıç, 2012). Findings that women are more successful in anger management are also supported in the literature. For example, Deffenbacher (2003) showed that women use anger regulation strategies more frequently.

The 18-25 age group scored higher than other age groups on both Trait Anger and Anger/In and Anger/Out subscales. However, no significant difference was found between age groups on the Anger Control scale. The fact that young adults have higher anger levels may be related to the fact that emotional regulation skills are still developing, especially during the transition from adolescence to early adulthood (Blanchard-Fields, 2007). It is a common finding in the literature that anger decreases with age and individuals develop more effective coping mechanisms (Gross et al., 1997).

University graduates scored higher than other groups on Trait Anger and Anger/In subscales. However, graduates showed better results on the Anger Control scale. This inverse relationship between education level and anger can be explained by the fact that education improves individuals' problem-solving and emotional regulation skills (López et al., 2005). However, mechanisms such as higher expectations of individuals with higher education levels and increased anger when these expectations are not met may also be effective.

Those with incomes below minimum wage scored higher on the Trait Anger scale. Many studies have shown that low socioeconomic status increases stress and anger, resulting in higher levels of trait anger (Gallo & Matthews, 2003). Lack of social support, financial stress, and daily life difficulties may increase anger levels in low-income groups.

The data are largely consistent with general trends in the literature. However, some findings may be influenced by the cultural context. Social norms in Türkiye may contribute to women's introverted anger expressions and to young individuals experiencing more anger. This suggests that social norms may cause women to introvert their anger expressions. In addition, the positive effect of higher education on anger control may be associated with the psychological resilience provided by education.

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IMPLEMENTING TRAUMA-INFORMED PRACTICES TO ADDRESS VIOLENCE AND TRAUMA IN ADDICTION RECOVERY

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Abstract

Recovery from addiction often intersects with trauma or violence, which complicates sobriety. Addiction behaviors can be exacerbated by unresolved trauma, which increases the risk of relapse and prevents full recovery from addiction. This paper aims to explore how trauma-informed practices can be integrated into addiction recovery settings to ensure emotional and psychological wounds do not impede the recovery journey. The objective of this study was to assess the implementation and effectiveness of trauma-informed practices within a Therapeutic Recovery Community (TRC) involving 58 residents. Each participant dealt with the compounded effects of trauma and addiction. The study aimed to determine how trauma-sensitive interventions could alleviate emotional distress, reduce violence-related behaviors, and help residents process past trauma, ultimately supporting long-term recovery and emotional resilience. To address these issues, trauma-sensitive counseling, mindfulness exercises, and cognitive-behavioral therapy (CBT) were implemented, tailored to the individual needs of residents. These interventions were designed to improve emotional regulation, reduce impulsive behaviors, and promote healing. A safe and supportive community environment was also created to allow residents to openly address trauma's impact on their recovery. The study employed a mixed-methods approach, using quantitative tools such as the Trauma Symptom Inventory-2 (TSI-2) to measure trauma-related symptoms and the Buss-Perry Aggression Questionnaire (BPAQ) to assess impulsive, violence-related behaviors. Qualitative data were gathered through resident interviews and focus groups, examining emotional regulation, coping strategies, and residents' sense of safety. Results indicated that 75% of participants experienced significant improvements in trauma-related symptoms, including reduced anxiety and emotional dysregulation. Significant reductions were also observed in aggression and impulsive behaviors associated with violence. Qualitative feedback revealed that residents felt more in control of their emotions and better equipped to manage triggers related to past trauma, highlighting the importance of the safe and supportive environment. This study underscores the critical role trauma-informed practices play in addressing trauma and violence in addiction recovery. By fostering a supportive environment, these practices significantly reduce trauma-related symptoms and impulsive behaviors, while promoting emotional healing and sustained sobriety. This research advocates for broader use of trauma-sensitive interventions in addiction recovery programs to enhance emotional well-being and reduce the risk of relapse.

Keywords: *Trauma, violence, addiction, trauma-informed care.*

1. Introduction

Addiction and trauma are deeply interconnected, with substantial evidence pointing to the role of unresolved trauma in perpetuating substance use disorders. According to research, trauma victims are more likely to develop addictions because they often use substances to cope with their emotions (Najavits, 2002; Khoury et al., 2010). However, traumatic experiences can be compounded by addiction behaviors, creating a cycle between drug use and trauma (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Unresolved trauma not only exacerbates addictive behaviors but also increases the likelihood of relapse and complicates emotional regulation during recovery (van der Kolk, 2014). Studies have shown that trauma-related symptoms such as anxiety, emotional dysregulation, and aggression can significantly hinder recovery outcomes if left unaddressed (Hien et al., 2009). Addressing trauma within addiction treatment is therefore critical to ensuring lasting recovery and emotional resilience. Trauma-informed care has emerged as an effective framework for addressing these challenges. This approach emphasizes safety, trust, empowerment, and collaboration, creating an environment where individuals feel supported in addressing the impact of trauma on their recovery (Fallot & Harris, 2001).

Interventions such as trauma-sensitive counseling, mindfulness practices, and cognitive-behavioral therapy (CBT) have been found to improve emotional regulation, reduce impulsive behaviors, and enhance coping strategies in individuals with co-occurring trauma and addiction (McGovern et al., 2009; Van Dam et al., 2012; Vujanovic et al., 2016). Although trauma-informed practices are increasingly supported by evidence, their implementation in addiction recovery programs remains inconsistent. To fill this gap, this study evaluated the integration and effectiveness of trauma-informed interventions in a Therapeutic Recovery Community. It explored how these practices can alleviate trauma-related symptoms, reduce violence-associated behaviors, and foster emotional healing, ultimately promoting long-term sobriety and resilience.

2. Design

This study employed a mixed-methods design to evaluate the implementation and effectiveness of trauma-informed practices within a therapeutic recovery community. The design integrated quantitative measures to assess trauma-related symptoms and impulsive behaviors with qualitative approaches to capture residents' personal experiences and perceptions. By combining these methods, the study sought to provide a holistic understanding of how trauma-informed interventions influence emotional regulation, reduce violence-related behaviors, and support long-term recovery. The research was conducted in a residential therapeutic community setting, ensuring a controlled environment for implementing and evaluating interventions.

3. Objectives

- To assess the impact of trauma-informed practices on trauma-related symptoms, including anxiety, emotional dysregulation, and intrusive experiences.
- To evaluate the effectiveness of trauma-informed practices in reducing violence-related behaviors, such as aggression and impulsivity, among residents in addiction recovery.
- To explore how trauma-informed interventions promote emotional regulation, coping strategies, and a sense of safety within the recovery community.
- To determine the role of a safe and supportive community environment in fostering long-term sobriety and emotional resilience among individuals with co-occurring trauma and addiction.

4. Methods

4.1. Participants

The study involved 58 male residents of a therapeutic recovery community, aged 24 to 60, who were engaged in addiction recovery and had a history of trauma. All residents were asked to complete the Trauma Symptom Inventory-2 (TSI-2) and Buss-Perry Aggression Questionnaire (BPAQ) before and after the interventions. Participants were selected based on their willingness to participate and their suitability for trauma-informed interventions, as determined by clinical assessments.

4.2. Interventions

Three primary trauma-informed interventions were implemented:

- **Trauma-Sensitive Counseling:** Tailored one-on-one sessions focused on processing past trauma, identifying triggers, and building resilience.
- **Mindfulness Exercises:** Group-based mindfulness practices conducted within psychoeducational groups, designed to improve emotional regulation and reduce stress responses.
- **Cognitive-Behavioral Therapy (CBT):** Structured one-on-one interventions targeting maladaptive thought patterns and behaviors associated with trauma, impulsivity, and aggression.

4.3. Data collection

Quantitative data were collected using:

- **Trauma Symptom Inventory-2 (TSI-2):** The TSI-2 is a 136-item self-report tool by Briere, updated in 2011 from its original 100-item version. It assesses posttraumatic stress and psychological effects of trauma and stress, including neglect and loss. Respondents rate symptoms on a 4-point scale from 0 ("never") to 3 ("often") over the past six months.

- **Buss-Perry Aggression Questionnaire (BPAQ):** The Buss-Perry Aggression Questionnaire (BPAQ), developed in 1992, measures aggression across four dimensions: physical aggression, verbal aggression, anger, and hostility. It includes 29 items rated on a 5-point scale from "Extremely Uncharacteristic" to "Extremely Characteristic". Scores range from 29 (least aggressive) to 145 (most aggressive), with higher scores indicating greater aggression.

Qualitative data were gathered through:

- **Resident Interviews:** Semi-structured interviews were conducted to gain in-depth insights into participants' experiences. These interviews explored emotional regulation, coping strategies, and how residents perceived and responded to trauma-informed interventions. Participants were encouraged to share personal narratives, providing a deeper understanding of the emotional and psychological changes they experienced throughout the program.
- **Focus Groups:** Residents' perceptions of safety and the supportive community environment were examined through focus group discussions. In these sessions, participants were able to reflect on the importance of community relationships, sharing experiences, and peer support in their recovery journeys, providing insight into the benefits of a community-based approach in a broader sense.

5. Data analysis

A paired t-test was used to assess the significance of changes in trauma-related symptoms and impulsive behaviors before and after the intervention. A thematic analysis of qualitative data was conducted to identify patterns and themes related to participants' emotional and psychological experiences.

5.1. Statistical analysis

Data analysis was conducted to evaluate the effectiveness of the interventions:

- **Descriptive Statistics:** Mean scores and standard deviations for TSI-2 and BPAQ were calculated for pre-intervention and post-intervention assessments.
- **Paired t-tests:** Conducted to compare pre-intervention and post-intervention scores for both measures, assessing the statistical significance of changes in trauma symptoms and impulsive behaviors.
- **Effect Size:** Cohen's d was calculated to determine the magnitude of the observed changes.

6. Results and discussion

The results demonstrate significant improvements in trauma-related symptoms and behavioral regulation among participants, as evidenced by pre- and post-intervention comparisons.

6.1. Quantitative findings

- **Trauma-Related Symptoms:** Participants showed a substantial reduction in trauma-related symptoms, with the mean score decreasing from 64.3 (±8.1) to 48.7 (±6.5). This change was significant ($t = 9.56$, $p < 0.001$) and accompanied by a large effect size (Cohen's $d = 1.5$), indicating meaningful and impactful improvements in areas such as anxiety and emotional dysregulation. Overall, 75% of participants demonstrated significant progress in reducing trauma-related symptoms.
- **Aggressive Behaviors:** Aggression and impulsivity scores changed significantly. The Buss-Perry Aggression Questionnaire (BPAQ) mean score decreased from 72.5 (±10.3) to 55.4 (±8.9), reflecting a 23.6% reduction in violence-related behaviors. This change was significant ($t = 8.43$, $p < 0.001$) with a large effect size (Cohen's $d = 1.3$), highlighting substantial progress in managing impulsivity and aggression among participants.

Table 1. Statistical Results of Pre- and Post-Intervention Measures.

Measure	Pre-Intervention Mean (±SD)	Post-Intervention Mean (±SD)	t-value	p-value	Effect Size (Cohen's d)
Trauma Symptom Inventory-2 (TSI-2)	64.3 (±8.1)	48.7 (±6.5)	9.56	< 0.001	1.5
Buss-Perry Aggression Questionnaire (BPAQ)	72.5 (±10.3)	55.4 (±8.9)	8.43	< 0.001	1.3

6.2. Qualitative findings

In addition to quantitative measures, qualitative data were collected through resident interviews and focus groups. These discussions delved into participants' experiences with emotional regulation, coping strategies, and their perceptions of safety within the therapeutic recovery community. The analysis revealed rich insights, offering a deeper understanding of residents' personal growth and the supportive role of the community, effectively complementing the statistical results.

Identified Themes

- **Improved Emotional Regulation:** Participants consistently described feeling more capable of recognizing and managing their emotional responses. Many individuals reported an increased awareness of their emotions and triggers, enabling them to take proactive steps to prevent the escalation of negative behaviors.
- **Coping Strategies:** Residents highlighted the use of new techniques, such as mindfulness exercises and cognitive reframing, to manage triggers related to past trauma. These strategies were reported as effective tools for maintaining emotional balance.
- **Sense of Safety:** A recurring theme in the discussions was the significance of a safe and supportive environment. Residents expressed that the therapeutic community fostered trust and openness, which were essential for their healing journey.

Illustrative Quotes

Some anonymous quotes from participants are included below:

- "I feel like I finally understand my triggers and can pause before reacting."
- "The mindfulness exercises taught me to stay present, which has helped me manage my anxiety."
- "The environment here feels safe and healing, like I can open up and let go."

Integration with Quantitative Findings

The qualitative feedback aligns closely with the statistical results. For example, the significant reduction in BPAQ scores reflects the reported improvements in coping strategies and emotional regulation. Similarly, the decrease in TSI-2 scores correlates with residents' feelings of increased resilience and reduced anxiety. These qualitative insights add context to the quantitative data, illustrating how the interventions facilitated meaningful changes in participants' lives.

7. Conclusions

This study highlights the essential role of trauma-informed practices in addressing the complex challenges of trauma and violence in addiction recovery. By implementing interventions such as trauma-sensitive counseling, mindfulness exercises, and cognitive-behavioral therapy (CBT) within a supportive community environment, the research resulted in significant reductions in trauma-related symptoms, with improvements in anxiety, depression, dissociation, and anger, as measured by the Trauma Symptom Inventory-2 (TSI-2). Additionally, reductions in impulsivity and aggression were observed, as evidenced by the Buss-Perry Aggression Questionnaire (BPAQ), demonstrating meaningful progress in managing violence-related behaviors. Participants showed enhanced emotional regulation, greater resilience in managing triggers, and a more stable sense of safety within the therapeutic community. These findings reinforce the effectiveness of creating a safe, trauma-sensitive space that promotes healthier coping mechanisms and long-term recovery. The study underscores the importance of integrating trauma-informed approaches into addiction recovery programs to improve emotional well-being, reduce relapse risk, and support sustained sobriety. Ultimately, this research advocates for the broader adoption of trauma-informed practices as a standard element of addiction recovery frameworks to address the interplay between trauma, violence, and addiction.

8. Implications for trauma-informed care

This study underscores the importance of addressing the comprehensive range of trauma-related symptoms in addiction recovery. By targeting these domains through tailored interventions, trauma-informed practices not only alleviate emotional distress but also significantly reduce impulsive and violent behaviors, thereby decreasing the risk of relapse and promoting sustained sobriety. The findings advocate for the integration of trauma-sensitive approaches into addiction treatment programs to foster emotional healing, resilience, and long-term sobriety.

9. Limitations

While the findings of this study are promising, several limitations should be noted:

1. **Sample Size and Specificity**: The study included 58 residents from a single therapeutic recovery community. This limits the generalizability of the results to other populations or settings. Future research should replicate this study across diverse communities and larger samples.
2. **Self-Report Measures:** Data collection relied on self-reported instruments, including the TSI-2 and the BPAQ, as well as qualitative data gathered through resident interviews and group discussions. While these methods provide valuable insights into residents' experiences and perceptions, they may also introduce response biases, such as underreporting or overreporting of symptoms.
3. **Lack of Long-Term Follow-Up**: The study measured outcomes during the intervention period but did not include a long-term follow-up to assess the sustainability of improvements in trauma-related symptoms and behaviors.

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THE COGNITIVE COMPLEXITY IN READING THE ARABIC SCRIPT OF MALAY

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Abstract

The Malay language is a synchronous digraphic language as it is written in both the Roman Script (or Latin Script, henceforth, Rumi) and the Arabic Script (henceforth, Jawi). Unfortunately, the majority of the Malay speakers are not Rumi-Jawi biscriptals; in fact, Jawi is marginalized despite being the other official script for the Malay language. Jawi has been described as cognitively more complex than Rumi due to the inconsistent cognitive mapping between the Jawi symbols and the sound each symbol is said to represent. There are 4 spelling patterns in the current Jawi spelling system and this further complicates the process of reading Jawi. However, more scientific evidence is needed to support this claim. Hence, this study was conducted to illustrate how complex the process of reading Jawi is. Three experiments were conducted using the E-Prime Software that is linked to the TOBII TX300 eye tracker. Experiment 1, Experiment 2, and Experiment 3 were conducted on 30 Jawi readers to investigate the complexity in reading all four spelling patterns. Experiment 1 measured participants' correct responses and their Reaction Times in choosing the correct spelling for the words that the participants heard whereas Experiment 2 and Experiment 3 measured the participants' correct responses, reaction times (Onset), and the reading duration when two-syllable Malay words written in current Jawi spelling system were presented to them. Results show that different spelling patterns result in different mean number of correct responses and in different mean reaction times (in Experiment 1, Experiment 2, and Experiment 3). This suggests that some spelling patterns in the current Jawi spelling system are easy whereas some are not. This study hence proposes that a more consistent spelling system should be introduced to Jawi so that the number of Rumi-Jawi biscriptals can increase in the future.

Keywords: *Arabic script, cognitive complexity, Malay, reading, spelling*.

1. Introduction

Writing system refers to a set of graphic symbols that enables visual information to be understood. The Roman Script uses the alphabetic writing system as each of its symbols – which are typically called letters – represents the individual speech sound that exists in the language (Yule, 2016). The Arabic Script, on the other hand, uses the abjad writing system as each of its symbols – which are called consonant letters – represents a syllable as the vowel sounds are not clearly manifested in the syllables of the abjad writing system (Yule, 2016). Two other writing systems, i.e., the Logographic, and the Syllabic writing systems; however, they are not elaborated in this manuscript for relevance reasons.

The Malay language is a language spoken mainly in Southeast Asia and is the official language of Malaysia, Brunei Darussalam, dan Singapura (Salehuddin & Mahmud, 2023). The Malay language (henceforth, Malay) is a synchronous digraphic language as it is written in both the Roman Script (or Latin Script, henceforth, Rumi) and the Arabic Script (henceforth, Jawi). Despite the fact that both Rumi and Jawi are official writings of the Malay language (The National Language Act 1963/67, 2006), and despite the fact that the Malay language is the national language of Malaysia (The National Language Act 1963/67, 2006), the majority of the speakers of Malay are not Rumi-Jawi biscriptals. As a matter of fact, Jawi today is very much marginalized by the speakers of Malay that the Malaysian Government's initiative to reintroduce Jawi in the school curriculum is opposed by many of its own citizens (Mohd Salleh 2019). Those who oppose to this idea believe that Jawi is more relevant to the more conservative individuals and they strongly believe that the script should only be recognized as a national heritage. These justifications are unacceptable because as a synchronous digraphic language, the wide usage of Rumi does not mean Jawi is to be replaced by Rumi; it means that both Rumi and Jawi must co-exist in the linguistic landscape of the nation and be used widely and comfortably by all speakers of Malay as the National Language of Malaysia.

One of the possible reasons why Jawi is marginalized by a majority of its citizens is perhaps due to its cognitive complexity in comparison to Rumi (Salehuddin, 2012). The cognitive mapping between the Jawi symbols and the sound each symbol is said to represent is very inconsistent – unlike that of Rumi. For example, while the five vowel letters of Rumi are almost adequate to represent all the six vowel sounds of the Malay language, the three vowel letters of Jawi is far from enough to represent all the six vowel sounds of the Malay language. The use of consonant letters (e.g., <ق>, which, in Arabic is used to represent the consonant /q/) that do not reflect the sounds in Malay (e.g., <مق> ('mak') to represent the consonant /ʔ/) baffles many as the sound /q/ is nonexistent in Malay. The inconsistent manifestations of vowel letters to represent vowel sounds in its spelling (e.g., <جك> (C·C), <توا> (C·CV), <اين> (CV·C), and <حاتي> (CV·CV) for two-syllable words – when vowel sounds are obligatory sounds in all syllables) complicates the process of reading Jawi. Such an inconsistent spelling system is almost nonexistent in Rumi as all Malay vowel sounds are manifested in the form of vowel letters in Rumi. As a matter of fact, there are four spelling patterns in the current Jawi spelling system and they each come with a long list of rules and exceptions. All these are evidences that can explain why Jawi is less preferred by speakers of Malay than Rumi. However, more scientific evidence is needed to support this claim.

2. Objectives

This study was conducted to illustrate how complex the process of reading Jawi is. Specifically, it hopes to

a. outline the difficulty in identifying the correct Jawi spelling in a listening test;
b. identify which of the four current Jawi spelling pattern, is easy for readers to read; and
c. examine if there is another spelling pattern that is easier for readers to read than the one in (b) above.

Based on past studies, it is assumed that words are regarded as easy to read if they have 1) the highest mean of correct responses, 2) the fastest mean of onset to the correct responses, and 3) the shortest mean of word reading duration (e.g., McLelland, 2009; Ehri, 1995; Share, 2008).

3. Method

This study was conducted to illustrate how complex the process of reading Jawi is. Three experiments were conducted using the E-Prime Software that is linked to the TOBII TX300 eye tracker. Experiment 1 was conducted to achieve Research Objective 1, Experiment 2 was conducted to achieve Research Objective 2, and Experiment 3 was conducted to achieve Research Objective 3. Data from the eye tracker were not obtained for this study as it is not within the scope of the study. All three experiments were conducted one after another for each participant with a short break (10-15 minutes) in between. The experiments were conducted at the Eye Tracking Lab at the Centre for Research in Language and Linguistics, Universiti Kebangsaan Malaysia. Research Ethics Approval (JEP-2022-769) was obtained prior to the data collection stage.

3.1. Participants

Thirty (20 male, 10 female) native speakers of Malay who were between 17 and 58 years old participated in all three experiments. They were all Malay-English bilinguals who can read the Qur'an, which is written in the Arabic script. This inclusion criterion is important as all the words used as stimuli in all three experiments were written in the Arabic script. Their familiarity with the Arabic letters, the different forms of the letters, and what sound each Arabic letter represents are important; however, ability to communicate in Arabic, both in speaking and writing is not a requirement as being able to read the Qur'an does not mean one is able to communicate in Arabic. The participants were shortlisted from 35 individuals who responded to the call for participation through the social media. The experiments were conducted on one person at a time. All participants read the information sheet once they reached the eye tracking lab and signed the Informed Consent Form prior to participating in the experiment.

3.2. Experiment 1

Experiment 1 was conducted to outline the difficulty in identifying the correct Jawi spelling in a listening test.

3.2.1. Stimuli. 36 high-frequency, two-syllable Malay words in audio forms were used as stimuli in Experiment 1. All the words were read by a male native speaker of the Malay language, prerecorded at the developmental stage of this experiment. The words were presented to them individually via the E-Prime

software and participants were to choose, from four spelling options presented to them visually on the Eye Tracking Monitor via E-Prime, the spelling that matches the word they hear.

The four options were variations of a Malay word that was spelled in the four possible spelling patterns for Malay two-syllable words. The patterns include 1) Consonant letters only in the first and the second syllables (i.e., no vowels in both syllables); 2) Consonant letter(s) only in the first syllable; consonant letter(s) and a vowel letter in the second syllable (i.e., no vowel letter in the first syllable); 3) Consonant letters(s) and a vowel letter in the first syllable only; consonant letters only in the second syllable (i.e., no vowel letter in the second syllable); and 4) consonant letter(s) and a vowel letter in both the first and second syllables (i.e., vowel letters in both syllables). However, only one of the four options was correct. All the four options were positioned at the left, top, right, and at the bottom of the monitor.

3.2.2. Procedure. Once the informed consent form was signed, participants went through a practice trial session with 10 one-syllable words to be familiar with the experiment. Participants were asked to choose either the left, up, right, or the down arrow key to select the answers. The position of each arrow key matches with the position of the options displayed on the monitor, hence, if they think the spelling of the word, they hear matches with the word they see at the bottom of the monitor, they need to press the down arrow key. They were briefed orally, but the written form of the instruction was also displayed at the beginning of the experiment.

A fixation screen appeared for a second to keep the participants focused. A two-second audio prompt in the form of a one-syllable word was presented. This was followed by a five-second display of the four spelling options. The participants selected the spelling pattern that matches the audio display and the E-Prime automatically recorded their responses as “correct” or “incorrect”, and their reaction time to the prompt. Their focus was then brought back to the fixation screen, after which, another one-syllable word appeared. If, after 5 seconds they provided no response, they will be brought to the fixation screen, and then another one syllable word. This procedure repeated until all ten one-syllable Malay words were presented. The actual experiment took place after the completion of the practice trial, following the same procedure, only now with 36 two-syllable Malay words.

3.2.3. Data Analysis. Accuracy and reaction times data from all 30 participants were collected. However only the reaction time for the correct responses were analysed. Descriptive data were analyzed using means and SD. Repeated-measure ANOVA was conducted on the data, with four factors (Spelling Pattern: 1, 2, 3 and 4).

3.3. Experiment 2

Experiment 2 was conducted after the completion of Experiment 1 to identify which, out of the four spelling patterns of the current Jawi spelling system, is easy for readers to read.

3.3.1. Stimuli. Thirty-six high-frequency, two-syllable Malay words written in Jawi were displayed for five seconds on the eye tracking monitor via E-Prime, one word at a time, for them to read aloud. The words are not the same as those in Experiment 1.

3.3.2. Procedure. After the completion of Experiment 1, participants went through a practice trial session with 10 one-syllable words, displayed one at a time, to be familiar with the experiment. Participants were asked to read aloud each word using a Desktop USB Microphone and their audio responses were automatically recorded via the E-Prime software. A one-minute fixation screen separates the display of each word. This procedure repeated until all ten one-syllable words were presented. The actual experiment took place after the completion of the practice trial, following the same procedure, only now with 36 two-syllable Malay words.

3.3.3. Data Analysis. The audio recordings of each word for each participant were examined for accuracy and only those that were read aloud accurately were further analysed using Praat (Boersma & Weenink, 1992-2025) to measure the reaction time and the duration (in second) taken to complete reading each word. All statistical analyses were conducted using SPSS version 25.0 (IBM Corp., Armonk, NY, USA). Descriptive data were analysed using means and SD. A repeated-measure ANOVA on the data was conducted, with four factors (Spelling Pattern: 1, 2, 3 and 4).

3.4. Experiment 3

Experiment 3 was conducted after the completion of Experiment 2 to examine if there is another spelling pattern that is easier for readers to read than the one in (b) above.

3.4.1. Stimuli. Five two-syllable pseudowords (which are phonologically and orthographically plausible as Malay words) written in Jawi, were displayed for five seconds on the eye tracking monitor via E-Prime, one word at a time, for participants to read aloud. The 5 pseudowords were spelled following the four spelling patterns of the current Jawi spelling system. A fifth spelling pattern, which reflects the pattern in the Qur'an (i.e., only consonant letters with diacritics to represent vowels sounds) was also included to spell the pseudowords. The fifth spelling pattern was included because all of them can read the Qur'an fluently. Altogether there were 25 pseudowords for the participants to read.

3.4.2. Procedure. The experimental procedure for Experiment 3 was the same as the one in Experiment 2, using the same instruments.

3.4.3. Data Analysis. The audio recordings of each word for each participant were examined for accuracy. Although they were pseudowords, their accuracy was based on how they matched the expected production by the researcher. Only those that were read aloud accurately were further analysed using Praat to measure the reaction time and the duration taken to complete reading each word. All statistical analyses were conducted using SPSS version 25.0 (IBM Corp., Armonk, NY, USA). Descriptive data were analysed using means and SD. A repeated-measure ANOVA on the data was conducted, with four factors (Spelling Pattern: 1, 2, 3, 4, and 5)

4. Results

4.1. Experiment 1

ANOVA on the number of correct responses revealed that the effect of Spelling Pattern is not significant, indicating the mean accuracy was more or less the same for all spelling patterns. ANOVA on the mean reaction times revealed that the effect of spelling patterns is significant, suggesting that more time was needed to process Pattern 2 and Pattern 4. Shorter time was needed for Pattern 1 and Pattern 3.

4.2. Experiment 2

ANOVA on the number of correct responses revealed that the effect of Spelling Pattern is significant. Post-hoc comparisons suggests that words with vowel letters in both syllables were read most accurately than other patterns.

ANOVA on the mean reaction time suggests that participants took longer time to read words that have no vowels in the first syllable.

ANOVA on the mean duration suggests that the amount of time taken to completely read the all the two-syllable Malay words correctly was the same for all spelling types.

4.3. Experiment 3

ANOVA on the mean number of correct responses revealed that the effect of Spelling Pattern is significant. Post-hoc comparisons suggest that the presence of diacritics in the spelling of the pseudowords helps participants to read the pseudowords more accurately.

ANOVA on the mean reaction time revealed that the effect of Spelling Pattern is significant. Post-hoc comparisons suggest that Pattern 1 (c·c) and Pattern 5 (ć·ć) had the fastest reaction time, which indicates least processing is needed to read these two spelling patterns whereas Pattern 4 requires more processing than Pattern 5.

ANOVA on the mean duration revealed that the effect of Spelling Pattern is significant. Post-hoc comparisons showed that, Pattern B had shorter duration than Pattern 4 and Pattern 5 but were not significantly different from Pattern 4 and Pattern 3. Pattern 1, Pattern 3, Pattern 4, and Pattern 5 were not significantly different from one another

5. Discussion and conclusion

This study was conducted based on the assumption that spelling pattern that gets the highest number of correct responses, that gets the fastest reaction times, and that is read in the shortest duration is the easiest spelling pattern. Experiment 1 shows that participants were not able to identify the correct Jawi spelling for all the Malay words they heard efficiently; less than 50% of the responses were correct. This experiment also shows that although the words were common words in the participants' environment, the participants needed more time to read words with more items. This suggests that in a listening test, all four spelling patterns of the current Jawi are equally difficult.

Experiment 2 shows that participants were able to read words most accurately when there are vowels letters in both syllables, and knowledge of the Malay vocabulary helps to speed up the mean reaction times. However, the duration when reading those words were not significantly different from each other as their vocabulary knowledge helps them to complete reading the words quickly.

Experiment 3 shows that participants were able to read pseudowords most accurately when there are vowel diacritics in both syllables. This is followed by pseudowords with vowel letters. This suggests that knowledge in vocabulary is negligible when the objective is to enable pseudowords to be read accurately. However, although the presence of vowel marks increases the "decipherability" of the words (Share, 2008), they took more time to start to read those words and spent the longest to complete them as there were more items to look at.

This study has shown that only one of the spelling patterns in the current Jawi spelling system is easy whereas the rest are not. Although as mentioned earlier, 'easiest' refer to the highest mean number of correct responses, the fastest reaction times, or the shortest duration, for this study, 'easiest' was only indicated by the mean number of correct responses. Although in most cases, longer time indicates more difficulty in reading, the presence of either diacritics or vowel letters in both syllables actually help readers to be more careful in their readings, which results in the two highest correct responses for these two types. This suggests that accuracy is generally more important than speed.

This study has shown that reading Jawi is not entirely difficult. If vowel letters or diacritics are consistently present in all of its syllables, reading Jawi will be much easier. Readers do not have to possess knowledge of the Malay vocabulary and grammar to be able to read Jawi if each of the symbols used in Jawi can be matched to a particular speech sound in the Malay language. If such spelling pattern consistently exist in Jawi, the aim to increase the number of Rumi-Jawi biscriptals among speakers of the Malay language can be materialized.

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A TICKING 'TIME' BOMB: THE CHALLENGES AND COPING STRATEGIES OF EMPLOYED FEMALES' WELL-BEING

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Abstract

Financially empowered women contribute to their families and communities, promoting wider social benefits like education, improved health, and lower child mortality rates (HSRC, 2024). This highlights the critical social and economic benefits employed females (EF) provide. The number of EF has increased over the years due to the need for increased financial support in families. Although the female employment rate in South Africa (SA) is only 55,8% this is an increase from 38% in 1995 (StatsSA, 2024). Furthermore, more than 60% of women are the primary household purchasers, irrelevant of employment status (IQBusiness, 2020). Regardless of their relationship status, EF often have family responsibilities and are expected to balance dual roles concerning work, home, and other responsibilities, increasing stress and lowering levels of overall well-being (Commision of Gender Equality, 2024). This is driven by SA having more than 42% female-headed households (StatsSA, 2023). Healthy females are the foundation for healthy societies and constant high-stress levels are not sustainable. Balance of work and life poses challenges for EF and therefore, EF need coping strategies to support their overall well-being. Psychological well-being allows EF to increase happiness, focus, and effectively complete daily tasks. This study aims to reflect on the challenges and coping strategies of EF during purchasing decision tasks. *Methods*: The results presented were part of a larger research project, including similar independent qualitative and quantitative studies. An exploratory qualitative study entailed four EF focus groups that identified and described challenges and coping strategies until data saturation. Furthermore, an exploratory quantitative study (N = 255) was conducted among EF using online questionnaires, providing descriptive and correlational data. *Results*: Both studies indicated that the predominant challenge facing all EF is the lack of time. Despite innovative coping strategies, including support, planning purchases and shopping online, unhealthy or unsustainable coping strategies were also identified, including paying higher prices for convenience, depending on fast food, and having a fight or flight response, which is not viable in the long term. *Conclusion*: Enhanced psychological well-being may help EF manage challenges. A balanced work-life environment and healthy coping strategies might improve their well-being, performance under stress, and self-efficacy, benefiting society.

Keywords: *Employed females, challenges, coping strategies, well-being, women.*

1. Introduction and objectives of the study

Females continue to enter the workforce due to financial and psychosocial needs, enabling employed females (EF) to contribute to their families and communities and promoting wider social benefits (HSRC, 2024). Regardless of being full-time employed and EF relationship status, family and homemaking responsibilities have remained moderately unaffected, and EF is expected to balance dual roles regarding work, home, and other responsibilities, adding to the stress and lowering levels of overall well-being (Devi & Rani, 2016). This engendering role overload (Devi & Rani, 2016), experience of guild when not meeting responsibilities and needs demanded by the different roles along with the variety of challenges such as lack of time, work-life conflict and long working hours both at work and at home contribute to their experience of stress and anxiety, which may lead to burnout and emotional exhaustion, all of which could influence their decision-making (McGowan, Redeker, Cooper & Greenan, 2012). Most women are primary purchasers of household products (IQBusiness, 2020). Consumers' decision-making is complex and influenced by psychological, social, and marketing factors, many of which are unconscious (Šostar & Ristanovic, 2023). EF faces challenges like time constraints, limited work-life flexibility, and the pressure to succeed (Farradinna & Halim, 2016). To manage these challenges, they adopt coping strategies

such as seeking support, outsourcing tasks, multitasking, adjusting work arrangements, maintaining brand loyalty, and shopping online (McGowan et al., 2012). While these strategies help navigate daily life, they also assist in household purchasing decisions. Work-life imbalance is a major psychological health risk, yet its health effects remain underexplored (Leineweber, Baltzer, Hanson & Westerlund, 2012). Conversely,
a well-balanced life fosters fulfilment, harmony, and better health (Schueller-Weidekamm & Kautzky-Willer, 2012). This study explores EF challenges and coping strategies in purchasing decisions.

2. Method

This research study entailed a mixed-methods approach integrating both qualitative and quantitative data from separate research studies as part of a larger research project to ensure a comprehensive exploration of the research topic for which both received ethical clearance from the Health Research Ethics Committee (HREC) (XXX-00003-19-S1; XXX-00079-23-A1). A concise description of each study methodology will be presented, whereafter the findings of both will be integrated with the results and discussions to enhance the depth of the overall insights on this matter. The sampling methods used were:

Non-probability, purposive and snowball sampling methods were suitable for the **qualitative** study. Data saturation was reached after four focus group discussions, each with a minimum of six EF consumers (N=26), aimed to explore the challenges faced and the coping strategies they adopted when making household purchasing decisions. An interview guide ensured that participants remained focused. Content analysis was used to highlight specific topics, data were coded, and themes with categories and sub-categories were identified. For the **quantitative study,** convenience sampling was used to recruit respondents to participate in an online questionnaire distributed on social media platforms in South Africa which forms part of a more extensive descriptive, cross-sectional survey. This paper only reports EF challenges and coping strategies when making daily purchases. Respondents (N=255) spoke mostly Afrikaans (43.5%), followed by English (25.9%), were married or living with a partner (55.3%), and were relatively young (18-44 years = 71.3%). Most respondents were employed full-time (77.8%), and 64.3% had children. The findings of these studies cannot be generalised to the entire EF population of SA but were nonetheless deemed appropriate for the exploratory purposes of this study to shed light on this matter.

3. Findings

Table 1 presents related themes, categories, and sub-categories from qualitative findings, alongside quantitative factors ranked by mean scores, from most to least agreed upon, for an integrated interpretation. The qualitative findings were affirmed with the quantitative factors, and clusters of five collective challenges and six coping strategies were identified from the combined results. **Finances** were identified as a major challenge for participants with constant product price increases, making it difficult for EF to purchase healthy, high-quality and eco-friendly products on a strict budget and address different needs in a household. Participants with **children** indicated undertaking independent shopping excursions without the accompaniment of children or find themselves planning their shopping around their children's schedules or emotional state, resulting in unsatisfactory and challenging shopping experiences.

*Table 1. Summary of the **challenges** experienced by employed female consumers and the **coping strategies** they use when making household purchases, in a qualitative (themes, categories and sub-categories from four focus groups) and quantitative (N=255; factors according to Exploratory Factor Analysis) study.*

Qualitative study: Themes, categories and sub-categories			**Quantitative study: Extracted factors**				
Themes	**Categories**	**Sub-categories**	**Factor name and items**	**[1]α**	**Inter-item correlation**	**[2]Mean factor score**	**[3]SD**
Challenges of employed females			**Challenges of employed females: ([4]KMO = 0.904)**				
Challenge 1: Finances							
Cost of living	Price increase of food; Strict budget		**Internal struggles regarding informed decisions**	0,864	0.480	**3.499**	0.894
			My budget is straining; I often find that quality products are too expensive; I feel emotional when I struggle to cope; I find it hard to visit new shops/centres; I find it hard to buy eco-friendly products due to high prices; I find it hard to buy healthy products; I find it hard to make purchases due to the different needs in my household				
Challenge 2: Children influencing shopping							
Children	Limited to certain shopping times; Unsatisfying shopping experience	Children's moods; Children's school hours	**Lack of alone time**	0,725	0,472	**3.360**	0.998
			I have to do shopping alone; I prefer to do the shopping alone; I struggle to do shopping with my children				
Challenge 3: Long work hours and high workload							
Work hour limitations	Certain stores	More expensive store	**Work-life balance struggles**	0.817	0.471	3,033	1,042
	Certain times	Empty shelves; Congested traffic;					

Qualitative study: Themes, categories and sub-categories			**Quantitative study: Extracted factors**				
Themes	**Categories**	**Sub-categories**	**Factor name and items**	**[1]α**	**Inter-item correlation**	**[2]Mean factor score**	**[3]SD**
		Limited space	I often experience stress; I find it hard to maintain a work and family balance; My workload is overwhelming; I do not have enough time to do shopping; My work hours are straining				
	Certain days	Unable to compare prices					
Challenge 4: Time and product availability							
Lack of time	For household purchases; Cannot plan purchases; Affects quality purchases; High volume of purchases		**Product and time availability**	0,688	0,359	2,956	0,894
In-store challenges	Changing the store layout or revamping	Untidy; Unable to find needed products; Time-consuming	Online deliveries or purchasing is not available in the town or area I live in; I find it hard to buy eco-friendly products due to a lack of availability; I do not have time to do proper research on new products or clothes; I buy the first product I see due to time constraints				
	Incorrect allocation of store products						
	Unorganised store						
	Busy stores	Long queues					
	Unsatisfied service	Employees not trained well					
	Employees' attitude						
Challenge 5: Lack of support							
Insufficient support	Forced to purchase products on their own		**Lack of support system**	0.705	0.545	2,738	1,097
			I do not have any support from my family; I do not have any support from friends				
Qualitative study: Themes categories and sub-categories of coping strategies of EFs			**Quantitative study: Extracted factors of coping strategies of EFs ([2]KMO = 0.904)**				
Coping strategy 1: Familiarity							
Shopping at specific stores	Close by	Walking distance	**Buy familiar brand**	0.711	0.460	**4.034**	0.654
	On the usual route; Stores with familiar layouts save time; With specific needed products; With a variety of products; Less in-store frustration		I buy familiar products when doing necessary purchases; I buy familiar brands or products; I buy certain brands or products I know				
Coping strategy 2: Executive function support and cognitive flexibility – emotional management							
Manage attitude by creating a mental shift	Circumstances	Children's moods; Children's school hours	**Fight or flight response**	0,662	0,342	**3.838**	0.736
	Poor services		I have to multi-task; I work overtime to get my work done; When I am stressed, I suppress my feelings/emotions and continue with my work; I buy the cheapest options				
Mood	Postpones shopping	In-store frustrations					
	Good mood						
	Bad mood						
Coping strategy 3: Home management support							
Shopping support	Arranged for someone to do their shopping for them	Spouse; Family member; Others	**Relying on External sources for help and information**	0.609	0.248	3,380	0.752
			I have people (e.g. husband/flat mate) to help me with household tasks; I have employees (e.g. domestic workers) to help me with household tasks; I ask advice from family/friends when I need to purchase an unknown product; I research unknown products before I buy them; I rely on recommendations of products from friends/family				
Coping strategy 4: Pro-active behaviour							
Planned purchases	List	Make own lists; Assistance with lists	**Higher-order holistic approach**	0.709	0.333	3.177	0,792
	Plan purchases for specific days	Weekly basis; Weekends; Monthly basis; Seasonal basis	I resort to activities such as exercise to distract me from stressful situations; I see a therapist to help me deal with stressful situations; I plan shopping in advance; I buy eco-friendly products because it is better for the environment; Eco-friendly labelled products make purchasing decisions easier for me				
	Plan purchases for specific times	During lunch breaks; During work hours; Less traffic; Flexitime; Around children's schedules					
	Check prices of items before making purchases						
	Check for specific products before making purchases						
	Well-thought-through purchases	Plan to go shopping; Think about what is needed at home before shopping					
	Bulk purchases	Save money; Save time; Avoid daily shopping					
	Specials to save money	Monthly basis; Bulk purchases					
	Cheaper products	Easy disposal					
	Budget	Additional expenses					
Meals	Advance preparation						
Coping strategy 5: Childcare							
Childcare support	Arranged someone to look after their children		**Strategies to cope with children**	0.599	0.333	2.785	0.929

Qualitative study: Themes, categories and sub-categories			Quantitative study: Extracted factors				
Themes	**Categories**	**Sub-categories**	**Factor name and items**	**[1]α**	**Inter-item correlation**	**[2]Mean factor score**	**[3]SD**
			I take my children with me to do shopping to spend time with them; I take my children with me to do shopping because I do not have anyone to look after them while I do shopping; I rely on family members to look after my children when I do shopping				
Coping strategy 6: Time and frustration-saving strategies							
Willingness to pay more	Better quality; Time-saving; Better fit; Better service	Brands	**Short-cut heuristics to save time**	0,782	0,374	2,761	0,882
Rewards to feel good	Deserved rewards		I do online shopping for clothing to save time; I do online shopping for food to save time; I buy the most expensive option of the product/clothing I need; I buy take-away food because I do not have time to prepare food myself; I buy take-away food because I do not have time to prepare food myself; I buy ready-made meals because I think it is healthier than take-away food				
Meals	Convenience food	Cheaper; Time-saving; Effortless					
	Look for alternative options	Convenience					
Shopping online	Positive towards online shopping	General products; Clothing and cosmetics					
	Convenience	Any time of day; Greater stock availability; Time-saving; Effortless; Specials					
	Detailed product information	Reviews; Product comparison; Price comparison					

1 Cronbach alpha (α)
2 Likert Scale: 1: Strongly disagree; 2: Disagree; 3: Neutral; 4: Agree; 5: Strongly agree
3 SD – Standard deviation
4 Kaiser-Meyer-Olkin Measure of sampling adequacy (KMO)

Long work hours and high workload also emerged as a challenge as it affected participants' work-life balance. Extended working hours are compelling participants to patronise specific retail establishments due to temporal limitations in stores which are often more expensive, depleted stock levels in stores, and high levels of in-store traffic congestion contributing to feelings of frustration, stress and being overwhelmed. The demanding challenge of **limited time** for household purchases is further aggravated by **unavailable products**, changing store layouts, poor organisation, crowded stores and substandard customer service, which hinder efficient product procurement and contribute to heightened stress levels. Women are often the main household purchasers and often conduct most of their shopping independently, without assistance, highlighting the **lack of support** that exacerbates their time constraints.

To address the challenges, EF revert to various coping strategies. **Familiarity** was identified as a coping strategy, helping participants save time and reduce challenges. This approach encompassed purchasing familiar brands from familiar stores located close by or en-route and utilising stores with familiar layouts and preferred product offerings to limit in-store frustrations and optimise time management. **Executive functioning support and cognitive flexibility** also emerged as a coping mechanism. Participants realised that certain challenges are unavoidable and, therefore, displayed a fight-or-fight response. By creating a mental shift, participants may opt to postpone shopping when experiencing negative emotional states or difficulty with children. Alternatively, they may endure in-store frustrations and substandard services, multitask while shopping, extend their working hours, suppress their emotional responses, or select the least expensive products to expedite the process. To manage their shopping tasks efficiently, participants utilise their **home management support**, i.e., unpaid assistance from family members and spouses and paid assistance from employees or domestic workers, for shopping-related activities and product recommendations. To meet obligations effectively, participants adopt **proactive behaviours** such as compiling lists, meticulous shopping trip planning, price and product comparisons, bulk purchases and strict budget adherence. They also identified meal preparation as a time-efficient practice, prioritised environmental sustainability by selecting eco-friendly products, and engaged in preventative behaviours, i.e. regular exercise and therapy sessions to manage stress and support mental well-being. Since shopping with children leads to unsatisfactory shopping experiences, participants arrange for **childcare** support; however, some opt to face the challenge of store visits to prioritise spending quality time with their children. Participants employ **time and frustration-saving strategies** using various shortcut heuristic approaches, such as paying premium prices, shopping online, or purchasing convenient foods to save time and avoid potential frustrations. Additionally, some participants make purchases as a form of emotional regulation to enhance their mood.

4. Conclusion

Finances and time emerged as the most significant challenges for EF in the emerging economy of SA, aligning with findings from both developed and developing countries (Akanju et al., 2020). The ongoing struggle with financial constraints and time limitations contributes to mental and emotional

exhaustion, resulting in uninformed decision-making. While many of the coping strategies discussed aim to address time-related challenges, they frequently involve unhealthy and unsustainable behaviours, such as suppressing emotions, working excessive hours, opting for the cheapest products or overspending, or relying on convenience meals. EF also indicates some coping strategies; however, it is merely the only limited choice they must make, i.e., taking children with them to do shopping due to no solution. These coping mechanisms may temporarily alleviate stress or help obtain a short-term goal but ultimately reinforce unhealthy habits, exacerbating EF challenges in the long run. Over time, this can lead to heightened stress, a diminished sense of self-efficacy, and lower overall psychological and emotional well-being among EF. The ticking time-bomb of EF, worldwide, struggling to cope with work-life balance but increasingly joining the workforce, are a disaster waiting to happen which will severely impact all levels of society, necessitating immediate decisive action to support EF and level the 'playground' of work-life balance.

5. Implications and recommendations

Research is needed across diverse settings and populations to identify sustainable and healthy coping strategies that effectively reduce the challenges faced by EF. A notable challenge highlighted by EF is the frustration of frequent changes in store layouts, which are designed to serve retail industry objectives but add significant stress and frustration to EF, leading to store avoidance. Retailers should reconsider whether frequent layout changes are truly beneficial. Another critical finding is the need for more flexible work hours for EF. Despite widespread recognition of this need, the industry continues to enforce rigid work schedules. Employers should prioritise flexibility in work arrangements to support EF in managing their responsibilities more effectively, thereby reducing stress and improving the overall well-being of EF and the greater society. Addressing these challenges through research-driven solutions and industry reforms will contribute to a healthier and more sustainable work-life balance for EF.

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PSYCHOLOGICAL LITERACY IN FUTURE TEACHERS: A STUDY AMONG SLOVAK UNIVERSITY STUDENTS

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Abstract

Research on psychological literacy began in the early 1990s. It is defined as the ability to apply psychological principles to personal, social, and organizational issues in work, relationships, and the broader community. However, little attention has been given to psychological literacy components in teachers, and such measures have not been developed in Slovakia. This study focuses on components developed within pre-service teacher training programs to examine if their development is sufficient or if changes are needed to improve psychological preparation for teachers. Specifically, we focused on resilience, self-perception, self-control, and self-efficacy. The aim of this study was to explore whether there are differences in these variables based on the year of study (i.e., whether studying psychology-related courses improve psychological competencies). A total of 646 students – future teachers (68.4%women), aged 17 to 34 (Mage=20.89, SD=1.90), participated in the research. Of the participants, 54.6% were in their first bachelor's year, 14.7% were in their second, 3.6% in their third, and 27.1% in their first master's year. The sample was selected based on availability, with students approached directly during lectures. Data collection was anonymous and voluntary (extra points were awarded) and took place in four rounds, from February 2019 to January 2024, using a paper-based questionnaire. The questionnaire included sociodemographic data (age, gender, year of study), the Resilience Scale, the Self Perception Scale, the Self-Control Scale, and the General Self-Efficacy Scale. ANOVA for independent samples in SPSS 21.0 was used to analyze the differences. Results revealed significant differences based on the year of study in the following areas: a) resilience (social competence ($p<.001$), family cohesion ($p<.001$), social resources ($p<.001$)); b) self-perception (school competence ($p=.002$), close friendship ($p=.030$)); c) self-efficacy ($p=.015$). Post-hoc tests showed that differences predominantly manifest negatively: social competence, family cohesion, and social resources decrease in higher years. Results for school competence and close friendship were mixed, with occasional decreases and increases. The only variable showing improvement was self-efficacy, where students in higher years scored higher. These results highlight the need for improved psychological training in pre-service teacher education, with more psychology-related courses focused on enhancing key psychological competencies.

Keywords: *Psychological literacy, students, teachers.*

1. Introduction

Psychological literacy nowadays extends far beyond the field of psychology and is increasingly recognized as an important competency for students across various disciplines, including in the education of future teachers (Pownall et al., 2022). The role of psychological literacy in future teacher education has gained increasing attention in recent years, ensuring that educators are well-equipped to handle the psychological and emotional complexities of teaching. This includes, for example, understanding student behavior, regulating their own emotions, and managing stress effectively (Taylor, 2019).

The term psychological literacy is most commonly defined as the ability to apply psychological knowledge and principles to personal, professional, and societal contexts (Cranney, 2022). In the teacher education, psychological literacy encompasses key competencies, including but not limited to resilience, self-perception, self-control, and self-efficacy - skills that enable teachers to manage stress, build positive relationships with students, and foster adaptive learning environments. The development of psychological literacy throughout the university studies of pre-service teachers has been a subject of research interest. As students progress in their studies, their psychological literacy develops, suggesting that a higher level of

psychological education may contribute to a better application of psychological knowledge (Horn et al., 2024).

Resilience is the ability to adapt and cope with challenging situations, such as heavy workloads, difficult students, and negative school environments (Mansfield et al., 2016). Resilient teachers are more likely to have a positive attitude toward their work, experience less stress, and report higher job satisfaction than less resilient teachers (Daniilidou et al., 2020). Similarly, self-perception refers to an individual's awareness and evaluation of their own abilities, characteristics, and emotions. In the teaching profession, it reflects how teachers view their effectiveness and competencies (Wisniewski et al., 2022). Self-control, as another variable, involves managing one's emotions, thoughts, and behaviors in different situations. This component is essential for managing stress and responding appropriately to student behavior, which contributes to a positive classroom environment and effective teaching (Sagar, 2021). Finally, self-efficacy pertains to a teacher's belief in their ability to successfully carry out teaching tasks and responsibilities. Teachers with high levels of self-efficacy are, for example, more effective in their instructional practices, tend to be more engaged with their students, and develop better relationships with their colleagues (Zee and Koomen, 2016).

Despite its significance, research on psychological literacy among future teachers remains limited in Slovakia. Although psychology-related courses are included in many teacher education programs, little is known about how effectively these courses contribute to the development of psychological literacy among university students preparing for careers in education. By embedding psychological literacy into teacher education, universities can better equip future educators with the psychological tools necessary for professional success and personal well-being, ultimately benefiting both teachers and their students.

2. Objectives

The aim of this study was to explore whether differences exist in several psychological variables (resilience, self-perception, self-control, and self-efficacy) based on the year of study among future teachers. Specifically, we examined whether taking psychology-related courses enhances psychological competencies among students.

3. Methods

3.1. Sample and data collection

A total of 646 students – future teachers specializing in different fields (68.4% women), aged 17 to 34 (M = 20.89, SD = 1.90), participated in the study. Of the participants, 54.6% were in their first year of a bachelor's program, 14.7% in their second, 3.6% in their third, and 27.1% in their first year of a master's program. The sample was selected based on availability, with students being approached directly during lectures. Data collection was anonymous and voluntary, with extra points awarded for participation. The data were collected in four rounds between February 2019 and January 2024 using a paper-based questionnaire. Ethical approval for the study was granted by the Ethical Committee at the University of Presov.

3.2. Measures

The questionnaire included sociodemographic data: (a) Age (open-ended question), (b) Gender (male / female), and (c) Year of study (1st to 3rd year of a bachelor's program or 1st year of a master's program). Subsequently, the questionnaire included the following standardized psychological scales:

a) The Resilience Scale (Friborg et al., 2003) consists of 33 items rated on a 5-point scale, with 16 reverse-scored. Each item has its own endpoint. The results are 6 subscales: Perception of self (items 1-6), α = .68; Perception of future (items 7-10), α =.82; Structured style (items 11-14), α =.53; Social competence (items 15-20), α=.63; Family cohesion (items 21-26), α =.77; and Social resources (items 27-33), α=.89. The higher score indices about higher resilience in the relevant area.
b) The Self-Perception Scale (Harter, 2012) consists of 25 items rated on a 4-point Likert scale, ranging from 1 (completely disagree in a negative sense) to 4 (completely agree in a positive sense). Items 2, 3, 6, 8, 9, 10, 12, 13, 16, 19, 20, and 25 are reverse-scored. The results are 5 subscales: School competence (items 1,6,11, 16, 21), α =.63; Job competence (items 4,9,14,19,24), α =.76; Physical appearance (items 3,8,13,18,23), α =.86; Social competence (items 2,7,12,17,22), α =.76; Close Friendship (items 5,10,15,20,25), α =.64. A higher score represents a more positive self-perception in the respective domain.
c) The Self-Control Scale (Finkenauer et al., 2005) consists of 11 items rated on a 5-point Likert scale from 1 (not at all) to 5 (absolutely yes) (e.g., "I'm lazy." / "I have trouble saying no."). Items

1–8 are reverse-scored. A total score is calculated (α = .71), with a higher score indicating greater self-control.

d) The General Self-Efficacy Scale (Schwarzer, 1992; Košč et al., 1993 - Slovak version) consists of 10 items rated on a 4-point Likert scale from 1 (completely disagree) to 4 (completely agree). A total score is calculated, with a higher score indicating a greater level of self-efficacy (α = .84).

3.3. Statistical analyses

A one-way ANOVA for independent samples was conducted using SPSS 21.0 to analyze differences in the dependent variables (resilience, self-perception, self-control, and self-efficacy) across different years of study.

4. Results

We analyzed differences in the dependent variables based on the year of study using a one-way ANOVA for independent samples. The results are presented in Table 1. The statistical analysis revealed significant differences based on the year of study in the following variables: social competence, family cohesion, social resources (within resilience), school competence, close friendship (within self-perception), and self-efficacy.

Table 1. Differences in dependent variables according the year of study.

dependent variables		sum of squares	df	mean square	F	p
resilience	perception of self	26.65	3	8.88	.51	.677
	perception of future	61.68	3	20.56	1.55	.202
	structured style	17.27	3	5.76	.53	.660
	social competence	1059.41	3	353.14	20.19	**<.001**
	family cohesion	2881.74	3	960.58	38.83	**<.001**
	social resources	9970.84	3	3323.61	92.69	**<.001**
self-perception	school competence	95.37	3	31.79	4.93	**.002**
	job competence	65.64	3	21.88	2.47	.061
	physical appearance	59.53	3	19.84	1.66	.176
	social competence	31.14	3	10.38	1.33	.265
	close friendship	63.88	3	21.29	3.01	**.030**
	self-control	189.23	3	63.08	1.49	.216
	self-efficacy	230.20	3	76.73	3.54	**.015**

We further examined these significant differences using post-hoc tests (LSD test). The results are presented in Table 2. Overall, significant changes between different years of study reveal a negative trend, particularly a decline in social competence, family cohesion, and social resources in higher years. The results for school competence and close relationships are more difficult to interpret, as they fluctuate, showing an increase at one point and a decrease at another across different study years. Only in the case of self-efficacy is a positive trend observed, with self-efficacy increasing as the years of study progress.

Table 2. Post-Hoc Differences Between Year-of-Study Categories in Significant Dependent Variables.

				post-hoc tests				descriptive statistics			
				mean difference	SE	p	95% CI		N	mean	SD
resilience	social competence	B1	B2	2.59	.51	**<.001**	(1.58) - (3.60)	B1	262	22.63	4.41
			B3	-.70	2.43	.772	(-5.48) - (4.07)	B2	90	20.04	4.02
			M1	4.58	.68	**<.001**	(3.24) - (5.92)	B3	3	23.33	5.69
		B2	B3	-3.29	2.45	.181	(-8.11) - (1.54)	M1	44	18.05	2.78
			M1	1.20	.77	**.010**	(.49) - (3.51)				
		B3	M1	5.29	2.50	**.035**	(.38) - (10.19)				
	family cohesion	B1	B2	4.88	.61	**<.001**	(3.69) - (6.08)	B1	267	22.47	5.25
			B3	-1.20	2.89	.678	(-6.88) - (4.48)	B2	89	17.58	4.70
			M1	6.96	.82	**<.001**	(5.35) - (8.56)	B3	3	23.67	8.50
		B2	B3	-6.08	2.92	**.038**	(-11.82) - (-.34)	M1	43	15.51	3.19
			M1	2.07	.92	**.025**	(.26) - (3.89)				
		B3	M1	8.16	2.97	**.006**	(2.32) - (13.99)				

self-perception	social resources	B1	B2	8.91	.73	**<.001**	(7.47) - (10.34)	B1	264	28.95	5.64
			B3	.62	3.48	.859	(-6.22) - (7.45)	B2	90	20.04	7.62
			M1	13.13	.98	**<.001**	(11.22) - (15.05)	B3	3	28.33	9.81
		B2	B3	-8.29	3.51	**.019**	(-15.20) - (-1.38)	M1	44	15.82	3.43
			M1	4.23	1.10	**<.001**	(2.06) - (6.39)				
		B3	M1	12.52	3.57	**.001**	(5.49) - (19.54)				
	school competence	B1	B2	-.79	.30	**.010**	(-1.39) - (-.19)	B1	327	13.03	2.53
			B3	1.17	.57	**.041**	(.05) - (2.29)	B2	88	13.82	2.41
			M1	-.52	.27	.057	(-1.06) - (.01)	B3	21	11.86	2.63
		B2	B3	1.96	.62	**.002**	(.75) - (3.17)	M1	116	13.55	2.63
			M1	.27	.36	.458	(-.44) - (.97)				
		B3	M1	-1.70	.60	**.005**	(-2.88) - (-.51)				
	close friendship	B1	B2	-.77	.32	**.015**	(-1.40) - (-.15)	B1	328	14.54	2.69
			B3	.82	.60	.171	(-.35) - (2.00)	B2	89	15.31	2.77
			M1	.03	,29	.923	(-.54) - (.59)	B3	21	13.71	2.53
		B2	B3	1.60	.65	**.014**	(.33) - (2.87)	M1	116	14.51	2.53
			M1	.81	.38	**.032**	(.07) - (1.54)				
		B3	M1	-.79	.63	.209	(-2.03) - (.45)				
	self-efficacy	B1	B2	1.42	1.68	.399	(-1.89) - (4.72)	B1	205	28.54	4.24
			B3	1.86	1.12	.097	(-.34) - (4.05)	B2	8	27.13	8.31
			M1	-1.18	.52	**.025**	(-2.21) - (-.15)	B3	19	26.68	4.41
		B2	B3	.44	1.96	.823	(-3.42) - (4.30)	M1	129	29.72	5.04
			M1	-2.60	1.70	.127	(-5.93) - (.74)				
		B3	M1	-3.04	1.14	**.008**	(-5.29) - (-.79)				

** Note: B1 = 1st year Bachelor; B2 = 2nd year Bachelor; B3 = 3rd year Bachelor; M1 = 1st year Master*

5. Conclusions

The results of this study reveal significant differences in examined variables among future teachers based on their year of study. While students in higher years demonstrated an increase in self-efficacy, subscales of resilience - social competence, family cohesion, and social resources, declined as students progressed. This suggests that as students advance in their studies, their ability to maintain supportive interpersonal relationships weakens. Additionally, results in self-perception (subscales school competence and close friendship) were mixed, with some students gaining confidence in their academic abilities while others struggled with maintaining strong peer connections.

These findings indicate that the current structure of future teacher education may not provide sufficient psychological support as students' progress. The observed increase in self-efficacy among students in higher years is encouraging, as it suggests that with more experience and academic progression, students gain greater confidence in their ability to handle challenges. However, the decline in resilience-related variables raises important concerns. These aspects of resilience play a crucial role in managing stress and adapting to challenges. The decrease in these areas may reflect the growing academic and professional pressures that students face as they advance in their studies, potentially leading to social withdrawal or a reduced focus on interpersonal relationships. The mixed results in self-perception further highlight the need to address the social and emotional well-being of future teachers to ensure they are well-prepared for the interpersonal challenges of their profession.

These results highlight the need for improved psychological training in future teacher education, with a greater focus on psychology-related courses aimed at enhancing key psychological competencies. Targeted interventions, such as resilience training, or emotional intelligence development could help counteract these declines and better equip future teachers with the psychological tools needed to navigate both their professional and personal challenges. Future research should explore the long-term impact of these psychological variables on teaching performance and identify strategies to reinforce psychological literacy throughout teacher training programs.

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PSYCHOLOGICAL PROTECTION NEURON NETWORK TO RESCUE DAMAGED BUILDINGS AND THE EXPERIENCED HORROR OF EARTHQUAKES

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Abstract

A huge amount of the Earth's population lives in high-rise apartment buildings. According to Signal Processing theory (Poularikas, 2000); (Jivkov et al. 2013), (Венелин Живков, Симеон Панев, Филип Филипов, (2023), [Through the bowels of mechanics), Mechanics of Mashines], (in Bulgarian)) three type of buildings are described here. Buildings up to 3 stories are high frequency and rigid. They are slightly affected by seismic signals, which are of low frequency than the 3 story buildings. In case of an earthquake, the evacuationfrom at the 3 story buildings takes seconds. Buildings between 3 and 16 floors are strongly affected by seismic signals, because in this frequency range they enter into resonance with the spectral characteristics of seismic signals. Buildings over 16 stories are low-frequency and hardlyresonate with seismic signals. These buildings are strongly affected by hurricane winds, because these are the spectral characteristics of hurricanes. Another very important dynamic characteristic of dynamic inputs is the duration of signals. According to the mechanics of destruction, short-term dynamic signals of less than 10 seconds, for example, can hardly enter into resonance and lead to serious disturbances of massive buildings. Buildings between 3 and 16 floors are considered seismically vulnerable. Evacuation from a vulnerable collapsing building is extremely dangerous and impossible!!! Those trying to save themselves by evacuating from a collapsing vulnerable building go into shock. Those trying to save themselves by evacuating from a collapsing building go into shock!!!!! Fortunately, almost all such buildings are equipped with elevators. This enables them to be combined into a neural network. Dynamic vulnerability type buildings are protected by neural network over the elevator renovation. Such a neural network guarantees full protection of people and animals in existing buildings with elevator devices during a hurricane wind or an earthquake of arbitrary magnitude, arbitrary duration and arbitrary spectral composition of seismic signals. In addition to saving the lives of people and animals, the neural network takes care of the experienced shock. Earthquake survivors in ruined buildings go into shock. This system provides psychological protection also from the shock after rescue from the destroyed neighboring buildings and the experienced horror of the earthquakes.

Keywords: *Psychological protection neural network, elevator devices upgrade, signal processing, cognitive and experimental psychological neural networks.*

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1. Introduction

Psychological Example 1. Some people sense the dangers - they inherited this from the animals. The dog, which has evolved from the wolf through domestication, has the most acute sense of danger in the animal world. Ten days before the disaster in Fukushima 11 Mrch 2011, a large group of Bulgarian scientists felt threatened. They are trying to get help from the then Bulgarian government. Finally, on March 10, 2013, they sent a letter to the Prime Minister. The next day there was a catastrophic earthquake with Magnitude M=9.1, lasting 6 minutes! A tsunami is forming. On March 11, 2011 the Japanese managed to withdraw the nuclear fuel from the Fukushima plant. They don't allow a nuclear explosion. However, the Fukushima nuclear power plant is very old and should have been shut down long ago because it does not meet the requirements of the International Atomic Energy Agency. The power plant remains without POWER!!!!! Loss of reactor cooling led to three core meltdowns, three hydrogen explosions and the release of radioactive contamination. However, in the ocean earthquake and subsequent tsunami, if a parallel plant outside the disaster area was switched on within 10 minutes of the arrival of the 15m soliton wave (this switching operation is seconds in time) and the drop in temperature with the current from the parallel plant had started immediately, the seemingly IMMINENT DISASTER could have been avoided. Hydrogen Thermonuclear ARMAGEDDON could have been stopped...

Psychological Example 2. On December 28, 2022 press group 24 Hours (24 Hours - 168 Stories) warns that a catastrophic earthquake is coming in the Balkans, because there is a huge accumulated seismic potential. A one-week period followed and an earthquake on the island of Crete with a magnitude of M=5.7. After a month and a week, on February 6, 2023, the pair of earthquakes - twins in the area of Kahramanmarash with magnitudes M=7.7 and M=7.8 will occur. Such a phenomenon with a pair of twin epicenters occurs once every 500 years. In Turkey, Syria and Lebanon, the earthquake killed more than 60 000 people. Bulgaria is the first in the world to provide aid to the victims – professionals and volunteers.

Psychological Example 3. Early warning systems SEWS. All known seismic early warning sytems (SEWS) are based on the basic physical property of seismic wave propagation. Equation : $\frac{V_p}{V_s} = 2^{-\frac{1}{2}}$ is the fundamental link on which kinematic SEWS functions. Here V_p is the velocity of the longitudinal P wave, V_s respectively of the transverse wave in [km/s]. These velocities differ from the velocities of oscillation of the media through which the seismic waves travel. The oscillating speeds of the particles are much smaller. The relation between the velocities of the waves always exists in the rigid ideal body and is an immanent property of any perfectly elastic medium. P-waves have compression/extension motions of solid layer particles and travel parallel to the wave propagation ray. These waves are the fastest and have the highest speed in the wave packet – between 6 and 8 km/s. P-wave amplitudes are often the lowest in the entire phase packet of any seismic wave emitted by the seismic source and have less destructive potential. S-waves – have several times larger amplitudes, a much smaller speed in the wave packet 1-2 km/s but a much greater destructive potential due to the movement of the particles of the medium, perpendicular to the propagation of the wave beam. S-waves do not propagate through liquids. Here, SEWS is used as network startup.

Table 1. Seismic Outbreaks.

N	Seismic Outbreaks	Coordinates φ[N]	Coordinates λ[N]	Depth [km]	Distance [km]	T_p [s]	T_s [s]	$T_s - T_p$ [s]
1	Sofia	$23^0 20^{`} 00^{``}$	$42^0 40^{`} 00^{``}$	10	70	13.6	20.8	7.2
2	Kresna	$23^0 10^{`} 00^{``}$	$41^0 50^{`} 00^{``}$	10	90	18.4	31.3	12.9
3	Plovdiv	$25^0 00^{`} 00^{``}$	$42^0 10^{`} 00^{``}$	10	180	30.0	51.8	21.8
4	Gorna Oriahovitca	$25^0 50^{`} 00^{``}$	$43^0 10^{`} 00^{``}$	10	210	33.8	68.7	24.9
5	Shabla	$28^0 30^{`} 00^{``}$	$43^0 30^{`} 00^{``}$	10	276	42.0	53.0	31.0
6	Vranchea				380	55.5	99.8	44.3

Described technical solution of the Neural Network of inertial motors for damping the dynamic impacts from an earthquakes or winds is presented idealized here. The system SWES described here system is designed in a capacity of starting subsystem for the Main Neural Network. The actual applications of proposed technologies are more complicated and required a detailed engineering design for each specific building in the proposed Neural Network according to the BDS – Bulgarian Government Standards.

2. National neural network

From the Figure 2 and Figure 3 it follows, that due to the demographic crisis in Bulgaria, the modern population of the country is about 7 000 000 people. They live in about 3 000 000 households.

There are about 2 000 000 residential buildings in the country, at least 30% of which are vacant. At the beginning of the 21st century, the **earthquake prediction** marked a development.

An alternative to these earthquake prediction studies are possibilities to creation of structures with actively controlled dynamic response and seismic isolation.

Figure 1.



Figure 2. Population of Bulgaria.



Figure 3. Population, Households, Housing (https://census2021.bg/).



Table 2. Research database for the described in the article investigation.

N	Rescue Operations and the assessments	Altitude of the peaks in m, Persons, Year	Assessment of the psychology situation (history and of the rescue operation)	Technical assessment (of the situation and of the rescue operation)	Rescue Operation Result
1	Vitosha	Black Top 2290 (Skoparnika) Todor Bojinov 15.02.1992	Negative	Negative	Fatal
2	Vitosha	Black Top 2290 Marieta Rajnova 31.12.1884	Negative	Negative	Fatal
3	Rila	Kalinite 2667 Michail Munzov 18.07.1999	Negative	Negative	Fatal
4	Rila	Mussala 2925 Dimitar Zlatarev 16.02.2005	Negative	Negative	Fatal
5	Pirin	Todorka 2746 Two boys snowboarders 11.01.2019	Satisfactory	Positive	Fatal
6	Vitosha 	Black Top 2290 Dog Roko 20.04.2019	Satisfactory	Satisfactory	Happy
7	The Balkans	Botev 2376 Atanas and AdrianPenchevy 05.02.2020	Satisfactory	Positive	Fatal
8	Pirin	Todorka 2746 Borislav Garibov 24.01.2021	Satisfactory	Positive	Fatal
9	The Balkans	Botev 2376 Todor Jeliazkov 02.01.2021	Negative	Satisfactory	Fatal
10	The Balkans	Botev 2376 Yang man 10.02.2021	Satisfactory	Positive	Happy
11	Rila	Kartala Yang man 21.03.2021	Negative	Negative	Fatal

12	Pirin 	Todorka 2746 Vladimir Carolev 10.05.2021	Positive	Positive	Happy
13	Rila	Djano 2700 Irena Gancheva	No data	Positive	Fatal 20.10.2021
14	AM Struma	**AM Struma** **46 Victims** **23.11.2021**	No data	No data	Fatal
15	Sofia-Georgy Semerdjiev Blv.Black Top-Arsenalsky	Sofia Two Yang Girls 05.08.2022	Negative	Negative	Fatal
16	Burgas Trapezica	**Burgas** **Yordan Iliev** **Atans Gradev** **25.08.2023**	Negative	Negative	Fatal
17	Turkey Boundary	Turkey Boundary Peter Buchvarov 08.11.2022	Negative	Negative	Fatal
18	Pirin	Vihren 2914 Plamen Hristov Dragan Glisich 26.12.2022	Negative	Negative	Fatal
19	Rila Paraplaner	Mussala 2925 Toma Stojichkov 08.01.2023	Satisfactory	Satisfactory	Fatal
20	Turkey Syria Leabnon **A huge amount of Radon gas**	**Earthquakes** **M 7.9 6.02.2023** **M 7.6 7.02.2023** **M 6.4;5.8;5.2;5,2** **20.02.2023**	Negative	Negative	Fatal More than 50 000 victims
21	Larissa, Grecee  [16,17]	Railway accident 28.02.2023	Negative	Negative	Fatal 57 victims
22	Lesnovo  Aircraft [16,17]	Lesnovo 8.01.2023 Georgy Vlaykov	Negative	Negative	Fatal
23	Sofia, lozenec	Svetoslav Mladenv *, 18 September 2023	Strongly Negative	Strongly Negative	Fatal
24	Pirin	Vihren, 2914m, Plamen Hristow 27 December 2023	Positivee	Negative	Fatal
25	Black Sea, Kiten	Kiten 15 Juny 2024 Silvia Bobeva	Positive	Strongly Negative	Fatal
26	Sofia, Ring road	Dimitar Petrov *, 18 November 2024	Strongly Negative	Terrible	Fatal
27	Pirin, Todorka Peak	25 years old Snowboarder David Dimitrov 20 December 2024	Positive - A Neural Network could be created to control skiers and snowboarders with sensors implanted in skis and snowboards.	Positive	Fatal
28	Vitosha, Aleko Hut	51 years old Tourist, Infarct 21 December 2024	Positive	Negative	Fatal
29	Rila, Prohibited ski slope Marcudjik 3	Greek citizen 22 December 2024	Positive	Positive	Fatal
30	Pirin,Todorka,28.1.2025	Irishmen 29 y old	Positive, photo selfie, 600 m	Positive, helicopter disaster	Fatal

3. Seismic and wind infrastructure vulnerability

A huge amount of the Earth's population lives in high-rise apartment buildings. According to Signal Processing theory (Poularikas, A. D. 2000) three type of buildings are described in the report. Buildings up to 3 stories are high frequency and rigid. They are slightly affected by seismic signals, which are of low frequency. In case of an earthquake, the evacuation takes seconds. Buildings between 3 and 16 floors are strongly affected by seismic signals, because in this frequency range they enter into resonance with the spectral characteristics of seismic signals. Buildings over 16 stories are low-frequency and hardly resonate with seismic signals. These buildings are strongly affected by hurricane winds, because these are the spectral characteristics of hurricanes. Another very important dynamic characteristic of dynamic inputs

is the duration of signals. According to the mechanics of destruction, short-term dynamic signals of less than 10 seconds, for example, can hardly enter into resonance and lead to serious disturbances of massive buildings. Buildings between 3 and 16 floors are considered seismically vulnerable. Almost all such buildings are equipped with elevators. This enables them to be combined into a neural network.

4. Contemporary anti seismic engineering monitoring for real time processing of building dynamical behavior

Contemporary anti seismic engineering monitoring for real time processing of building dynamical behavior is developed in this report (All Sources). Proposed national neuron network can be used in addition for seismic engineering monitoring by elevator devices improvement. 3D accelerometers, mounted in elevator shaft have negligible low price and they elaborated in a real time frequency analyses of seismic signals in the reminded building as an addition digital result of the system. The amplitude frequency transfer function is important engineering data for the building response under seismic and wind dynamical loadings. This data is elaborated of each computer of the building under investigation. In the network all several million results of elevator devices are taking into account in real time for seismic or wind dynamical loadings for the seconds.

5. Active and passive wind and earthquake protection systems

These systems are the main part of the proposed national neural network for wind and earthquake protection based on the renovation of the existing elevator devices. The active control system mounted in reinforced concrete elevator shaft is presented in the Figure 4. The passive control system is presented in the Figure 5.

Figure 4. Active Control System.

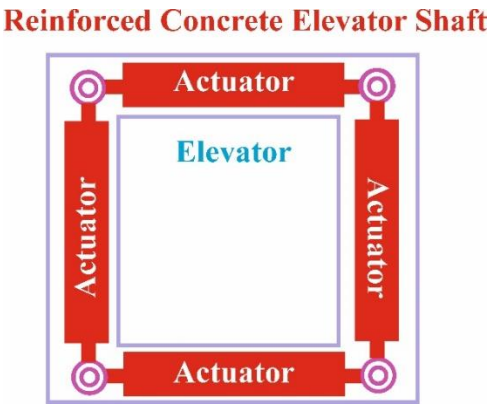
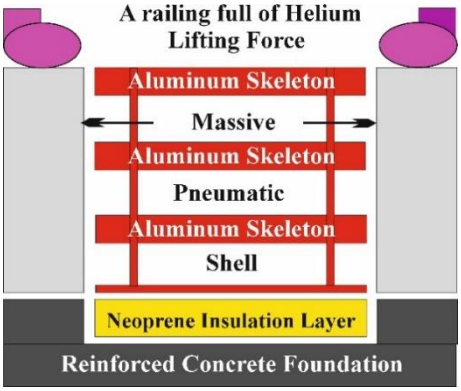


Figure 5. Passive Control System.



6. Conclusions

The Neural Network provides complete protection against of harmful effects from dynamic loads - winds and earthquakes.

Acknowledgments

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AN ECOLOGICAL APPROACH TO THEORY-OF-MIND MEASUREMENT: CREATION OF THE EV-TOMI FROM OPEN-ENDED REPORTS

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Abstract

Theory-of-Mind (ToM), or mentalizing about what other people might be thinking about, is an important part of conscious experience that facilitates social cognition and navigation of our perceived worlds (e.g., predicting other people's thoughts and behaviours). In a 2023 study, our research group began exploring Theory-of-Mind in relation to inner speech, and we found that the selected ToM measures left something to be desired. For example, measures claiming to capture ToM had items that seemed to describe understanding of one's own time perception or one's own episodic memory rather than thinking about other people's mentalizations. Furthermore, existing ToM questionnaires are typically based on *a priori* notions of what researchers think ToM is, for example, as informed by literature reviews and judged by a panel of experts. To fill this gap, and in seeking ecological validity for ToM measurement, our team took an open-format approach to ask Canadian students, "if you are trying to infer what other people are thinking or experiencing, what comes into your mind?" We have used these responses to create the "Ecologically Valid Theory-of-Mind Inventory" (EV-ToMI). Here we present preliminary results of endorsement, reliability, and validity of this measure, and relationships with other self-processes.

Keywords: *Theory-of-Mind (ToM), inner speech, self-processes, self-awareness, measurement.*

1. Introduction

Theory-of-Mind (ToM) is the ability to attribute mental states such as beliefs, desires, and intentions to oneself and others. ToM is essential for social interaction, empathy, and moral reasoning (Premack & Woodruff, 1978). In essence, having an accurate ToM is part of one's internal life and knowing the self, as well as of paramount importance to navigating the social world. ToM facilitates smooth social interactions, predicting others' behaviours, helping behaviours like cooperation, empathy, deception use and detection, and avoidance of others in the case of threat (Krych-Appelbaum, Law, Jones, Barnacz, Johnson, & Keenan, 2007).

However, most of the qualitative research done on ToM is with clinical samples. Work has been done on ToM and patients experiencing anorexia nervosa, and autism (e.g., Frith & Happé, 1999; Sedgewick, Leppanen, Goh, Hayward, Happé, & Tchanturia, 2019; Holt, Bounekhla, Welch, & Polatajko, 2022), and patients experiencing dementia (e.g., Giovagnoli, Bell, Erbetta, Paterlini, & Bugiani, 2019).

Some ToM studies attempting ecological validity, or real world contexts in questionnaire development, include case-studies (2-5-year-olds; e.g., Bosco, Gabbatore, & Tirassa, 2014), and experience sampling (predefined notions, small samples, e.g., Bryant, Coffey, Povinelli, & Pruett Jr., 2013; larger samples, narrow scope like empathy and emotion sharing, *a priori* notions (e.g., Depow et al., 2021).

1.1. The current study

Our Inner Speech Research Lab has been primarily focused on inner speech and self-related processes, which until recently, have not included ToM, a crucial part of the intricate web of the self, especially in light of the simulation view – knowing the self helps predict others' internal lives (Focquaert, Braeckman, & Platek, 2008). The current study begins to test our new ToM measure (EV-ToMI) attempting to address ecological validity. We also test our revised measure of inner speech (GISQ-R-30). We include a range of tools conceptualized to measure self-related processes in order to gain a preliminary

understanding of understudied relationships between ToM for self and others, self-talk, self-reflection, cognitive flexibility, self-rumination, self-absorption, and socially aversive traits.

1.2. Construction of the EV-ToMI

To consider ecological validity in creating the EV-ToMI, we thought it beneficial to ask participants from non-clinical samples, using every-day context, about their ToM use via an online LimeSurvey open-ended format (Racy, Vermette, & Morin, 2024; *N* = 1969 instances from 343 participants), without the constraints of a priori notions and predefined prompts. In essence we asked, what thoughts do you engage in when trying to understand other people's thoughts?

Bottom up thematic analysis, allowing themes to emerge, showed that uncommon themes in the literature were more commonly present in our results. Participants often reported using others' behaviours, contexts, attributes, and appearances to inform their own ToM about what others may be thinking, thinking about others' emotions, and thoughts about "me". They reported use of ToM to ascertain others' possible beliefs, intentions, goals, desires, and values less often than the above.

At least 3 items were constructed for each participant-based theme on the EV-ToMI. We also consulted the prominent literature on ToM and confirmed that themes present in that literature were also present in our item construction. The items were reviewed by 3 researchers (A.M., F.R., M.V.), making sure to consider and evaluate our own expertise and biases. The items were randomized and piloted. The resulting preliminary EV-ToMI tool is presented in the 2.1 Measures section.

1.3. Current hypotheses

Our current hypotheses are (H): The EV-ToMI will (H1) exhibit high reliability, (H2) will have weak to moderate positive concurrent validity (H3); will exhibit divergent validity using measures of Rumination, Short Dark Triad, and Self-Absorption Private (but not Public) subscale responses; (H4) the GISQ-R-30 will exhibit high reliability, and when compared to responses on the Self-Talk-Scale, will exhibit moderate concurrent validity; (H5) the relationships between ToM and other self-processes will be mixed, as there are so many varying components involved. There should also be some significant positive relationship between ToM measurement and adaptive self-processes, as knowing oneself is supposed to facilitate knowing others.

2. Methods

We recruited Mount Royal University undergraduate psychology students via SONA Systems which allowed online access to the Research Ethics Board (REB) approved survey package on LimeSurvey. Students received course credit for participating. We pilot tested the study before going live. All measures were counterbalanced. To clean the data, we removed participants with large amounts of incomplete responses, no consent, overall response times under 10 minutes, and who self-identified as receiving an ASD diagnosis. Analyses were conducted using SPSS Version 29.0.2.0 (20).

2.1. Measures

ToMI:SR-A. The 60-item Theory of Mind Inventory: Self Report – Adult (Hutchins, Lewis, Prelock, & Brien, 2020) is intended to assess social cognition in adults "at risk for" Autism Spectrum Disorder (ASD). Developed using clinical samples with non-clinical samples as a control or a standardization sample, this measure uses a total score including various sub-aspects such as Sympathy, Affective Empathy, Cognitive Empathy, Emotional Intelligence, and more. The ToMI:SR-A has exhibited acceptable reliability and validity.

TEIQue-SF. The 30-item Trait Emotional Intelligence Questionnaire – Short Form is intended to measure global trait emotional intelligence in non-clinical samples over a range of facets associated with personality (Petrides, 2009) to obtain a global score. Although it is possible to obtain scores for factors of Well-being, Self-control, Emotionality, and Sociability, using a total score is more reliable.

MentS. The 28-item Mentalization Scale (Dimitrijević, Hanak, Dimitrijević, & Marjanović, 2017) is intended to measure the degree to which participants from clinical and non-clinical samples agree with statements about their mentalization, be it for the self or about others, and uses a total score as well as subscale scores for the factors of Self-Related Mentalization, Other-Related Mentalization, and Motivation to Mentalize. The subscales exhibit acceptable reliability for non-clinical samples and lower reliability for clinical samples.

EQ-10. The 10-item Emotional Quotient (Greenberg, Warrier, Allison, & Baron-Cohen, 2018) is intended to measure participant agreement with statements about use of cognitive and affective aspects of empathy (predicting others' thoughts, feelings, actions; having appropriate emotions in response to others' emotions) using a total score (*0 = strongly disagree AND 0 = slightly disagree, 1 = slightly agree,*

2 = strongly agree) which is flipped for negatively worded items. Although the original point system is intended to emphasize empathy (not a lack of it), in the current study we simply used a Likert scale and reverse-scored negatively worded items, as we are not screening for ASD, but trying to understand empathy in general.

EV-ToMI. The 83-item Ecologically Valid Theory of Mind Inventory was developed to measure the degree to which participants agree with statements about their every-day use of social information to attribute others' mental states in general; it is based on a previous open-format investigation (Racy et al., 2024), construction of which is described above, and uses a total score (factor analysis underway). The current study is the first attempt at collecting reliability and validity information.

GISQ-R-30. The 30-item General Inner Speech Questionnaire-Revised (Racy, Kolesnikova, Vermette, & Morin, 2023) is intended to measure the degree to which participants agree with statements about their general inner speech use in every-day life. It is a revised version of the ecologically-driven GISQ (Racy, Morin, & Duhnych 2019). For now, a total score is used, although there is potential for factors of Self-Reinforcement, Cognition, Self-Criticism, Relationships, Activities, and Goals.

STS. The 16-item Self-Talk Scale (Brinthaupt, Hein, & Kramer, 2009) is intended to measure the degree of agreement with statements about their self-talk for self-regulatory aspects. It uses a total score and factors (Social Assessment, Self-Criticism, Self-Management, Self-Reinforcement). The STS is widely used (e.g., Hurlburt, 2019), especially in sport psychology, exhibiting strong reliability and moderate validity (e.g., Racy, Morin, & Hagerty, 2022).

RRQ. The 24-item Reflection and Rumination Questionnaire (Trapnell & Campbell, 1999) is intended to measure the degree to which participants agree with statements about self-attentiveness associated with personality characteristics of neuroticism and openness to experience. Only subscale scores for Reflection (healthy epistemic curiosity about the self) and Rumination (recurrent, impeding self-attentiveness) are used. The questionnaire exhibits acceptable reliability and validity.

SAS. The 17-item Self-Absorption Scale (McKenzie & Hoyle, 2008) is intended to measure how participants endorse statements about their "excessive, sustained, and rigid focus on the self". It uses a total score and subscale scores for Private Self-absorption (e.g., focus on your own thoughts) and Public Self-absorption (e.g., focus on what others think of you), exhibiting acceptable reliability and validity.

SD3. The 27-item Short Dark Triad (Jones & Paulhus, 2014) is intended to measure the degree to which participants agree with statements about their use of socially aversive traits, using a total score and scores for factors (Machiavellianism, Narcissism, Psychopathology).

CFI. The 22-item Cognitive Flexibility Inventory (Dennis & Vander Wal, 2010) is meant to measure agreement with statements about abilities to question their maladaptive thoughts and replace them with adaptive thoughts. With a total score and subscale scores derived from the factors Alternatives (i.e., generate alternative explanations) and Control (i.e., perceive difficult situations as controllable), it exhibits acceptable internal consistency, test-retest reliability, convergent and concurrent validity.

3. Results and discussion

After data cleaning, we were left with 396 participants (65 male, 8 preferred not to identify gender). The EV-ToMI distribution appeared normal and wide-ranging (range min = 13; range max = 414; M = 259.45; SD = 62.32; skew = -.18; kurtosis = 1.07). Participants endorsed items 19, 55, and 64 the least (M = 2.39, 2.37, 2.38 respectively) and items 1, 12, and 76 the most (M = 3.70, 3.71, and 3.70 respectively; actual minimum = 0; actual maximum = 5). The lowest endorsements had to do with considering others' body shape, others' personal histories, and others' pasts, respectively. The highest endorsements were to do with considering others' emotions, others' honesty, and others' facial expressions respectively in formulating ToM.

The EV-ToMI exhibited acceptable reliability (r = .98) and weak to moderate concurrent validity (r ToMI:SR-A = .27**; r MenS-S = -.15**; r MenS-O = .47**; r MenS-M = .47**; r TEIQue-SF = -.02; r EQ10 = .28**), perhaps because of the inclusion of non-traditional aspects of ToM found in the open-ended method used to generate the EV-ToMI items. Further, the EV-ToMI did not contain items about mentalizing about the self (like MenS-S and TEIQue-SF) which could account for those weak correlations. Our hypotheses about discriminant validity were mostly supported (r RRQ rumination = .32**; r SASpub = .36**; r SASpriv = .19**; r SD3mach = .09; r SD3nar = .02; r SD3psych = .01).

The low and non-significant correlations with the SAS Private subscale and SD3 subscales (Dark Triad) adds support to claims that self-absorption (Joireman, Parrott, & Hammersla, 2002) and socially aversive traits (Moghaddam, Mojtabaie, & Bashardoust, 2022) may impede ToM. We did not fully expect the relationship with the RRQ Rumination subscale; we found rumination as a predictor of ToM in a past unpublished study, so we knew it was a possibility. Rumination should impede accurate ToM, but folks may ruminate about what others are thinking about anyway, possibly accounting for this relationship.

The revised GISQ-R-30 exhibited acceptable reliability (r = .96) and moderate concurrent validity (r STSscrit = .57**; r STSsreinforce = .47**; r STSsmanage = .51**; r STSsocassess = .50**), supporting our hypotheses, and similar to our past results with the full GISQ (Racy et al., 2019). This measure offers potential for researchers interested in an everyday inner speech measurement tool that considers ecological validity.

The EV-ToMI responses correlated significantly and positively with responses on measures of self-processes (r GISQ-R-30 = .44**; r STSscrit = .37**; r STSsreinforce = .25**; r STSsmanage = .33**; r STSsocassess = .37**; r RRQreflection = .31**; r CFIalt = .35**; r CFIcontrol = -.24**), supporting our hypotheses. These results suggest that talking to oneself, self-reflection, and cognitive flexibility probably have something to do with ToM – perhaps folks talk to themselves when trying to reflect on, be flexible with, or ascertain ToM, whether related to understanding and predicting one's own, or others' inner lives.

4. Strengths, limits, conclusions and future research

This study represents a unique attempt at considering ecological validity in designing the new EV-ToMI, allowing respondents to participate in the discovery of unprompted, underrepresented, everyday ToM aspects using a large, adult, non-clinical sample using a novel open-ended method.

Further, this study is a first attempt at understanding the validity and reliability of our GISQ-R-30, developed using a similar method. Limitations include relying on retrospection, and the potential for biased or uninformed ToM and inner speech conceptions. Further, the EV-ToMI includes some items that do not represent ToM *per se*, nor do they measure ToM "accuracy", but instead represent participant thought processes in ascertaining ToM. However, staying true to what participants reported in the open-ended portion of the development, we kept the items.

This study offers preliminary insights into relationships between ToM and inner speech, as well as other self-processes. Our next steps include more in-depth correlational and regression analyses on the whole dataset, factor analysis to refine the EV-ToMI, and replications. For now, our results offer at least a glimpse into relationships between ToM and self-processes that may be useful in informing further research and exploration of educational, relationship, communication, workplace, personality, developmental, and sports contexts.

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MITIGATING THE COGNITIVE COMPLEXITY IN READING THE ARABIC SCRIPT OF MALAY VIA SPELLING REFORMATION

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Abstract

The Arabic Script of Malay (henceforth, Jawi) has been found to be cognitively complex, and this could be a reason why this script is marginalized by a majority of Malay speakers, despite Malay being a digraphic (or biscriptal) language. The preference of the Roman Script (or Latin Script, henceforth Rumi) over Jawi is unacceptable because Rumi is not meant to replace Jawi. In another study, three experiments using the E-Prime Software have shown that Jawi is complex due to the four spelling patterns in the current Jawi spelling system. This paper, hence, proposes a change in the current Jawi spelling system so as to mitigate its complexity. A new Jawi spelling system named EZ-Jawi was designed to achieve this aim. EZ-Jawi is less complex compared to the current Jawi spelling system as the former has a consistent mapping between the Jawi symbols and the Malay speech sound each symbol represents. Instead of using three letters to represent 6 vowel sounds (and the same 3 letters to represent consonant sounds, EZ-Jawi introduces the use of six diacritics to represent all six vowel sounds in Malay. Thirty participants participated in an intervention program in which the EZ-Jawi module was introduced. Following this, they participated in an experiment using the E-Prime Software that is linked to the TOBII TX300 eye tracker, which required them to read 30 Malay words in a) the current Jawi spelling system and b) EZ-Jawi. Results show that the mean number of correct responses in reading EZ-Jawi is significantly higher than the current Jawi spelling system and that the reaction time (onset) to reading is significantly faster in reading EZ-Jawi than the current Jawi spelling system. These findings support our suggestion that a reform in the current Jawi spelling system is necessary so that reading Jawi will no longer be a difficult task, and eventually, Jawi will no longer be marginalized by its speakers.

Keywords: *Arabic script, cognitive complexity, Malay, reading, spelling*.

1. Introduction

Malay is a synchronic diagraphic (or biscriptal) language as the language is written both in the Roman (or Latin) Script (henceforth, Rumi) and the Arabic Script (henceforth, Jawi). This means that both scripts co-exist in Malaysia and since Malay is the National Language of Malaysia (The National Language Act, 1963/67), Jawi should be able to be read by all Malaysians.

Unfortunately, a majority of the speakers of Malay are not biscriptals – they cannot read nor write in Jawi. Although there are a large number of speakers of Malay who refuse to learn Jawi because they associate the script with Islam (just because the script resembles the script used in the Qur'an), Salehuddin (2012) suggests that this is not the sole reason. This is because, the majority of the speakers of Malay who can read the Qur'an fluently – although they do not understand, or are unable to communicate in Arabic – either cannot read Jawi, or find it difficult to read Jawi. This suggests that Jawi may be marginalized because Jawi is, in its current state, cognitively complex. This is true because, the spelling of two-syllable Malay words in Jawi, for example, is inconsistent; how the two-syllable Malay words are spelled comes with a long list of rules and exceptions (*Pedoman Ejaan Jawi Yang Disempurnakan,* 1986). The rules and exceptions revolve around the presence of vowel letters ('*alif*' (ا), '*wau*' (و), and '*ya*' (ي)) in the syllables, which eventually result in four different spelling patterns: Pattern 1, no vowels in any of the syllables (e.g., C·C); Pattern 2, no vowel in the first syllable but one in the second syllable (e.g., C·CV); Pattern 3, a vowel in the first syllable but none in the second (e.g., V·CC); and Pattern 4, a vowel in both syllables (e.g., CV.CV).

Salehuddin and Jaafar (2024) mention that reformation is one way to revitalize Jawi as past studies (e.g., McLelland, 2009; Ogren, 2017; Stojanov, 2021) have shown that the spelling system of various languages have been reformed to ensure their sustainability. Salehuddin and Jaafar (2024) suggest the use of cognitive methods of data collection to further justify the need to reform the spelling system of Jawi. Following their suggestion, a study was conducted by Salehuddin, Jaafar, and Syed Jaafar (this issue, paper 234) on the four spelling patterns that are used in today's two-syllable Malay words to empirically show that the current Jawi spelling system is complex. Two of the three experiments that were conducted using the E-Prime Software, namely Experiment 1 and Experiment 2, show that the current Jawi spelling system is difficult to read. The mean number of correct responses for Experiment 1 was very low (just around 49%), despite the fact that all of their participants were able to read the Qur'an fluently. The number of correct responses for Experiment 2 was also low, except for those that are written in Pattern 4, i.e., a vowel letter in both syllables. This supports earlier studies (e.g., Abu-Liel, Eviatar, & Nir, 2021) that the presence of vowel signs can "provide phonological information and allows a simple process of grapheme-to-phoneme conversion, which potentially facilitates word recognition by specifying the correct pronunciation of the written word" (p. 2296).

Since Jawi is similar to the scripts used in the Qur'an, and since all of the participants could read the Qur'an fluently, Salehuddin, Jaafar, and Syed Jaafar added another spelling pattern to the Experiment 3 they conducted. The fifth spelling pattern used three vowel diacritics to represent vowel sounds, a feature of the Arabic script in the Qur'an and in the reading materials in the Arabic language that are meant for elementary readers which is not present in the current Jawi spelling system. This was done because all participants were all able to read the Qur'an fluently even though they do not possess knowledge of the vocabulary and grammar of Arabic. Results show that the mean number of correct responses for the spelling patterns with vowel diacritics in both syllables was significantly higher than the mean number of correct responses for the spelling patterns with vowel letters in both syllables. These, in turn, are higher than the other three spelling patterns. This suggests that the presence of vowel diacritics may play a role in reducing the difficulty in reading Jawi.

2. Objectives

This paper, hence, proposes a change in the current Jawi spelling system so as to mitigate its complexity. A new Jawi spelling system named EZ-Jawi was proposed to achieve this aim via:

1. Determining the vowel diacritic marks that can be used to represent the Malay vowel sounds;
2. Experimenting the use of the vowel diacritic marks on the same group of participants.

3. Method

3.1. Determining the vowel diacritics

Vowel diacritics was consciously determined as the main feature of the proposed Jawi spelling system named EZ-Jawi. This is due to the fact that Experiment 2 has shown that the use of vowel diacritics to represent vowel sounds has enabled readers to read the two-syllable pseudowords more easily – even though they do not have any knowledge of Arabic vocabulary and grammar. This is an important feature particularly when Jawi is meant to be read by all speakers of Malay, regardless of their level of knowledge in the Malay vocabulary and grammar.

Vowel letters was not considered as a feature of EZ-Jawi because the use of vowel letters to represent vowel sounds does not comply with the feature of the abjad writing system, which, according to Yule (2016), is also known as 'consonantal alphabet writing system'. Furthermore, vowel letters in Arabic are only for long vowel sounds; in the Malay language, long vowels are non-existent. As the Arabic script is based on the abjad writing system, and since Jawi is based on the Arabic script, EZ-Jawi adopts the use of consonant letters only in the spelling system. Furthermore, Salehuddin and Ho (2017), in a reading experiment using the eye tracker have shown that the heat map on the vowel diacritics was the least intense (cool colours or no colour at all) than those on vowel letters when reading words in the Arabic script; yet, words with vowel diacritics were read as accurately as, but faster than those with vowel letters. This suggests that the addition of vowel diacritics is not 'a hindrance' in reading. Since there are no vowel letters in EZ-Jawi, adding diacritics to co-occur with consonants is not a superfluous act.

However, the Arabic language has only three vowel diacritics; naturally, they are not enough to accommodate all six vowel sounds in Malay. The vowel diacritics ◌َ (*fathah*), ◌ِ (*kasrah*), and ◌ُ (*dhomma*) can only be matched with the Malay vowel /a/, /i/, and /u/ respectively. There are, however, other diacritics that are present in the Qur'an for other purposes. They include, *ishmam* (◌ۨ and ◌ۭ), and *sukun* (◌ْ). All these symbols were adopted and adapted into EZ-Jawi as they are readily available in Arabic, and should be familiar to the participants. *Ishmam* (a silent articulation of a vowel by shaping the vowel with the speaker's

mouth but do not actually pronouncing it aloud) was adopted as its shape resembles the shape of readers mouth and can be placed below and above the consonant letter they would co-occur with. *Sukun*, was adopted to be part of EZ-Jawi to indicate that the consonant letters that *sukun* co-occurs with should not be read with any vowel sound. This is because, in the Qur'an, a *sukun* is placed on top of a consonant letter to indicate that the consonant sound should not be released. A consonant letter with no diacritics in EZ-Jawi means the mid central neutral vowel /ə/ should be pronounced together with the consonant sound it co-occurs with (Figure 1).

Figure 1. Vowel diacritics adopted and adapted in EZ-Jawi to facilitate the manifestations of vowels.

(ْ) ø	(–) /ə/	(ُ) /u/	(ٗ) /o/	(ِ) /i/	(ٔ) /e/	(َ) /a/

In addition to the above, since the abjad writing system is syllable-based, the characters in EZ-Jawi are presented as a syllable, not as letters. As shown in Table 1, <دَ> is presented as one unit and not as separate items as in <د> /d/ and <◌َ> /a/. Hence, readers, when reading <دَ> will right away read it as /da/.

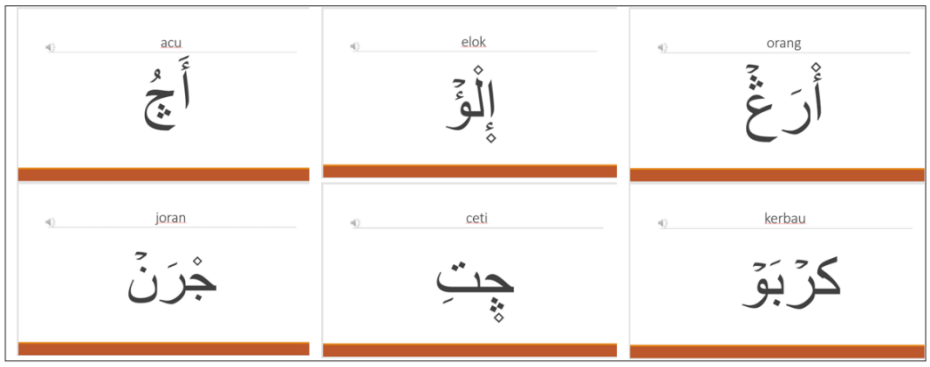
Table 1. Consonants are presented together with vowel diacritics so that readers will learn each image they see as a syllable rather than a consonantal sound. The symbols in each cell below are read as a unit.

(ْ) ø	(–) /ə/	(ُ) /u/	(ٗ) /o/	(ِ) /i/	(ٔ) /e/	(َ) /a/
دْ	د	دُ	دٗ	دِ	دٔ	دَ
/d/	/də/	/du/	/do/	/di/	/de/	/da/

3.2. Experimenting EZ-Jawi

Once the vowel diacritics were determined, a module for learning EZ-Jawi was developed using Microsoft PowerPoint. There were five sections to the module: A). Introduction; B). The First Part; C). The Second Part; D). Practice 1; and E) Practice 2 (Figure 2). Except for section A), all the other sections had audio recordings of how the symbols should be read. The finalized version of this module was saved as Microsoft Powerpoint Show.

Figure 2. Some of the items in the "Practice" files. They are two-syllable words that are spelled in EZ-Jawi. A mouse click on each slide allows them to hear how each word should be read. For example, 'acu' is read as /a·tʃu/, 'elok' as /e·loʔ/, 'orang' as /o·raŋ/, 'joran' as / dʒo·ran/, 'ceti' as /tʃe·ti/ and 'kerbau' as 'ker·baʊ/.



3.2.1. Participants. The same 30 participants who took part in Experiments 1-3 conducted in the previous study by Salehuddin et al. (this issue) participated in this Experiment. All participants were given the link to the EZ-Jawi module as soon as they completed the Experiment 3. They were given two weeks to practice the module as a form of intervention. No minimum duration (i.e., how many hours) was enforced on them to fully understand the module. Participation in the current experiment was arranged after two weeks of intervention.

3.2.2. Stimuli. Thirty (30) two-syllable Malay words were chosen for this experiment. None of the words were used in the three experiments that the participants participated earlier. However, each of the thirty (30) words were spelled in two spelling patterns – one with a vowel letter in each syllable (which reflects the current Jawi spelling system), and the other with a vowel diacritic in each syllable (which is the proposed EZ-Jawi spelling system). (The other three spelling patterns were not included as Experiment 2 has shown that they are difficult spelling patterns). The words were presented in a fixed random order and each participant read the thirty (30) two-syllable Malay words twice. (Participants may not be aware that they were reading the same words because of the different spellings between one and the other, and due to the presence of vowel diacritics in one, and the presence of vowel letters in the other). No practice trial was required as all of them were already familiar with the procedure.

Table 2. Two of the words used as stimuli in the current experiment. The ones at the top are supposed to be read as /me·ja/ 'meja' (table), whereas the ones at the bottom are supposed to be read as /tʃok·lat/. Their presentations were not one after the other to ensure that the readers were not aware that they were reading the same words but in different spellings.

Current Jawi	EZ-Jawi
ميجا	مِجَ
چوکلت	چُکَلَتْ

3.2.3. Procedure. The experimental procedure for the current experiment was the same as the one in Experiments 2 and 3, using the same instruments. Participants were asked to read aloud each word using a Desktop USB Microphone and audio responses were automatically recorded via the E-Prime software. A one-minute fixation screen separates the display of each word. This procedure was repeated until all thirty (30) Malay words with two versions of spelling were read aloud.

3.2.4. Data Analysis. The audio recording of each word for each participant were examined for accuracy and only those that were read aloud accurately were further analysed using Praat (Boersma & Weenink, 1992-2025) to measure the reaction time and the duration (in second) taken to complete reading each word. All statistical analyses were conducted using SPSS version 25.0 (IBM Corp., Armonk, NY, USA). Descriptive data were analyzed using means and SD. Paired-sample t-test was conducted on the data, with Pair 1: Correct responses between current and EZ-Jawi, Pair 2: Onset between Current and EZ-Jawi; and Pair 3: Reading duration between Current and EZ-Jawi. Paired sample t-test was also used to verify whether there was any difference in the ability to read EZ-Jawi before and after the module. A Pearson correlation was then conducted to examine the relationship between how long they took to understand EZ-Jawi and the correct responses, onset, and duration of EZ-Jawi.

4. Results

The paired-sample t-test showed that there was a significant difference between the correct responses for the current Jawi spelling system and EZ-Jawi, and the difference between the onset of the current Jawi spelling system and EZ-Jawi reached marginal significance. However, there was no significant difference between the reading duration of the current and EZ- Jawi. The paired-sample t-test showed that there was significant difference in the ability to read EZ-Jawi before and after the module. However, the Pearson correlation analysis showed that how long they took to understand EZ-Jawi is not related to the correct response, onset, and duration of reading EZ-Jawi.

5. Discussion

This study has shown that the difficulty in reading Jawi can be mitigated to encourage speakers of the Malay language to read Jawi. As even those who are able to read the Qur'an fluently also find reading Jawi a challenge, features of the Arabic script of the Qur'an was adopted and adapted in this EZ-Jawi spelling system. This includes 1) the use of three vowel diacritics and three other diacritical marks from the Qur'an as guides to the Malay vowel sounds, and 2) the removal of vowel letters that represent Arabic long vowels, since there are no long vowels in the Malay language. Vowel letters are also not considered in EZ-Jawi because its presence is not suitable for an abjad writing system, being a consonantal alphabet writing system (Yule, 2016).

EZ-Jawi is less complex compared to the current Jawi spelling system as the former has a consistent mapping between the Jawi symbols and the Malay speech sound each symbol represents. This experiment supports Abu-Liel, et. al (2021) who suggest that word-recognition can be facilitated if phonological information that allows a "simple process of grapheme-to-phoneme conversion" (p. 2296) is made available. Such a conversion could take place due to the fact that each one of the six vowel sounds in the Malay language has its own diacritical symbol. Furthermore, with the removal of vowel letters in EZ-Jawi from the current Jawi spelling system, there is no longer a confusion as to whether the letter 'alif' (ا), 'wau' (و), and 'ya' (ي) should be read as vowels or as consonants.

The current study has shown that EZ-Jawi is a much less complex spelling system for Jawi compared to the current Jawi spelling system. The project was conducted to empirically prove that the current Jawi spelling system is complex and should be reformed. Since spelling reformation is a common phenomenon, EZ-Jawi may be one step to be taken in the reformation so that more people will be able to read Jawi in the future.

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CLASSIFICATION OF VISUAL SCENES BY OVERALL COLORFULNESS

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Abstract

Classifying objects or events is vital for survival and daily life. Categorization learning varies in its structure, stimulus-response associations, and feedback methods. In typical experiments, observers classify objects and receive feedback after each response, gradually associating stimuli with correct responses through trial and error. Determining which features of objects are relevant for classification can be complex. Color is a common visual characteristic used in this process, though colors are spread among multiple objects in natural scenes. This study explored observers' ability to classify visual scenes based on color dominance when the number of objects varied. The stimuli included 21 red and yellow squares within a 10x10 cm black square, with proportions of red and yellow ranging from 6/15 to 15/6. A total of 16 different stimuli were generated based on these color ratios, whereas the groupings of squares varied from 2 to 18 clusters. The classification was based on the rule that stimuli with more red squares were one category, while those with more yellow squares constituted the other. Each stimulus was shown five times in random order, totaling 80 presentations. Thirty-five observers (23 females and 12 males) aged 20 to 69 (average age 45) participated, learning to classify the stimuli through trial and error with feedback provided via sound signals. All observers were unaware of the classification rule. The cumulative sum of responses was formed and normalized by the number of presentations to reflect the observers' alignment with the classification rule. A robust regression method and a generalized mixed model regression analyzed factors influencing response accuracy and time. Results indicated: an improvement in response accuracy and a reduction in response time among observers; accuracy plateauing at about 75% in the final experimental block; just over half of the observers recognized the classification rule at various times during the experiment, observers who did not identify the classification rule changed their strategies more frequently, the percentage of correct responses increased with the color ratio more for dispersed stimuli; response times decreased with distance from the decision boundary between categories. The challenges in quickly classifying stimuli based on color suggest that the spatial characteristics of the objects may be the dominant feature, and separating the scenes into objects may hinder the ability to perceive individual object colors and the image's overall colorfulness accurately.

Keywords: *Vision, category learning, color and spatial characteristics, colorfulness.*

1. Introduction

Classifying objects or events is a complex and multifaceted process vital for survival and daily life. It allows inference of object characteristics based on category membership and predictions for novel events and conditions. Categorization learning varies in its structure, stimulus-response associations, and feedback methods. In typical experiments, observers classify objects and receive feedback after each response, gradually associating stimuli with correct responses through trial and error. Various theories try to describe the cognitive processes involved in classification performance like the exemplar model (e.g., Nosofsky et al., 2022), the prototype model (e.g., Posner & Keele, 1968), the decision boundary theory for categorization (Ashby & Maddox, 1994), and their hybrid versions. The results from the classification studies show that the frequency of stimulus appearance, the feature distribution, the probability of correct response, and the distance from the classification boundary affect the classification performance.

Determining which stimulus characteristics are relevant for classification can be complex. Color is a common visual characteristic used in this process, though colors are spread among multiple objects in natural scenes.

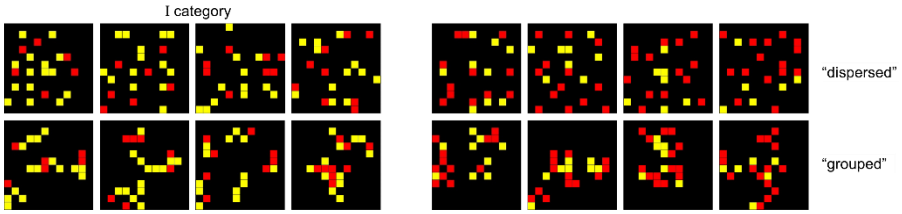
2. Objectives

This study explored observers' ability to classify visual scenes based on color dominance when the number of objects varied. Therefore, we tested whether the feature determining the classification—"colorfulness," a characteristic that is typically viewed as continuous—determines the proportion of correct responses and response time and whether the spatial stimulus characteristics, like element compactness, affect categorization.

3. Methods and design

We used 16 stimuli as each of them consisted of a total of 21 red and yellow squares interspersed within a 10x10 cm black square (Figure 1) with proportions of red and yellow squares 6/15, 7/14, 8/13, 9/12, 12/9, 13/8, 14/7, and 15/6. For each color ratio, two stimuli were generated: "dispersed" – a stimulus with relatively many groupings of squares, and "grouped" – a stimulus with few groupings of squares. The groupings of squares varied from 2 to 18 clusters. The rule for separation into two categories, unbeknownst to the observers, was based on color ratio: stimuli with more red squares were one category, while those with more yellow squares constituted the other. Each stimulus was shown five times in random order, totaling 80 presentations.

Figure 1. Illustration of the set of stimuli.



The stimuli were presented in the middle of a computer screen on a gray background for 3 sec. The observer had to classify the stimulus into one of two categories by pressing the left or right button on a joystick. After giving a response, observers received feedback via a sound signal - two successive high tones for a correct response and a low tone for an incorrect response. Thus, at the beginning of the experiment, the observers did not know the stimulus belonged to any of the two categories. However, they could learn to categorize the stimuli by following the feedback through trial and error.

The stimuli were binocularly viewed from 57 cm and presented on the computer screen (20-inch NEC SpectraView 2090, 1600 × 1200 pixels, 60 Hz refresh rate). A custom program developed in Visual C++ and OpenGL controlled the experiments.

3.1. Participants

Thirty-five naive observers (23 females and 12 males) aged between 20 and 69 (average age 42) participated in the experiment. They gave written informed consent for the study. The experiment was approved by the Ethical Board of the Institute of Neurobiology, Bulgarian Academy of Sciences, and complied with the requirements of the Declaration from Helsinki.

3.2. Statistical analyses

We used Bayesian hierarchical modeling of the response time and the correct response proportion to describe group performance. In separate analyses, we evaluated the contribution of the sequential blocks of trials, the effect of the number of red squares, and the effect of the distance of the patterns from the classification boundary. In all analyses, we included the compactness of the patterns (grouped or dispersed) as a fixed factor, and we considered the participants to be random factors. In the analyses of the experimental effects on performance accuracy, we used the Bernoulli distribution as a likelihood function, whereas for the analyses of response time, we used a shifted lognormal distribution. We used weakly informative priors for the model parameters and evaluated the correctness of the models by posterior predictive check. All models converged (as suggested by trace plots and Gelman-Rubin Rhat value). All these analyses were performed in R (R Core Team, 2020) using the brms package (Bürkner, 2017).

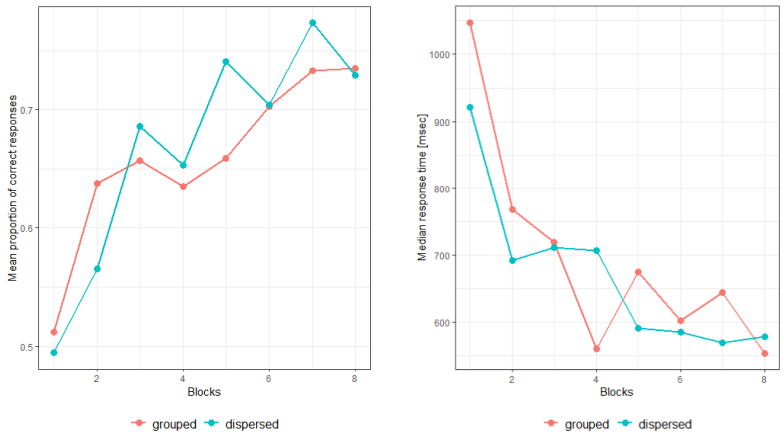
To characterize the process of strategy switching, we formed the cumulative sum of observers' responses and normalized it by the number of stimulus presentations. This representation of the data allows the evaluation of the changes in the classification strategy and its correspondence to the classification rule.

If an observer always gives correct responses, the maximum value of the normalized cumulative sum will be 1.0, and a linear function with a slope of 1.0 can describe it. If the observer answers randomly, the maximum value of the normalized cumulative sum will be 0.5. For all other cases, the normalized cumulative sum will have a slope different from the ideal performance. If the observers use the same strategy, the dependence of the cumulative sum on the series of stimulus presentations will be linear but with random fluctuations due to peculiarities in the series of stimuli or to inattention, fatigue, and others. We applied a robust regression method (repeated median regression method, Siegel (1982)) to reduce the effect of such random fluctuations. We approximated the effect of the trials on the normalized cumulative sum by a different number of regression lines, checking the correspondence between the model and the data after each approximation. This approach allows for the assessment of strategy switches.

4. Results

The data imply an improvement in classification performance with sequential blocks. Figure 2 presents the change in the average proportion of correct responses and the median response time for all observers when dividing the samples into eight blocks. The results show an increase in response accuracy and a decrease in the response time for the group of observers. The accuracy is not high – it is only about 75% in the last experimental block. The figure also implies that the compactness of the images affects the learning process.

Figure 2. Left: Mean proportion of correct responses in sequential blocks of experiment. Right: Median of response time in sequential blocks.



The analysis of the effect of the sequential blocks on the accuracy and the response time confirmed this observation. The marginal effect for the average slope is 0.0362 [0.0286, 0.0435] for the accuracy -18.2 [-28.5, -7.7], the values in brackets show the 2.5% and 97.5% confidence intervals. The hypothesis testing shows a tendency for a higher accuracy for the more dispersed patterns than for the more compact ones (Evid. Ratio = 4.32; probability = .81). The results provide strong evidence for a shorter response time for the dispersed patterns than for the more compact ones (Evid. Ratio = 18.25; probability = 0.95).

Figure 3 shows the average proportion of correct responses as a function of the number of red elements ("redness"). The number of red squares describes the data better than the distance from the boundary between the two categories. The dispersed stimuli tend to lead to higher accuracy (Evid. Ratio = 2.83, 74% probability).

Figure 4 shows the effect of the distance from the boundary on the accuracy and the response time. For both characteristics, the classification performance is better (i.e., a higher proportion of correct responses and shorter response times) with the distance to the boundary between the categories. The overall effect of pattern compactness shows an unequal influence of grouping on the performance (Evid. Ratio = 10.36; probability = 0.91 for the accuracy and Evid. Ratio = 15.07; probability = 0.94 - for the response time). The interaction between the element compactness and the distance from the boundary on accuracy suggests a more substantial effect for the grouped than for the dispersed patterns.

Figure 3. Mean proportion of correct responses on the number of red elements.

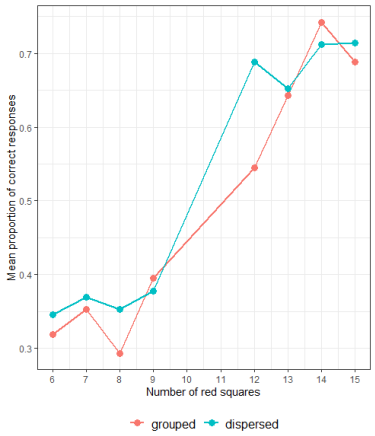
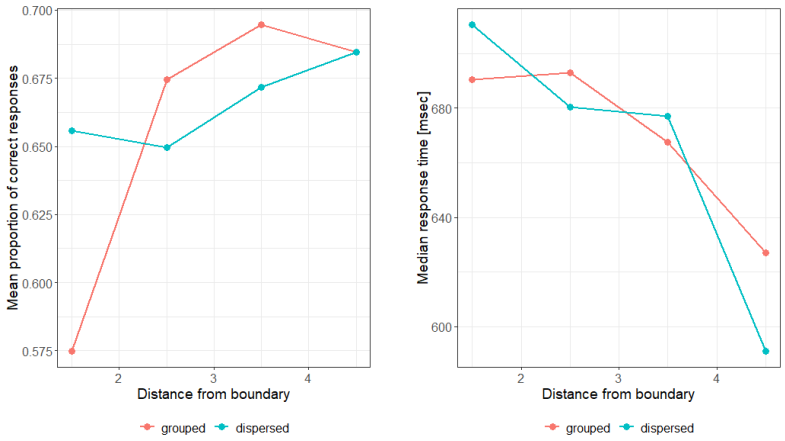
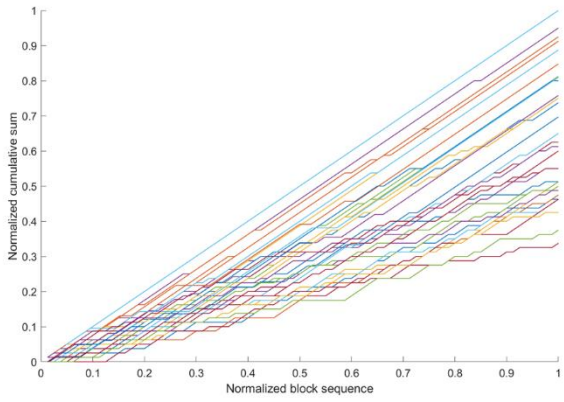


Figure 4. Dependence of the mean proportion of correct responses (left) and the median of response time (right) on the distance from the boundary between the categories.



Looking at the individual data, we obtained that only two observers did not change their strategy; seven changed it once, another seven changed their strategy two times, four participants changed their strategy three times, eight participants changed strategy four times, and seven – five times. Figure 5 represents the obtained dependencies of the cumulative sum of responses from the sequence of presentations. It shows that slightly more than half of the observers succeeded in discovering the classification rule. For them, the slope of the dependency becomes 1.0, although at a different point in the experiment. The figure also shows that the observers who fail to discover the classification rule change their strategy much more often.

Figure 5. Cumulative response sums depending on the sequence of presentations. A different color represents each observer.



5. Discussion

The study's results implied a significant effect of the compactness of the patterns on the classification performance when the rule for classification is defined by their colorfulness (i.e., the dominance of one of the two colors). The interference of the spatial characteristics on the classification might reflect that the coloring could not exist without a shape or object, i.e., color and shape form unitary wholes. Our results suggest that image classification in distinct categories based on color dominance is easier when the image contains more objects than when its elements are grouped in larger units. A potential explanation for this finding might be that the image objects are predominantly unicolored for the dispersed stimuli, whereas the more grouped elements often contain two colors. The presence of two colors introduces edges in the shape of the objects, destroying their wholeness and affecting the integration of the color information. Edge-based information (shape, lines) is more important than surface-based (e.g., color, texture) information in object recognition and incidental category learning (Zhou et al., 2020) and also in shape bias (Smith, 2000). Another possibility for the deficient learning and categorization performance for the grouped stimuli might be the dominance of shape over color as in natural conditions, shadows or reflections from nearby objects, as well as changes in illumination, often change the color appearance and the visual system might give less weight to color variations in an object.

Our data also show that classifying objects based on color dominance is complex. The overall performance accuracy is not very high, and many participants failed to find the classification rule, even though they were actively seeking it. Whereas we systematically changed only two stimulus dimensions – color dominance and grouping, we inevitably introduced changes in the position of the stimulus elements, their relative disposition, and orientation. Nearly half of observers fail to learn the classification rule, probably due to the natural inclination of observers to integrate the separate stimulus features (Ashby & Gott, 1988) and the dominance of geometric features. The complex characteristics of the stimulation might hinder the relevant features for stimulus representation and categorization. The individual data and the shifts in strategy provide an opportunity to discover the link between the stimulus characteristics used by the participants for category determination. This prospect is planned for a future examination.

Acknowledgments

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CAN COGNITIVE FUNCTIONS BE INFERRED FROM NEUROIMAGING DATA? A REVERSE INFERENCE META-ANALYSIS OF THEORY-OF-MIND TASKS

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Abstract

Cognitive neuroscience research using functional magnetic resonance imaging (fMRI) has predominantly focused on localizing patterns of neural activity associated with human cognitive functions. This approach, known as *forward inference*, has been pivotal in pinpointing brain areas engaged during specific cognitive tasks and testing hypotheses about brain-behavior relationships. In contrast, the use of reasoning from brain activation to cognitive functions, known as *reverse inference*, has been considered more informative because it allows researchers to interpret neural activity patterns to make inferences about the cognitive domain likely at play. Crucially, *reverse inference* considers how selectively the area is activated by the cognitive function under investigation, which is particularly important given the multifunctional nature of many cortical and subcortical areas. Nevertheless, the practical application of *reverse inference* in fMRI research remains methodologically challenging. Here, we performed a meta-analytic *reverse inference* analysis of brain activations related to Theory-of-Mind (ToM) tasks to evaluate whether this approach can effectively identify selective brain areas recruited for this critical human cognitive function. Leveraging data from the BrainMap database, we analyzed 223 published fMRI experiments involving ToM tasks (1069 healthy participants and 1526 activation foci) and compared these findings to fMRI data from other tasks stored in the BrainMap database (110 distinct cognitive tasks, 8154 published experiments, 127112 healthy participants, and 66649 activation foci). To achieve this, we applied Bayes fACtor mOdeliNg, a novel Bayesian-based, data-driven, hypothesis-free method that provides posterior probability distributions for the evidence of selectivity with respect to a given mental process. We found that several brain areas commonly recruited in ToM tasks (e.g., bilateral inferior frontal gyri, superior temporal cortices, and posterior cingulate cortex) show a low level of selectivity ($P < 50\%$), indicating their involvement across multiple cognitive domains. The results also revealed a small, organized set of highly selective areas ($P > 90\%$; e.g., bilateral superior frontal gyri, inferior temporal gyri, right precuneus, and anterior cingulate cortex) that map the cognitive function of ToM. These results provide a more refined and nuanced approach to understanding the neural basis of cognition, offering valuable insights for the development of formal cognitive ontologies and the refinement of brain-cognition models.

Keywords: *Neuroimaging, fMRI, cognitive ontology, Bayesian modeling, social cognition.*

1. Introduction

Over the past three decades, neuroimaging techniques such as task-based functional magnetic resonance imaging (fMRI) have enabled the measurement of local brain activity in response to cognitive tasks performed during scanning. These data allow researchers to investigate the involvement of brain regions during cognitive functions and test hypotheses regarding brain-behavior relationships (Westbrook, 2021).

From a methodological point of view, such findings support a task-to-activation estimation, commonly referred to as *forward inference* (Henson, 2006). This reasoning approach is widely applied in task-based fMRI research and has been instrumental in identifying neural substrates underlying cognitive functions. However, a major limitation of *forward inference* is its lack of selectivity (Costa et al., 2021; Poldrack, 2006), which prevents determining whether a given brain region is selectively engaged in a specific function. Moreover, the involvement of many brain areas in multiple cognitive tasks (Cauda et al., 2012) further complicates task-to-activation estimations, limiting the contribution of fMRI findings to refining brain-cognition models.

Starting from the seminal work of Poldrack (2006), a complementary reasoning approach has been introduced to assess how selectively a brain region is activated by a given cognitive function: *reverse inference*. This approach may infer cognitive functions from observed activations, providing a framework for linking brain activity patterns to specific cognitive processes.

The application of *reverse inference* in fMRI research has been explored and extensively debated (Cauda et al., 2020; Costa et al., 2021; Poldrack, 2008). While many studies underscore its importance for fMRI research, several challenges persist. One major limitation is the absence of a comprehensive formal cognitive ontology, which restricts the ability to accurately infer cognitive functions from neuroimaging data (Poldrack et al., 2011). Additionally, the vast and continuously growing body of literature complicates efforts to establish strong claims about selective brain-function mappings. However, open-access repositories such as the BrainMap database (Fox & Lancaster, 2002) may mitigate this issue by consolidating a broad sample of peer-reviewed experiments, facilitating large-scale meta-analytic approaches.

Bayesian statistical models have been proposed since the earliest theorization of *reverse inference* in fMRI as a promising avenue for enhancing its reliability in cognitive neuroscience. However, only in recent years has the Bayesian statistics been implemented in a user-friendly and open-access tool called Bayes fACtor mOdeliNg (BACON) (Costa et al., 2021). This meta-analytic approach assesses the likelihood that a given activation pattern corresponds to a targeted cognitive function in a whole-brain, voxelwise, data-driven and hypothesis-free manner.

2. Objectives

This study conducted a *reverse inference* analysis of fMRI-based brain activations associated with Theory-of-Mind (ToM) tasks to determine whether BACON can identify brain regions with a high posterior probability of being selectively involved in this crucial cognitive function.

ToM - the ability to infer and predict the intentions, thoughts, and beliefs of others (Premack & Woodruff, 1978) - was chosen as a case study. This selection is motivated by the well-established identification of a "core brain network" for ToM in fMRI research, including the anterior and posterior cingulate cortex, precuneus, inferior, middle, and superior temporal gyri, angular gyrus, supramarginal gyrus, inferior parietal lobule, insula, and inferior and superior frontal gyri (Schurz et al., 2014).

3. Methods

3.1. Data collection

The functional sector of the BrainMap database (Fox & Lancaster, 2002) was queried to identify fMRI experimental data related to the ToM function. A parallel standardized search was performed on BrainMap to retrieve fMRI experimental data related to other cognitive tasks stored in the database. The final literature search was obtained in December 2024, with no restrictions on publication year.

Eligible data (i.e., x-y-z foci of activation) were published in a peer-reviewed English-language article, statistically evaluating task-based brain activations related to groups of healthy human subjects and reported a whole-brain fMRI analysis with stereotactic results (i.e., Talairach or Montreal Neurological Institute standard spaces). The inclusion criteria were designed to mitigate biases inherent in region-of-interest analyses and to minimize spatial inaccuracies (Manuello et al., 2022).

3.2. Data organization

Two distinct datasets were created to estimate the selectivity of the cognitive function of interest: 1) "ToM dataset", composed of experimental data reporting brain activation in TOM, and 2) "non-ToM dataset", composed of experimental data reporting brain activations in all other tasks stored in the BrainMap database. Analyses were conducted in the Montreal Neurological Institute space. Thus, the spatial accuracy of the data was improved by converting foci reported in Talairach into Montreal Neurological Institute space using the icbm2tal algorithm (Lancaster et al., 2007).

3.3. Statistical analysis

The BACON approach (Costa et al., 2021) was applied to estimate the probability that brain activations are selectively associated with ToM.

First, two separate meta-analyses were conducted using the activation likelihood estimation (ALE) method (Eickhoff et al., 2012): one based on the "ToM dataset" and another using the "non-ToM dataset", which included all other tasks. The ALE algorithm, implemented in the GingerALE software (v.3.0.2) (Eickhoff et al., 2016), models the activation foci from each fMRI experiment as three-dimensional

Gaussian probability distributions centered on the reported activation foci. This process generates a modeled activation map for each experiment. The size of the Gaussian kernel varies to account for the original sample size of each group. The combination of all modeled activation maps yields voxelwise ALE scores across the whole brain, quantifying the degree of spatial overlap in reported activations.

Next, the BACON algorithm, as implemented in the MANGO software (v.4.1), was applied. By integrating Bayes Factor analysis (Kass & Raftery, 1995) with the unthresholded ALE-derived maps, BACON quantifies the posterior probability that activations at each brain voxel are selectively linked to the function of interest rather than to other cognitive tasks. This approach enabled a voxelwise whole-brain evaluation of two competing hypotheses: (1) that the activation was associated with ToM, or (2) that it was also linked to other experimental tasks of the BrainMap database. In the absence of prior probability estimates for these hypotheses, they were assumed to be equally likely, following previous validation studies (Cauda et al., 2020; Costa et al., 2021). Ultimately, BACON calculated posterior probabilities, representing *P (Theory-of-Mind | activation)*, to determine the selective association between observed brain activations and the ToM function. A detailed statistical explanation is provided in Costa et al. (2021).

Results were initially thresholded at *P (Theory-of-Mind | activation)* ≥ 0.90, corresponding to a posterior probability of selectivity of 90% or higher (Costa et al., 2021; Liloia et al., 2023). Given the exploratory nature of the analysis, results were also examined using more stringent thresholds of 0.95 (i.e., selectivity value of 95% or higher) and 0.99 (i.e., selectivity value of 99% or higher).

4. Results

The comprehensive search yielded a total of 8377 published fMRI experiments, including 111 different tasks. The distribution of the ToM dataset was 223 experiments, 1069 subjects, and 1526 activation foci. The non-ToM dataset was composed of 8154 experiments, 127112 subjects, and 66649 foci. For a complete list and description of fMRI experimental tasks stored in the BrainMap database, refer to https://brainmap.org/taxonomy/paradigms/ .

4.1. Selective activation profile of Theory-of-Mind

Taking into account a selectivity value of 90%, the BACON approach identified cortical and cerebellar activation areas related to ToM. Specifically, 12 clusters (*k* size > 150 mm^3) were found, encompassing the bilateral inferior, middle, and superior temporal gyri, superior frontal gyri, and cerebellar crus II. Additional selective activations were observed in the right anterior cingulate cortex and precuneus (Table 1, Figure 1).

Using a selectivity value of 95%, the BACON approach revealed one cortical area of activation in ToM showed a *k* size > 150 mm^3, encompassing the left middle temporal gyrus (Table 2 and Figure 1). In contrast, no ToM-related activations were found using a selectivity value of 99%.

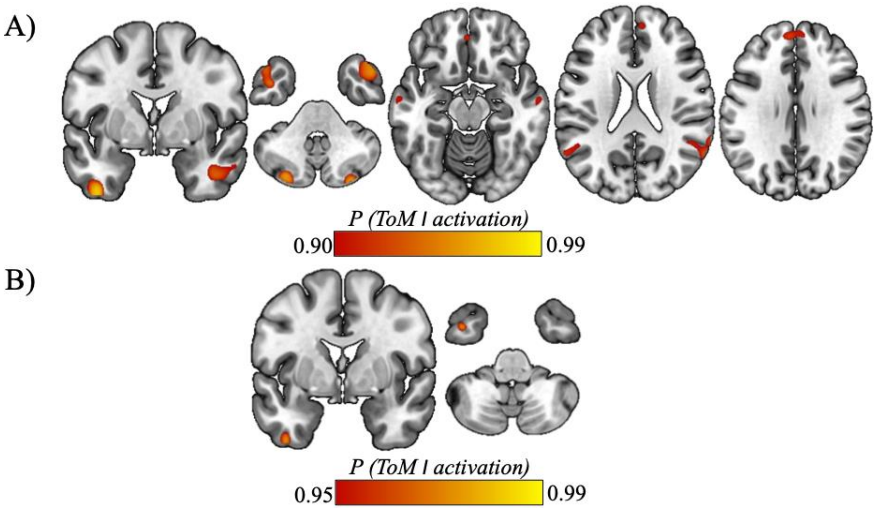
Table 1. Brain clusters of activation in Theory-of-Mind tasks derived from the Bayes fACtor mOdeliNg analysis thresholded at P (Theory-of-Mind | activation) ≥ 0.90.

Cluster ID	Brain Region (Brodmann area)	MNI x y z	Cluster Size mm^3	BACON Value Maximum	Minimum
1	Right middle temporal gyrus (BA 21)	48 10 -42	4540	0.95534	0.90001
2	Left middle temporal gyrus (BA 21)	-42 0 -46	1874	0.9711	0.90002
3	Left superior frontal gyrus (BA 8)	-6 52 32	1458	0.93052	0. 90001
4	Right cerebellar crus II	28 -82 -36	1253	0.95621	0. 90001
5	Right superior temporal gyrus (BA 39)	62 -60 22	964	0.93586	0.9
6	Left superior temporal gyrus (BA 22)	-60 -60 18	579	0.91656	0.9
7	Left cerebellar crus II	28 -88 -40	554	0.95984	0. 90005
8	Right anterior cingulate cortex (BA 32)	20 28 24	405	0.94271	0.9
9	Right precuneus (BA 7)	8 -56 32	338	0.91631	0.9
10	Right inferior temporal gyrus (BA 21)	62 -12 -18	313	0.91888	0. 90004
11	Left inferior temporal gyrus (BA 21)	-62 -10 -14	228	0.91193	0.9
12	Right superior frontal gyrus (BA 8)	20 42 18	154	0.92406	0. 90003

Table 2. Brain clusters of activation in Theory-of-Mind tasks derived from the Bayes fACtor mOdeliNg analysis thresholded at P (Theory-of-Mind | activation) ≥ 0.95.

Cluster ID	Brain Region (Brodmann area)	MNI x y z	Cluster Size mm^3	BACON Value Maximum	Minimum
1	Left middle temporal gyrus (BA 21)	-42 0 -46	267	0.9711	0.95001

Figure 1. Brain clusters of activation in Theory-of-Mind tasks derived from the Bayes fACtor mOdeliNg analysis thresholded at P (Theory-of-Mind | activation) ≥ 0.90 (A) and P (Theory-of-Mind | activation) ≥ 0.95 (B).



5. Discussion

Despite decades of neuroimaging research on brain–behavior relationships, a precise characterization of the possible selective function of brain regions, considering their involvement in multiple cognitive processes, remains elusive. Recent advancements in data aggregation methods have paved the way for data-driven, hypothesis-free approaches to mapping behavioral associations across brain regions.

In this study, we conducted an explorative investigation into the selective task-based activation profile of ToM using peer-reviewed fMRI data from the BrainMap database as the foundation for a whole-brain, voxelwise, and Bayesian analysis. Our meta-analytic approach identified multiple brain regions with a strong evidence of selective ToM activation compared with 110 other cognitive tasks. The functional localization of these areas highlights the involvement of specific cortical and cerebellar regions, including the bilateral inferior, middle, and superior temporal gyri, superior frontal gyri, and cerebellar crus II. In contrast, several areas traditionally associated with the "core ToM network" (i.e., posterior cingulate cortex, inferior frontal gyrus, insular cortex, left precuneus, inferior parietal lobule and angular gyrus) (Schurz et al., 2014) did not show posterior probability of selectivity at *P (Theory-of-Mind | activation)* ≥ 90%. This suggests that while these areas contribute to ToM processing, they are also engaged in a broader range of cognitive functions. Overall, this is not a surprising result given that previous fMRI findings support the view that several cortical and subcortical areas constitute crucial nodes of a multimodal network involved in a plethora of cognitive functions (Cauda et al., 2012). On the other hand, it is important to highlight that when increasing the posterior probability threshold for selectivity to a very high level of evidence (i.e., $P \geq 95\%$), only the left middle temporal gyrus remains selective. This finding suggests a central role for this multimodal area in ToM processing.

Several limitations should be acknowledged when interpreting these results. First, while there is no strong reason to assume systematic biases in the reporting of experiments, the BrainMap database used for dataset creation may not reflect the real-world distribution of fMRI tasks. Moreover, the design constraints of the original experiments limit the ability to explore potential differences across age- or sex-stratified populations. Finally, we cannot determine how many whole-brain fMRI studies may have overlooked the cerebellum, either partially or entirely, during scanning. As this study highlights, the cerebellum appears to play a significant role in cognitive functions and should be systematically included in fMRI acquisition and subsequent analyses.

Of course, this study represents only an initial step in the systematic exploration of *reverse inference* in cognitive neuroscience. The intent of this work is therefore programmatic. We argue that a more precise integration of *forward* and *reverse inference* could provide new insights, addressing key conceptual challenges, and fostering methodological advancements in fMRI research.

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RISK MANAGEMENT AT THE POLICE PRACTICE THROUGH NEURAL NETWORKS

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Abstract

Three Psychological examples are described in this study. These examples are included in the area of the dualism - aggression / depression and are connected with deficit of special doctors: a psychiatrist and a psychologist communication in a real police practice. Unfortunately, everything in this report is authentic and based on real life events.

Keywords: *Dualism aggression – depression, signal processing in L_2, cognitive and experimental psychological neural networks.*

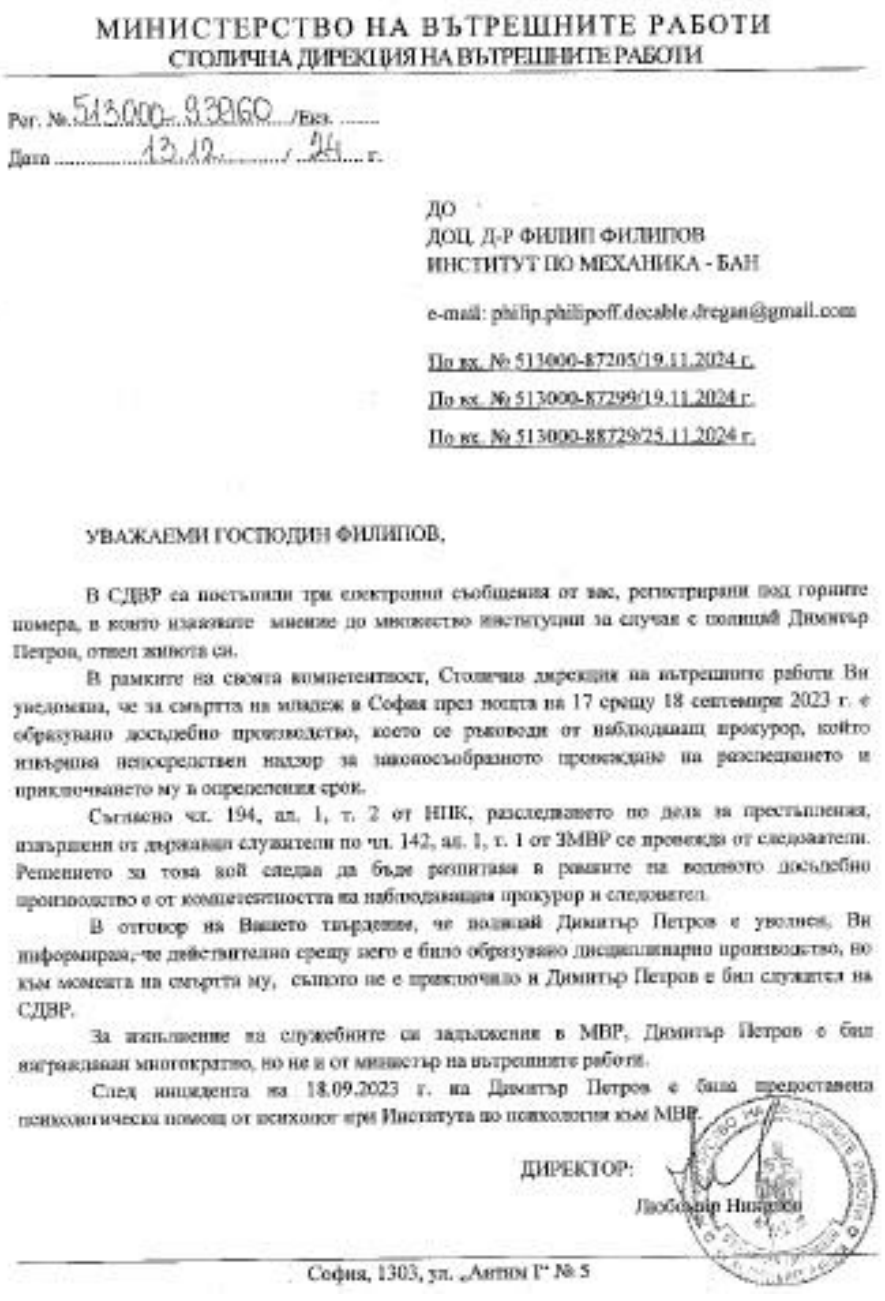
1. Psychological example 1

On September 18, 2023, a patrol car of 4 Region Office of Sofia Police Department (SDVR) detected a report of a robbery by three minors in the Lozenets area of the city of Sofia, Bulgaria. In the patrol there were two policemen from 4 Region Office, one of whom is Dimitar Petrov with seven years in the system of the Ministry of Internal Affairs and numerous awards for excellent service in management. The three perpetrators repeatedly robbed women and young girls, hitting them with a metal pipe and taking their belongings and money. Dimitar Petrov chased the perpetrators, repeatedly warned that he would shoot a pistol, fired signal shots and finally wounded Svetoslav Mladenov from a distance of 100 m. The two policemen put the shot young man into the car, but the boy died on the way to Tokuda Hospital. If the operation to arrest the perpetrators had been consulted with a psychologist and a psychiatrist, the results would not have been so tragic. If several patrol cars with more than ten policemen had been sent to the

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scene of the incident within minutes, the minors would have been detained within minutes without any shots being fired and would have been brought to 4 Region Office. Such a management organization can be implemented using a neural network for risk reduction in police operations.

Figure 1. Answer of the director of the SDVR Chief Commissioner Lyubomir Nikolov to the Psychological example 1.



МИНИСТЕРСТВО НА ВЪТРЕШНИТЕ РАБОТИ
СТОЛИЧНА ДИРЕКЦИЯ НА ВЪТРЕШНИТЕ РАБОТИ

Рег. №513000-83960 /Вх. .....
Дата 13.12. / 24 г.

ДО
ДОЦ. Д-Р ФИЛИП ФИЛИПОВ
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По вх. № 513000-87205/19.11.2024 г.
По вх. № 513000-87299/19.11.2024 г.
По вх. № 513000-88729/25.11.2024 г.

УВАЖАЕМИ ГОСПОДИН ФИЛИПОВ,

В СДВР са постъпили три електронни съобщения от вас, регистрирани под горните номера, в които изказвате мнение до множество институции за случая с полицай Димитър Петров, отнел живота си.

В рамките на своята компетентност, Столична дирекция на вътрешните работи Ви уведомява, че за смъртта на младеж в София през нощта на 17 срещу 18 септември 2023 г. е образувано досъдебно производство, което се ръководи от наблюдаващ прокурор, който извършва непосредствен надзор за законосъобразното провеждане на разследването и приключването му в определения срок.

Съгласно чл. 194, ал. 1, т. 2 от НПК, разследването по дела за престъпления, извършени от държавни служители по чл. 142, ал. 1, т. 1 от ЗМВР се провежда от следователи. Решението за това кой следва да бъде разпитван в рамките на водения досъдебно производство е от компетентността на наблюдаващия прокурор и следовател.

В отговор на Вашето твърдение, че полицай Димитър Петров е уволнен, Ви информираме, че действително срещу него е било образувано дисциплинарно производство, но към момента на смъртта му, същото не е приключило и Димитър Петров е бил служител на СДВР.

За изпълнение на служебните си задължения в МВР, Димитър Петров е бил награждаван многократно, но не и от министър на вътрешните работи.

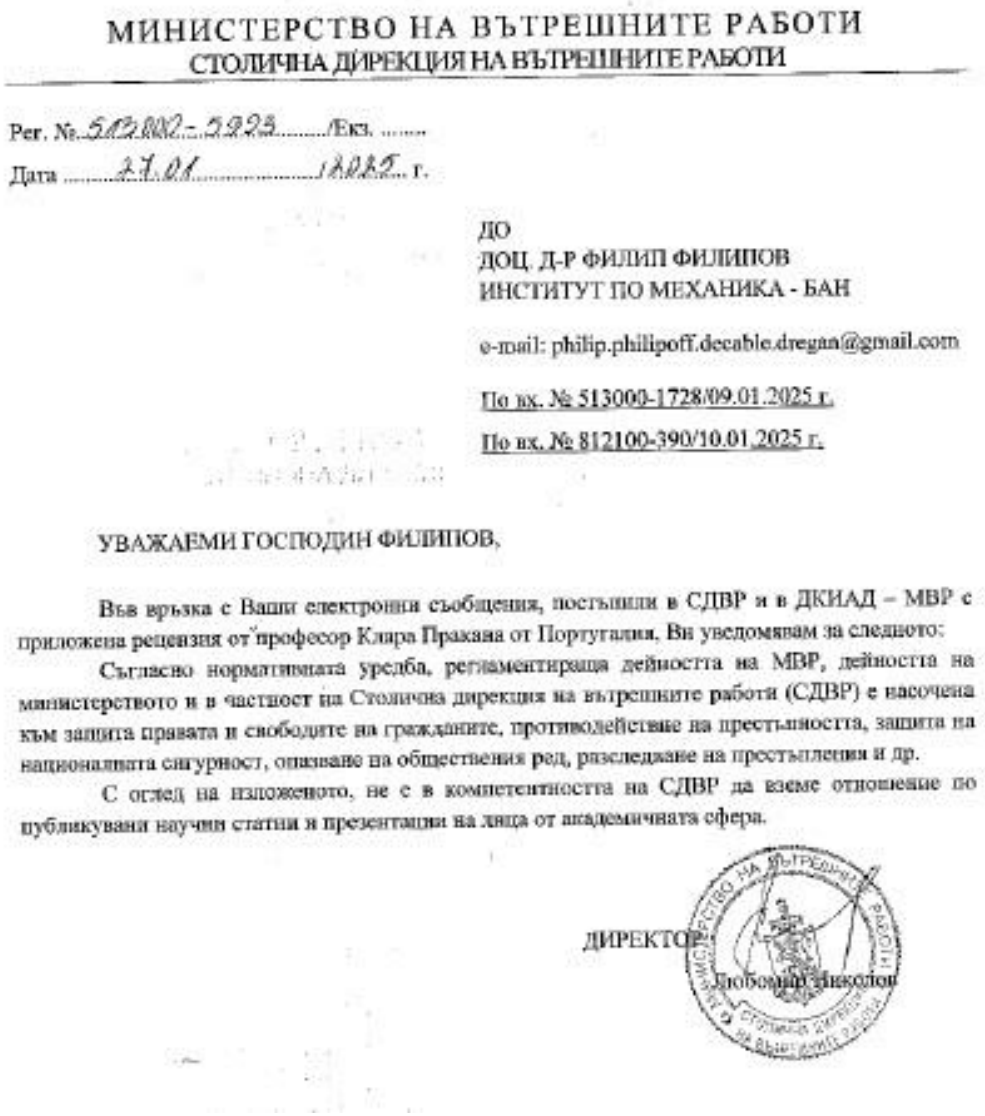
След инцидента на 18.09.2023 г. на Димитър Петров е била предоставена психологическа помощ от психолог при Института по психология към МВР.

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Figure 2. Answer of the director of the SDVR Chief Commissioner Lyubomir Nikolov to the Psychological example 3.



МИНИСТЕРСТВО НА ВЪТРЕШНИТЕ РАБОТИ
СТОЛИЧНА ДИРЕКЦИЯ НА ВЪТРЕШНИТЕ РАБОТИ

Рег. №. 502002-2925 /Екз. .....
Дата 27.01 2025 г.

ДО
ДОЦ. Д-Р ФИЛИП ФИЛИПОВ
ИНСТИТУТ ПО МЕХАНИКА - БАН

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По вх. № 513000-1728/09.01.2025 г.

По вх. № 812100-390/10.01.2025 г.

УВАЖАЕМИ ГОСПОДИН ФИЛИПОВ,

Във връзка с Ваши електронни съобщения, постъпили в СДВР и в ДКИАД – МВР с приложена рецензия от професор Клара Пракана от Португалия, Ви уведомявам за следното:

Съгласно нормативната уредба, регламентираща дейността на МВР, дейността на министерството и в частност на Столична дирекция на вътрешните работи (СДВР) е насочена към защита правата и свободите на гражданите, противодействие на престъпността, защита на националната сигурност, опазване на обществения ред, разследване на престъпления и др.

С оглед на изложеното, не е в компетентността на СДВР да вземе отношение по публикувани научни статии и презентации на лица от академичната сфера.

ДИРЕКТОР:
Любомир Николов

The Ministry of the Interior Affairs in Bulgaria has its own Psychology institute, but it does not use it effectively in the field of Cognitive and Experimental Psychology, neither for innovative nor for operational work. The ministry has its own hospital, but it treats patients from the top operational management of the Ministry of the Interior Affairs. All employees of the ministry are patients, but the prevention of employees in the field of psychology is far from modern innovative and scientific practice. After the tragic incident on September 18, 2023, police officer Dimitar Petrov was dismissed from his position and charged with murder. Dimitar Petrov had a permanent employment contract in the Sofia Directorate of Internal Affairs at the Ministry of Internal Affairs

Dimitar Petrov had a permanent employment contract in the Sofia Directorate of Internal Affairs at the Ministry of Internal Affairs. He had compulsory health insurance at the Ministry of Interior Affairs Hospital. According to the accompanying legal documents (Law on the Ministry of Internal Affairs and by-laws), consultation and possible treatment by a psychiatrist and psychologist after the case of September 18, 2023 were mandatory.

The case is being investigated by investigator Vera Simeonova from the National Investigation Service and prosecutor Delcheva from the Sofia City Prosecutor's Office. There are journalistically data that the two employees systematically crushed Dimitar Petrov and retrained him THE CHARGE OF MAN SHOULDER IN INTENTIONAL MURDER. Colleagues of Dimitar Petrov and two senior officers from

the Ministry of Internal Affairs, Anton Zlatanov and Kalin Stoyanov, stand behind Dimitar Petrov. The policeman who killed himself left 6 obituaries and a girlfriend who cries for him. Regardless of the fact that he was a contingent of the Ministry of Interior Affairs Hospital, HE WAS NOT EXAMINED BY A PSYCHIATRIST AND A PSYCHOLOGIST. On the day he receives a court summons, he ends his life by hanging himself in his new police uniform. The operational management of the Ministry of Internal Affairs is hiding from responsibility and trying to cover up the case.

The use of artificial intelligence is proposed to reduce the risk in conducting police operations. A neural network connects all patrol cars of the Ministry of the Interior Affairs, all departments and directorates, the Institute of Psychology of the Ministry of the Interior Affairs and the hospital of the Ministry of the Interior Affairs and ensures a wide participation of psychologists in the operational work of the police.

2. Psychological example 2

A terrible tragedy is happening in Sofia. The 32-year-old Ukrainian citizen Ksenia, married to a Bessarabian Bulgarian, killed her two children aged 5 and 11 with a knife in a particularly cruel way. She then attempts to commit suicide by hanging herself, having supplied a suitable rope for the purpose. Ksenia is arrested and confesses. The family lived in Aheloy (near Nessebar in the Black Sea coast) with the status of refugees, where nothing reminded of the terrible tragedy that unfolded days later in Sofia**. ON THE CONTRARY. SOCIETY PERCEIVES THE FAMILY AS VERY SUCCESSFUL AND HAPPY.** Apparently, it is about unlocking mental illness in the mother who brutally killed her own children and tried to commit suicide. Again, there is an episode of the Aggression-Depression Duality. In the first episode, Aggression kills the children, and then in the virtual second episode, the insanity was about to turn into Depression and she intended to kill herself. In both conditions, there are hallucinations that guide the actions of the perpetrator. Both episodes deal with crimes that could have been prevented if there had been PSYCHIATRISTS AND PSYCHOLOGISTS in the police teams involved in the respective police actions.

The arrival of the refugee family with the father's relatives among Bessarabian Bulgarians in Vakarel near to Sofia should have been reported to the mayor of Vakarel and the police district inspector in connection with their status as refugees from the war. Already during their stay in Aheloy, from where they arrived, they should have been diagnosed as potentially risky patients, in whom it is possible to unlock mental illnesses with very dangerous and criminal consequences.

3. Psychological example 3

On Monday, 3 February 2025, a 30-year-old man threw himself twice in front of passing cars on Blvd. Tsar Boris III. To the police, who arrested him after the traffic accident he caused, he claimed that no psychiatric clinic wanted to accept him. A video appeared on social networks, which was later deleted by the author of the video. He called the injured man "Mursha" and explained his aggressive attitude towards the victim with a lack of empathy in himself, due to the fact that the latter obstructs traffic on the boulevard by throwing himself under the cars. He gets confused with a light arcade and the eyebrow and the arrived team from 6 RU SDVR arrests him for PPT, which causes on the boulevard. There is a PSYCHOLOGICAL ERROR IN THE ASSESSMENT OF THE PSYCHOLOGICAL SITUATION. The police officers who detained him did not take into account that the DEPRESSION that is present is the opposite phenomenon of AGGRESSION, but with an opposite sign and is directed at the person who commits the act. At the time of the arrest and afterwards in the 6th Regional Department of the Internal Affairs Directorate, neither a PSYCHIATRIST nor a PSYCHOLOGIST was present. In such cases, the police officers called an ambulance, but without specialized therapists. The doctors assessed the patients' condition and gave them sedative injections. However, a mistake was then made, and the patients were released to leave, because according to the police they had not committed a crime. On the contrary, according to the theory, in a fit of DEPRESSION, they committed a crime, but against themselves. The case was missed that the patients were also people against whom a criminal act was committed. In this case, the man was released and he left, without the ambulance placing him in a specialized facility. While the case lasted, the authors of the report had a painful feeling that this patient, deprived of clinical care in a specialized psychiatric clinic, was doomed due to the incompetence of the police and the ambulance, in whose actions there was a lack of a PSYCHOLOGIST and a PSYCHIATRIST. The doctors ascertained the condition of the patients and administered sedative injections. However, a mistake is then made and the patients are allowed to leave because the police believe they have not committed a crime. On the contrary, according to the theory, in a bout of DEPRESSION, they commit a crime, but against themselves. It misses the case that patients are also people against whom a criminal act is being committed. In this case, the man

was released and he left without the Emergency Service placing him in a specialized facility. As long as the case lasts, the authors of the report have a painful feeling that this patient, deprived of clinical help in a specialized psychiatric clinic, is doomed due to the incompetence of the police and the ambulance, whose actions lacked a PSYCHOLOGIST and a PSYCHIATRIST. The denouement is not long in coming. The patient committed suicide on Wednesday, February 5, 2025, by jumping from the 5th floor of a block of flats in the Mladost district of the capital. The correct decision in the case was to detain him as long as necessary in the detention center of the 6th Regional Directorate of the Internal Affairs Directorate, because he was aggressive towards himself, until a suitable clinic was found, and then to be released from detention and detained in the clinic.

4. Risk management at the police practice through neural networks

The common denominator in the three examples presented is that there is no special communication between the police officers working in extremely difficult field conditions and the general operational management of the Ministry of Interior Affairs. There is only radio communication between the patrol cars and the control center. After receiving the task, the patrols' competence is equal to the competence of the senior officer in the patrol. However, in the modern complex world this is not enough at all. In all three cases described it was necessary to have a PSYCHOLOGIST and a PSYCHIATRIST present on the scene If this had been done in all three cases there would have been no casualties. It is practically difficult and even impossible to achieve such a presence. It is practically difficult and even impossible to achieve such a presence. It is practically difficult and even impossible to achieve such a presence. However, if the similar networks are used, this task can be easily solved. Specialists are physically located in another place in space, but they make a diagnosis and prescribe therapy and appropriate measures REMOTELY. Then, in every case that needs psychiatric and psychological help, there can be a favorable outcome. The relevant actions are carried out by police officers in the field under the remote guidance of psychology and psychiatry specialists who are physically located in the control Center. The Theorem 6 from: Jivkov, & Philipoff (2016), can be seen:

$$F^{common\ function}(j\omega) = \ 2\left(R_{\mathrm{e}}^{even\ left}(\omega) + jI_{m}^{odd\ right}(\omega)\right)$$

as a continuous analogue of James Cooley and John Tuckey's 1965 discrete algorithm. This makes it possible to build efficient hardware FFT processors in proposed Neural Networks. This Theorem 6 gives directly complex spectra function for length N by two parts with length N/2 – Real and Imaginary parts.

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GREEN ATTITUDE PROGRAMME AND ITS IMPACT ON YOUTHS' ATTITUDE ON GREEN ACTIVITIES AND APPRECIATION OF GREEN NATURE

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Abstract

One of the challenges faced by today's youth community is to ensure that the green nature heritage is preserved and sustained for the future generation. To create awareness among youths in preserving and nurturing green nature, a group of psychology students organised 'Green Attitude Programme'. It was based on the Green Attitude Module developed across the disciplines of social psychology, agronomy and entrepreneurship. The aim of the programme was to enhance the positive attitude in three aspects, namely, affective, cognitive, and psychomotor, of the participants on green activities and to assess the improvement of their green affinity in those aspects before and after they had completed the two-day Green Attitude Programme. The program had 15 participants, with an average age of 22.80 years (SD = 3.50). The study revealed significant positive improvements in participants' attitudes across three aspects related to green activities, as well as in their sense of connection to nature following the programme. The results give a glimpse of new idea that in enhancing green attitude effectively, there is a need to develop a multi-disciplinary green attitude programme. Although the Green Attitude Programme relied more on the Yale Model based on the social psychology approach, ideas from different disciplines, such as, agronomy and entrepreneurship can be suitably included. That inclusion can strengthen the quality and content of the Green Attitude Module in developing a positive attitude of the participants towards green activities and nature conservation. The effectiveness of the Green Attitude Module as a guide to run the Green Attitude Programme indicated that the module developed in this study can be used as one of the Green psychological interventions that can effectively change people to develop robust green attitude and better appreciation of nature.

Keywords: *Green attitude, affective, cognitive, psychomotor.*

1. Introduction

To protect and conserve the green ecosystem in this post-modernism is challenging. The complexity of the modern lifestyle hinders many people from refocusing their life to preserve the ecosystem albeit the natural resources have been used extensively and polluted to some extent. For instance, in Malaysia, the environment suffers from pollution of various forms and dimensions, from air pollution, water, noise to garbage pollution that seems to have no end, despite many education and environmental awareness campaigns in various forms, reading materials, print and social media are conducted by various agencies (Idrus, 2015). As the natural resources are being used and polluted in many ways, protecting the ecosystem is no longer a task of only a specific authority. It needs a collaborative work from various organizations to succeed. The society particularly the youths need to work together and take an active role to protect the environment, as they will benefit the most from it. The youths are the future generation who have to live and again sustain the future environment. In Malaysia, quite many places are prone to flood and other natural disasters even an earthquake. A few factors contributing to these natural disasters are climate change, deforestation, land degradation, and pollution. These factors are some of the environmental concerns that threaten the health of the planet, humans, and other living things on earth. The future generation will have to live with the adverse effects of those environmental threats (Abdul Rahman, 2020). Therefore, it is crucial to raise awareness and foster positive green attitudes among youth, encompassing their beliefs, emotions, and inclinations toward participating in green activities. As Abdul Rahman (2022) highlighted, this can be achieved by enhancing their knowledge, attitudes, and practices related to

ecosystem care. Cultivating positive green attitudes can lead to numerous beneficial outcomes. One of the benefits is providing a better health and psychological well-being to human. For example, low exposure to air pollutants, such as ozone and airborne particles, can lead to a good health and a happy life. Usmani et al. (2020) reported that there is a strong positive correlation between rate of exposure to air pollutants and increment in hospital admissions and mortality. It suggests that everyone has a role to play and is responsible to take care the ecosystem and connect better with or appreciate the nature. As addressed in the Sustainable Development Goals-15 (SDG-15: Life for land) pledge, global people are encouraged to work together in protecting, restoring, and sustaining the environment (United Nations, n.d.).

2. Green Attitude Module

Ahmad et al. (2012) who studied informal environmental education channels among Malaysian youths asserted that environmental education can be found via various sources, such as, from the youth's own experience, from the media such as television, or through travelling. The effectiveness of these channels, however, will take time, as it works only indirectly. In academic field, a widely known direct way of transferring knowledge is the Yale Model. Thus, in the present study, it is hypothesised that green attitude and appreciation of nature could also be enhanced by organizing a green attitude programme using the Yale Model that is based on the social psychological approach that also incorporates inputs from other fields, such as, agronomy and entrepreneurship. The proposed green attitude module consists of activities that focuses on the psychological aspects (attitude), environment (connection with nature), agronomy (planting and farming), and economy (marketing green product). The developed Green Attitude Module is used as guidance to conduct all structured activities, and it was designed in a collaboration between a social psychologist and agriculture entrepreneur. It is thought that a combination of ideas from psychological and agricultural perspectives will strengthen the effects of the developed Green Attitude module. The developed Green Attitude Module focuses on three elements of attitude, i.e., emotion, cognition, and behaviour. The module includes various sources and activities, such as, using green greetings, facilitating green discussion, sharing experiences, and participating in a green walk and self-reflection. The module is grounded in the theory proposed by Hovland et al. (1953), which focuses on the practical question: "Who says what, to whom, through which channel, and with what effects" (p. 37).

3. Objectives

The aim of this study is to evaluate the effectiveness of the Green Attitude Programme in fostering positive attitudes toward green activities across three domains: affective, cognitive, and psychomotor. Additionally, the study examines changes in participants' attitudes toward green activities and their connection to nature before and after completing the two-day programme.

4. Methods

A two-day Green Attitude (GA) Programme was carried out where a social psychologist with a group of psychology students and an experienced entrepreneur in green farming worked together in delivering the content of the Green Attitude Module. The study was conducted using a quasi-experimental study design. Quasi-experimental design was used because the study was conducted in the field, that is, based on natural setting and it involved an intervention. It was based on one group pre-post study design (Campbell & Stanley, 1966). The survey was carried out before and after the participants completed a two-day programme. The two-day Green Attitude Programme was held in Mesilou village, Kundasang, Sabah. This village is situated near the highest mountain in Southeast Asia, one of Sabah's most renowned tourist attractions. It offers numerous recreational opportunities for tourists to explore and connect with nature, making it an ideal location for this study. A total of 31 participants took part in the green attitude program; however, only 15 were included in the final data analysis. Sixteen participants could not complete all activities due to other work commitments. The participants, aged 19 to 22 years, came from diverse educational backgrounds and represented various ethnicities, including Kadazandusun, Murut, Malay, Chinese, Iban, and Bugis.

To gather the data from each participant, a set of questionnaires that comprised of three sections was used. The first section measured participants' background, which consisted of five items, namely, ethnicity, age, gender, involvement in green activity and educational level. The second section measured participants' green attitude in the perspectives of emotion, cognition, and behaviour. The assessment scale was created around those three components, focusing on the attitude objects that are related to green factors. The specific item samples that represented the three attitude components were, for examples, for cognitive:

'I believe that the new farming technique can help to generate money'; affective: 'I like to plant using the modern farming technique (e.g., hydroponic or Aquaponic); and behaviour: 'I will motivate other people to plant together'. It was asserted that those three components are essential for forming the assessment scale for green attitude. The scale was also created by considering the activities that were suggested in the Green Attitude Module. A pilot study was carried out before the scale was used for the actual study to ensure that the scale can reliably and validly measure the green attitude. The scale response set was from 1 (strongly disagree) to 5 (strongly agree). The third section measured participants' connection to nature. This scale was adapted from the Connected to Nature Scale and the Environmental Attitude Scale by College and College (2004). The scale response was also based on the 5-point Likert Scale from 1 (strongly disagree) to 5 (strongly agree). The sample items were, for examples, 'I always follow current news about green programmes and campaigns running around my community', 'I will take good care of nature because it is a part of my life', and 'I like to go hiking or camping in green recreational areas'.

5. Results

There were 15 participants took part in this study with mean age with aged 22.80 (SD=3.50). Majority of them are males, 10 and 5 are females. The reliability values for 'attitude towards green activities' and 'Connectedness to nature' scales are acceptable for both pre- and post-studies (see Table 1).

Table 1. The Reliability Values for 'Attitude towards Green Activities' and 'Connectedness to Nature' For Pre- and Post-studies (N=15).

Variables	Number of items	Reliability values
Attitude towards green activities		
Before	12	.83
After	12	.62
Connectedness to nature		
Before	12	.77
After	12	.50

The Wilcoxon analysis revealed a significant improvement in participants' attitudes toward green activities before and after completing the two-day Green Attitude Programme (see Table 2). Additionally, there was a significant increase in participants' sense of connectedness to nature following their involvement in the programme (see Table 3).

Table 2. The Difference of Participants' Attitude Towards Green Activities Before and After Participants Involved in Green Attitude Programme (N=15).

Variable	Mean (SD)	Z score	Significant value
Attitude towards Green Nature			
Before	50.67 (6.39)	-2.95	.003
After	56.00 (3.22)		

Table 3. The Difference of Participants' Connectedness with Nature Before and After they Involved in Green Attitude Programme (N=15).

Variable	Mean (SD)	Z score	Significant value
Connectedness to Nature			
Before	50.60	-3.42	< .001
After	56.40		

6. Discussion

The study found that there is a significant difference on participants' attitude towards green activities before and after participants engaged in the two-day green attitude programme. Participants showed more positive attitude and each of the attitude components. This showed that participants manage to give attention and could understand the messages convey in each green activity. In each activity, the elements of attitude change in the Yale model such as source, messages, channel, target participants and the effects of the green activities were taken into consideration. This is to ensure that participants' attitude can be strengthen and showed positive effects. Although the green attitude programme only conducted in

two days, some activities were held at night such as gazing at the star and night green sharing. This provides more time for participants to engage and receive more persuasive green messages from the programme organizer. On the second day, participants engaged in a green walk and stop at the four stations to discuss their goals, future plan and strategies use to involve in prospective green project such as engaging in modern farming. After this activity, participants continued their activities with harvesting and packaging green product based on the order their received from the prospective buyers. These kinds of behaviour may also help to create positive attitude towards green activities. This can be explained with the self-perception theory (Bem, 1972) where participants tend to change their attitudes towards one attitude object when they have the opportunity to perform target behaviours. In other words, participants can identify their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behaviour or the circumstances in which the behaviour occurs.

A variety of activities using diverse channels and creative approaches, all centered around a single attitude object—green attitudes—may help engage participants and encourage active involvement. Additionally, the combination of indoor activities (e.g., green talks, group discussions) and outdoor activities (e.g., stargazing, hiking), along with green product marketing, can evoke positive emotions and create lasting memories of the green messages conveyed through each activity. Uzun et al. (2019) stated that the experience of negative or positive emotions, may significantly impact not only people's experiences with the environment, but also their tendency to engage in pro-environmental behaviour. One way to change people's attitude towards nature is by exposing them with the nature through activities such as camping, star gazing, hiking, and gardening. In this study, participants showed greater connectedness to nature after they have completed the green activity programme. The participants nature experience might be accumulated by various green activities in the two-day programme and their past green experiences. In this study, majority of the participants have involved in green activities such as farming, gardening and other green programmes and campaigns based on their sharing and group discussions on green activities. The accumulation of green experiences can enhance participants connection to the nature. Connectedness to nature can be defined as a trait related to the feeling of emotional connection with the natural environment (Mayer & Frantz, 2004). In this study, connection to nature refers to participation in pro-environmental activities, including green greetings, green talks, green self-reflection, hiking, farming, harvesting green products, and planting plants. According to Soga and Gaston (2016), direct experiences with nature (e.g., picking plants or flowers) are linked to a greater willingness to conserve biodiversity. Additionally, even viewing images of natural scenes can evoke unique, humble emotions and improve mood. The impact may be even more profound if participants directly engage with nature—smelling, touching, and feeling the plants around them—while enjoying the sight of a variety of colorful flowers in a specific location. Past studies (e.g., Rosa et al., 2018; Bixler & Floyd, 1997) found that exposing or direct contact with nature during childhood can also influence the attitude towards environment and this may lead to pro-environmental actions. While, people living in urban environments, with little contact with natural areas tend to harbour negative attitudes toward nature. The assumption was that accumulated spontaneous exposure to natural areas over an extended period influenced attitudes in terms of creating a greater likelihood of expressing ecocentric attitudes. Positive outcomes derived from engaging in green activities may enhance participants' connection to nature. Robust evidence indicates that individuals who perceive themselves as more connected to the natural world, regardless of their actual exposure, tend to hold more positive attitudes towards the natural environment (Swami et al., 2024).

7. Conclusions

The Green Attitude Programme had positively changed the youths' attitude on green activities and appreciation of green nature. At the end of the programme, they showed a better affinity to have a green ecosystem, to appreciate a green nature, and to take part in green activities. Even so, it is not yet known whether this attitude change is permanent or temporary. The results also indicate a partial view of a new idea that to enhance a green attitude and connection to nature among youths effectively, they need to be involved in a multi-disciplinary green attitude programme. The Yale Model used to form the Green Attitude Module for the Green Attitude Programme in this study was originally based on the social psychology approach, but during this study, ideas from different disciplines, such as, agronomy and entrepreneurship were incorporated and found to fit well with the model. In fact, the inclusion has strengthened the content of the Green Attitude Module in developing a positive green attitude and connection to nature of the participants. It can be commented that the module and programme developed in this study can be used as one of the green psychological interventions that can effectively change people to develop a strong green attitude and better connection to nature. Future study is suggested to retest the module and programme in the same or different areas of Sabah to understand its impact consistency, to find out the longevity of its impacts, and to further improve the module. In addition, external factors such as the time duration, the

relationships between participants and the organizer, and other potential distractions affecting program implementation, as highlighted in past studies (e.g., Ah Gang et al., 2017; Cosmas et al., 2015) should also be considered.

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INDIVIDUALS' INFANT VACCINATION DECISIONS: THE ASSOCIATION WITH OBJECTIVE AND SUBJECTIVE KNOWLEDGE

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Abstract

Despite the successful role of vaccination in health promotion, vaccine hesitancy remains a growing concern. Information technology and social media fuel vaccine hesitancy, spreading dis- and misinformation about vaccination, affecting caregivers' ability to make informed decisions on whether to vaccinate their infants. This South African study investigated the association of vaccination decisions with objective and subjective knowledge. Objective knowledge was measured using a standardised scale on general vaccine-related proven facts, while the 5-point Likert scale on subjective knowledge was developed from similar studies and vaccine-related literature. The online survey used convenience and purposive sampling (N = 415). Only 73.6% of respondents had made a positive decision to vaccinate their infants. Respondents scored under average (45.7%) on the objective knowledge test, while the mean score (3.61 ± 0.68) for subjective knowledge indicated a knowledge self-rating higher than other people. A positive vaccination decision correlated positively with objective knowledge and negatively with subjective knowledge. There was also a difference in subjective knowledge, with respondents with a negative decision rating their subjective knowledge higher than those with a positive decision. Our results indicate that objective knowledge about infant vaccinations remains low, although individuals perceive their knowledge to be more than others, suggesting that they are unaware of their knowledge limitations. Since both objective and subjective knowledge showed correlations with vaccination decisions, both these types of knowledge should be considered in the planning of health promotion attempts to improve vaccination uptake.

Keywords: *Health promotion, objective knowledge, subjective knowledge, infant vaccinations, vaccination decisions.*

1. Introduction

The coronavirus disease 2019 (COVID-19) pandemic emphasised the critical role of vaccines in health promotion, while vaccine hesitancy thwarted efforts to halt the pandemic in various settings. Social media vastly contributes to the spread of information, misinformation and disinformation (Lee et al., 2023), leaving people with an information overload that can make it difficult to distinguish between scientifically proven facts, pseudoscience and conspiracy theories (Daubs, 2024). When primary caregivers of infants have to decide whether or not to vaccinate their infants, they are bombarded with all this available information, without always being able to judge the integrity of the information. Mis- and disinformation are often spread using techniques to grab the attention and be more memorable, such as inciting fear and uncertainty, which complicate the filtering of information (Daubs, 2024). In contrast, scientific facts are usually stated as 'matter of fact' and without emotion, and consequently, are less memorable. As a result, misunderstandings regarding, for example, the safety and effectiveness of vaccines fuel vaccine hesitancy (Joslyn et al., 2023).

Accurate health information is essential for positive health behaviours (Canady & Larzo, 2022) such as vaccination uptake. While providing health explanations in everyday language proved to reduce vaccine hesitancy (Joslyn et al., 2023), the mere provision of explanations might not be sufficient to increase a willingness to vaccinate as people tend to only focus on elements of an explanation that support their current view (Joslyn et al., 2023). Also, cognitive biases such as The Dunning-Kruger Effect (DKE) (the inability to recognise a lack of ability or knowledge) prevent people from acquiring accurate information (Canady & Larzo, 2022). Individuals' self-assessed knowledge or their perception of how much they know about a specific topic is termed subjective knowledge (Park et al., 1994). In the present study, we

investigated the association between caregivers' infant vaccination decisions and how much they know (objective knowledge) about vaccination, and how much they think they know (subjective knowledge) about vaccination.

2. Methods

This quantitative cross-sectional study used convenience and purposive sampling, and was advertised on Facebook, targeting South African adults caring for children aged 12 to 23 months old. The advertisement led to the electronic questionnaire on SurveyMonkey. A total of 415 questionnaires were sufficiently completed for meaningful analysis and included 303 fully completed questionnaires.

Respondents' vaccination decisions were determined by the vaccination status of their youngest child or their intention to vaccinate their youngest child. A positive decision was established when their infant's vaccination status was up to date and on schedule, or when they indicated their intention to catch up on delayed or missed vaccinations. A negative decision was indicated by respondents stating that a deliberate decision was taken to delay the vaccination or to not vaccinate.

The section on objective knowledge of general vaccine-related scientifically proven facts was measured using the scale of Zingg and Siegrist (2012). It consisted of eleven statements where respondents indicated the statement as correct, incorrect or "I don't know". Subjective knowledge was measured with a 5-point Likert scale (1 = Do not know more than others; 5 = Know a lot more than others), developed using questions from similar studies (Donoghue et al., 2016; Pieniak et al., 2010; House et al., 2004) and vaccine-related literature.

Exploratory factor analysis (EFA) was conducted on the objective and subjective knowledge items, and Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) were used to determine suitability for EFA. Reliability was measured using Cronbach α (for Likert scale data) and Kuder-Richardson 20 reliability coefficient (KR-20) (for dichotomous data). Spearman's rank-order correlations were determined between the vaccination decision with objective knowledge and subjective knowledge, respectively.

The study was approved by the North-West University Health Research Ethics Committee (approval number NWU-00104-17-A1).

3. Results

Respondents were 91.6% female (380/415), 85.5% (355/415) employed, well-educated with 65.1% (270/415) holding a degree and 96.4% (400/415) completed at least secondary school. Most (81% [336/415]) respondents earned a monthly income of more than R10 000 (> ± 536 Euro). Of respondents answering the question on vaccination status of their youngest infant, 73.6% (304/413) had made positive vaccination decisions, while 72.2% (298/413) reported their infants being fully vaccinated.

Objective knowledge items loaded onto one factor during EFA, with KMO = 0.91 and KR-20 = 0.89, indicating good internal reliability. Respondents scored 45.7% (SD = 34%) correct answers on the objective knowledge test. Subjective knowledge loaded into one factor, with KMO = 0.91 and Cronbach alpha = 0.92, indicating good internal reliability. Respondents' mean subjective knowledge score was 3.61 (SD = 0.68).

Objective knowledge correlated positively with a positive vaccination decision ($r = 0.33$, $p \leq 0.01$); subjective knowledge correlated negatively with a positive vaccination decision ($r = -0.30$; $p \leq 0.01$). Respondents with a negative decision knew (mean = 27% correct, SD = 21%) practically significantly less (Cohen's $d = 0.72$) about infant vaccination than those with a positive decision (mean = 53% correct, SD = 36%). Also, respondents with a negative decision tended to differ (Cohen's $d = 0.62$) from those with a positive decision in terms of subjective knowledge. Respondents with a negative decision rated their subjective knowledge higher (mean = 3.94, SD = 0.72) than those with a positive decision (mean = 3.49; SD = 0.63).

4. Discussion

Our results indicate that objective knowledge regarding infant vaccination was low, with respondents who decided against vaccinating their infants having lower knowledge than those who made positive vaccination decisions, as illustrated by the direction of our correlation results. At the same time, those with a negative decision perceived their own knowledge to be higher than those with a positive decision. Our results align with the DKE, where people with a lack of knowledge do not recognise their information deficit, which may prevent them from acquiring more accurate information (Canady & Larzo, 2022).

In order to make well-informed vaccination decisions, people need more accurate knowledge (Canady & Larzo, 2022). The mere presentation of scientific facts proved to be ineffective in increasing objective knowledge; therefore, training and applying specific communication strategies is suggested to improve factual knowledge and ultimately reduce vaccine hesitancy (Gagneur et al., 2024; Joslyn et al., 2024) – especially when high subjective knowledge is prevalent.

We acknowledge that vaccine hesitancy is a complex phenomenon, with various influencing factors (Nuzhath et al., 2024; Wiysonge et al., 2022; Yalçin et al., 2020) which can be context-specific and change over time. However, in light of the recent pandemic and 'infodemic" (Lee et al., 2023), this study offers insights into the critical role of different types of knowledge in vaccination decisions, and emphasises effective communication of factual information as an essential aspect to consider in health promotion efforts to increase vaccine uptake.

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PSYCHOLOGICAL CORRELATES OF CANCER SURVIVAL

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Abstract

For studying the involvement of psychology in physical health it is necessary to define the psychological factors. The purpose of the study was to define psychological variables that support cancer survival. The theoretical approach was based on the cognitive orientation (CO) health model (Kreitler & Kreitler) The methodology of identifying the relevant psychological factors is based on interviewing pretest subjects according to systematic specific guidelines that enable defining themes summarized in the form of a questionnaire. The questionnaire of the CO of survival included statements referring to beliefs about oneself, norms, goals and general. The themes were identified in a separate preliminary study in which recurrence was retrospective. In the major study the CO questionnaire was administered to cancer patients with three different diagnoses (breast, melanoma, colorectal) in the first phase of their medical treatment and they were checked again after 5 years and then again after 12 years. The dependent variables were no recurrence or recurrnce (metastases, mortality). The correct identification of the no recurrence patients was by discriminant analysis significant for all groups and all patients after 5 years, and for breast cancer and all patients after 12 years.The results support the role of CO as the basis for identifying the relevant psychological correlates of survival in cancer.

Keywords: *Cognitive orientation, survival, breast cancer, melanoma, colorectal cancer.*

1. Introduction

Since antiquity in many cultures people believed that psychological factors were involved in affecting physical health and could be used for maintaining or enhancing it. According to the "old" or original version of psychosomatic model, the occurrence of disease depended on the activity of a physical factor, such as a microbe or virus, or a psychological problem, which in the framework of psychoanalytic approach had usually to do with sexuality or aggression. Many studies were carried out with this model, mainly in regard to diseases, such as asthma and gastrological disorders (Engel, 1962). However, in a fairly large body of studies no differences were found between diseases supposedly caused by physiological factors or by psychological factors. Further, physiological treatments were helpful in diseases supposedly caused by psychological factors while psychological interventions were helpful in diseases supposedly caused by psychological factors. Moreover, many of the findings of studies about the psychological impact on health are controversial and not reproducible, not in the least because they have not considered at all or not sufficiently the involved medical variables (Kreitler, 2019).

Insofar as the psychological variables used in these studies are concerned, their major shortcomings are the following:

(a) The assessed psychological variables are not disease specific, i.e., they are mostly the same for many different diseases, viz. anxiety, depression and stress. Hence, their use provides little information about the characteristic features of the specific examined disorder;

(b) The assessed psychological variables are not grounded theoretically. This indicates that the psychological variables have not been selected in a systematic manner or considering the content or nature of the disorder.

(c) The relation of the assessed psychological variables to the disease is unspecified, so that they could be its correlates or antecedents or its results, or even any two or three of these.

One result of the unclarity of the impact of psychological factors on physical diseases, is that the psychotherapeutic attempts in regard to the disorders were increasingly separated from the psychological and physical background of the disorders and focused instead on different culturally-based natural methods, dependent more on the beliefs and tendencies of the individuals than scientific data.

2. The cognitive orientation model of health wellness

The evident shortcomings of the old psychosomatic approach to studying the impact of psychological factors on physical health underscored the need to develop another approach that would clarify the role of psychological factors in regard to the occurrence of disease and recovery from disease, and will promote the cooperation between medicine and the behavioral approaches in theory and practice.

At the core of the approach is the concept of the pathogen and the risk factors as the causal factors for the occurrence of a disease. The pathogens are biological agents that cause the disease, such as viruses, bacteria, fungi or parasites. A pathogen may also be a psychological issue but this is outside the framework of the current presentation. Risk factors, sometimes called background factors, affect the likelihood that a pathogen will produce the disease. The risk factors are of different kinds. They include for example immunological variables, nutritional factors and other factors. Both the pathogen and the risk factors are specific for the particular disease. When recovery is the issue, treatment and protective factors replace the pathogen and the risk factors, respectively. In some cases, the protective factors are the obverse of the risk factors. The pathogen and the risk factors may be investigated separately, and the investigation may proceed even when the pathogen or some of the risk factors may not be identified. For example, in cardiology the pathogen has not been identified while many of the risk factors have been examined and are being used in treatment, while in regard to the corona, the pathogen has been identified but only few of the risk factors are known.

2.1. Major theses of the cognitive orientation theory

The cognitive orientation (CO) theory The CO theory is designed to enable understanding, predicting and changing behavioral, outputs of different kinds, e.g., behavioral, cognitive, emotional. It deals with identifying and changing the psychological components of the risk factors, relevant for the specific disease.

The major theses of the CO theory are: 1. Cognitive contents and processes affect physiological processes relevant for disease and health; 2. Health-relevant cognitive contents and processes are disease specific; 3. Health-relevant cognitive contents and processes constitute part of the conditions promoting disease or health.

The psychological factors relevant for a specific health state may be represented as a vector grounded in four types of beliefs and defined by themes specific for that disorder. The beliefs are *Beliefs about oneself, Beliefs about others and reality, Beliefs about goals, Beliefs about rules and norms.* The beliefs do not refer directly to thee examined behavior but to themes that represent the underlying meanings ofc that behavior. The themes are identified by a specific systematic interviewing process known as "stepwise guided interviewing" in pretest subjects. In the predictive matrix, the belief types define the columns while the rows are defined by the themes. The four types of beliefs together form the vector used in predicting the output. This vector is called 'the motivational disposition" and it is not conscious, not controlled by volition, and not based on decision making or on considerations of costs and benefits (Kreitler, 1925; Kreitler, Chaitchik, Shaked, & Shaked, 1997; Kreitler & Kreitler, 1976).

2.2. Identifying and testing the themes in a preliminary study

The themes of survival were first identified by the stepwise guided interviewing procedure which consists in interviewing individuals some with no disease recurrence and some with disease recurrence after at least three years post diagnosis. The subjects are first asked about the general conventional meaning of survival, and then about the subjective personal meaning of selected parts of their previous response. This procedure is repeated two more times. Themes are identified by independent judges as the contents that appears at the end of the third step, in at least 50% of the subjects without recurrence and in no more than 30% of those with recurrence.

The list of themes of survival was the following: Being involved; Readiness to make efforts; Readiness for changes in life; Focusing on the most relevant; Readiness for getting help from others; Expressing emotions outwardly; Accepting limitations; Sharing experiences with others; Not emphasizing achievements; Not emphasizing cleanliness, order and punctuality; Accepting relativity in regard to truth; Not seeking rewards for everything one does; Not striving for perfection; Nothing must happen exactly as expected or desired; Uphold routine as much a possible; Believe in something – religion, ideal etc**.**

The themes were used for constructing a CO questionnaire of survival. The themes were first factor analyzed and the major themes were used as the contents of the beliefs in the CO questionnaire (e.g., sharing experiences, accepting limitations, search for meaningfulness, being involved). The questionnaire was validated in a study with patients on the basis of retrospective information.

The participants were breast cancer patients (n=65, all female, mean age 55.3, stages I, IIA, IIB), melanoma patients (n=39, 19 females, 20 males, mean age 49.2, stages IA, IB, IIA, IIB); patients with

colorectal cancer (n=40, 15 female, 25 men, mean age 65.3, stages IA, IB, II). After 5 years the recurrence in breast cancer was in 19 patients (29.2%), in 19 melanoma patients (48.7%) and in 17 colorectal cancer patients (42.5%).

The means of the scores of the forebelief type were compared between those who had no recurrence and those who had a recurrence. The means were 72.3 versus 54.1 ($p<.01$), 69.5 versus 43.7 ($p<.01$), 62.4 versus 51.9 ($p<.05$), and 65.7 versus 49.8 ($p<.05$) for beliefs about self, norms, goals and general, respectively. In all four belief types the means of those with recurrence were higher than those without recurrence. These findings provide validation to the CO questionnaire of survival.

3. Prospective CO study of survival

3.1. Objective

The purpose was to test prospectively the validity of the CO questionnaire of survival in a sample of different cancer patients.

3.2. Method

The participants were cancer patients with different diagnoses: 80 patients with breast cancer (all females, mean age 52.1, stages I, IIa, IIb); 44 patients with melanoma (15 females & 29 males, mean age 47.5, stages Ia, Ib, IIa, IIb); 42 patients with colorectal cancer (19 females, 23 males, 62.4 mean age, stages Ia, Ib, II). The three groups of patients were selected for the study because their diagnoses referred to different kinds of cancer in terms of the involved pathology, required treatments, course of disease and chances of recovery.

3.3. Procedure

The participants were recruited in the oncology department of a major hospital in Israel. They were administered the CO questionnaire of survival and a brief demographic questionnaire referring to gender, age, family status, educational level, and profession. All participants signed the informed consent form. The CO questionnaire included beliefs of four types (about self, norms, goals and general) in the form of statements representing factors based on the 16 themes. The questionnaires were administered when the patients were first contacted, 1-5 months after their initial diagnosis. All patients underwent the prescribed treatment for the disorder.

The independent variables were the scores of the four belief types that the patients got after responding to the CO questionnaire of survival. The dependent variables were 'no recurrence' of the disease or recurrence of the disease (metastases, another cancer or mortality). The dependent variables were examined twice: 5 years after the initial diagnosis, and 12 years after the initial diagnosis. The hypothesis was that the scores of the CO questionnaire of survival will enable predicting who of the patients will have a recurrence of the disease after 5 and/or 12 years. On the basis of previous findings, the expectation was that the correct prediction will be based on all four belief types or at least three (Kreitler, 2025; Kreitler & Inbar, 2000; Kreitler & Kreitler, 2009).

3.4. Results

Table 1. Predicting no recurrence in three diagnostic groups of cancer patients on the basis of the scores of the CO questionnaire of survival.

Diagnostic group	No recurrence	Recurrence	Mortality	Predicting recurrence by stepwise discriminant analysis (List of the predictors, correct classification by CO variables)
After 5 years				
Breast cancer	55	16	9	Self, goals, norms, general 78.l8% CR=4.76, p<.001 z=3.171, p=.0015
Melanoma	31	7	6	Goals, self, general, norms 74.19%, CR=3.69, p<.01 z=2.086, p-=037
Colorectal cancer	12	20	10	Norms, general, self 75.00%, CR=3.43, p<.01 z=1.789, p=0.736
All subjects together				Self, norms, goals, general 75 from 98, 76.53%, CR=3.79, p<.01 z=3.852, p=.0002

After 12 years				
Breast cancer	54	18	8	Self, goals, general 74.07%, CR =4.51, p<.001 z=2.578, p=.0099
Melanoma	25	8	11	Self, goals, general 72%, CR=3.12, p<.01 z=1.732, p=0833
Colorectal cancer	8	22	12	Norms, self, general 62.5% CR=3.00, p<.05 z=0.713, p=.4758
All subjects together				Goals, self, norms, general 63 of 87, 72.41%, CR= z=3.107. p=.00019

Note. In the last column, the first row presents the belief types that have a significant contribution to the prediction, listed in the order of their contributions. The second row presents the percentage of correct classification according to the discriminant stepwise analysis, and the significance of this percentage as assessed in terms of the Critical Ratio (CR). The third row presents a different assessment of the significance of the classification into those who have been correctly identified as with recurrence compared to the number of correctly classified patients on the basis of a randomly expected correct classification of 50%.

4. Discussion

The results presented in Table 1 show that after 5 years there were 98 patients without recurrence (59.03% of the original number of 166), while after 12 years the number was 87(=52.41% of the original 166). The difference is expected but not too big. However, there were significant differences in the no recurrence percentages for the three groups. After 5 years the percentages were 68.75%, 70.45% and 28.57% for the groups of breast, melanoma and colorectal cancer; after 12 years the percentages were 67.5%, 56.87% and 19.09% respectively. It is evident that no recurrence was lowest in the colorectal cancer group.

The percentages of correct classification by the CO scores into patients without recurrence and those with recurrence (recurrence plus morality) were after 5 years 76.36% for breast cancer, 74.19% for melanoma, an 75% for colorectal cancer. For all subjects together the percentage of correct classification after 5 years was 75.53% (75 from 98). After 12 years the percentages were 74.07% for breast cancer, 72% for melanoma cancer, 62.5% for colorectal cancer, and 72.41% (63 of 78) for all patients together

The findings show that the identification of the subjects who had no recurrence by means of the CO questionnaire was significant for each of the diagnostic groups and for all patients together after 5 years. After 12 years it was significant for breast cancer and for all subjects together, but not for the groups with melanoma and for those with colorectal cancer. The results support the hypothesis in regard to all predictions on the basis of CO scores after 5 years, and in regard to breast cancer and all subjects after 12 years too.

In all cases, all four belief types or a least three had a significant contribution to the prediction. This finding corresponds to the hypothesized prediction. Of the eight cases of prediction, self and goal beliefs were in the first places. Notably, these belief types are those that represent the personal involvement of the subjects more than the more formal belief types that refer to norms and general beliefs about others and reality.

5. Conclusions

Cognitive Orientation variables, representing beliefs referring to specific themes, in terms of four belief types, enable predicting no disease recurrence in cancer patients of stages I and II over a period of 5 years and 12 years follow-up.

The CO themes are disease specific and differ mostly from those often identified as those that are psychologically involved in cancer disease, viz. anxiety, depression and stress.

The findings provide the basis for conducting studies of psychological interventions focusing on the identified beliefs and themes designed to affect favorably disease course in cancer patients

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PEOPLE LIVING WITH HIV IN TREATMENT WITH LONG-ACTING ANTIRETROVIRAL THERAPY: WHICH PSYCHOLOGICAL ASPECTS ARE ASSOCIATED?

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Abstract

Adherence to antiretroviral therapy (ART) is an important health behaviour linked to a reduced chance of drug resistance and lower viraemia in people living with HIV. Several psychosocial factors seem to be implicated both in adherence behaviour and consequently in the management of HIV disease. For example, psychological distress (anxiety and depression), personality traits, dysfunctional coping strategies seem to be related to both poor adherence behaviour and disease severity. Despite advances in the development of ART, several challenges are associated with current treatment involving daily, lifelong oral pills (i.e., stigma concerns, daily reminders of HIV status, medical problems). Long-acting injectable ART allows reduced dosing frequencies, minimising the impact of forgetfulness and high pill burden. Despite this, few studies have yet addressed the psychosocial aspects associated with this new regimen. Therefore, the aim of the present longitudinal study is to investigate the psychological aspects of people living with HIV (PLWH) making the transition from oral antiretroviral therapy to LA injection therapy. Specifically, the objectives are as follows: a) to carry out a baseline assessment of certain personality characteristics; b) to carry out a longitudinal assessment of medical-clinical and psychological variables; c) to investigate which socio-demographic, clinical and psychological factors are associated with a better quality of life (QoL) and lower levels of anxiety and depression. The study project is aimed at PLWH undergoing treatment at the HIV Infection Outpatient Clinic, Amedeo di Savoia Hospital, Turin, in Italy. The study was proposed to PLWH who had been identified by the infectious disease physician as eligible for LA therapy since the time of approval by the Hospital Ethics Committee (reference number 0030555). PLWH were asked to complete questionnaires via an online survey during the first administration of LA therapy (T0), during the fourth administration, 5 months later (T1), and during the seventh administration, 11 months later (T2). The data collected include socio-demographic information (e.g. gender, age, sexual orientation, marital status) and clinical information (e.g. date of diagnosis, course of infection, medical comorbidities). Finally, psychological variables (personality traits, alexithymia, social support, locus of control, stigma, quality of life, anxiety, and depression) will be assessed. Investigating which factors are associated with a better QoL is very important in order to structure tailored psychological interventions. Psychological interventions, if carried out in a timely manner, could reduce the risk of psychological distress in the long term, improving psychological adaptation to the disease and promoting ART adherence.

Keywords: *Long-acting antiretroviral therapy, HIV, quality of life, psychological distress, stigma.*

1. Introduction

At the end of 2023, the World Health Organisation (WHO) estimated that 39.9 million people were living with Human Immunodeficiency Virus (HIV), of which 38.6 were adults. Both studies and clinical practice have shown that, given adequate and consistent antiretroviral therapy (ART), the person with a negative viral load cannot transmit HIV (Menendez-Arias & Delgado, 2022). Considering that therapy usually involves taking oral medication on a daily basis, adherence requires a great deal of commitment on the part of people living with HIV (PLWH) and plays a significant role in the management of the disease.

Adherence management is associated with a number of daily challenges related to medical, social and individual factors (Iacob et al., 2017). The daily assumption of personal responsibility for care, such as swallowing difficulties and drug-food and drug-drug interactions, which make adherence to therapy difficult (Shubber et al., 2016).

The individual factors that may interfere with ART adherence are psychological aspects. For example, psychological distress (anxiety and depression) appears to be involved in increased immune dysfunction and disease severity (Gonzalez et al., 2011). Furthermore, social stigma, perceived social support, more adaptive coping strategies, and an internal locus of control may influence the adherence to ART (Luthuli & John-Langba, 2024; de Oliveira França et al., 2022).

Another psychological factor that seems to be involved both directly and indirectly on the adherence behaviour of PLWH is alexithymia defined as difficulty in identifying, recognising and expressing one's own and others' emotions. PLWH appear to have high levels of alexithymia, with a prevalence ranging from 25% to 40% (Benfante & Romeo, 2022).

Personality traits have also been shown to play a role in the progression of HIV disease and need to be considered in ART adherence (Ironson et al., 2008; John & Gross, 2004).

Given this background and the challenges associated with optimal adherence to daily oral ART, alternative schedules of administration have been developed including less frequent dosing. Long-acting injectable ART (ART-LA) provides administration either monthly or, at higher doses, every two months, minimizing the impact of forgetfulness and high pill burden (Chounta et al., 2021).

Several clinical trials of ART-LA have demonstrated its noninferiority in efficacy to daily oral ART (Landovitz et al., 2023; Wang et al., 2023). To date, patient satisfaction, tolerability, and preference for ART-LA have been high, suggesting that it may help overcome many of the barriers mentioned above (Mills et al., 2022; Slama et al., 2023; Philbin et al., 2022).

Despite this, previous studies that have addressed the individual and social psychological aspects associated with the new treatment have mostly been limited to qualitative assessments (preferences, fears and concerns) and about anxiety-depressive symptoms (Tolley et al., 2020; Fletcher et al., 2023).

1.1. Study aims

The aim of the present longitudinal study is to investigate the psychological aspects of PLWH making the switch from oral ART to LA injectable ART (ART-LA). Specifically, the goals are as follows: to carry out a baseline assessment of some personality characteristics in order to understand whether there are specific clusters; to carry out a survey of medical-clinical and psychological variables during the various administrations in order to understand possible trajectories; to investigate which socio-demographic, clinical and psychological baseline factors are associated with a better quality of life and lower levels of anxiety and depression following the new therapy.

2. Material and methods

The present project is a longitudinal and prospective study. The Department of Psychology of the University of Turin together with the Infectious Diseases Unit have originally conceived the study idea and design. The study has already been approved by the Hospital Ethics Committee (n. protocol 0030555) and will be conducted in accordance with the Declaration of Helsinki.

2.1. Recruitment procedure

The final sample will be made up of 120 PLWH, consecutively recruited from the HIV Infection Outpatient Clinic, Amedeo di Savoia Hospital, in Turin, Italy.

The participation in the project is on a voluntary basis and with prior signing of informed consent. It entails no additional burden or change to the patient's treatment plan, which will be continued as current clinical practice even if they do not join the study.

Study participants will be required to complete a battery of self-report psychological questionnaires in combination with 3 administrations of ART-LA. The questionnaires are expected to be completed through an online survey that allows for pseudonymized data to be managed by creating a personal code. Inclusion criteria will be as follows: >18 years old, having a diagnosis of HIV infection; be eligible for ART- LA; cognitive ability and language skills to participate in the study.

These assessments will be distributed over the course of the study as follows:

T0: baseline assessment, during the first administration of the new injectable therapy;

T1: evaluation carried out at five months after T0 (during the fourth administration);

T2: evaluation at eleven months after T0 (during the seventh administration).

2.2. Assessment instruments

The data collected include socio-demographic information (ethnicity, gender, age, sexual orientation, marital status, children, education, occupation, income) and clinical information (date of diagnosis, course of infection, duration and type of previous therapy, medical comorbidities). Finally, psychological variables will be assessed (personality, alexithymia, perceived social support, locus of

control, stigma, quality of life, anxious and depressive symptoms) in accordance with the scheme presented in **Table 1** and with the help of the following instruments:

- PID-5 BF5 - The Personality Inventory for DSM-5 - Brief Form (PID-5 BF) is a 25 item self-related personality trait assessment scale for adults age 18 and older (Anderson et al., 2018).
- TAS-20 - The Toronto Alexithymia Scale (TAS-20) is a self-report instrument designed to assess alexithymia (Taylor et al., 1985).
- MHLC-C - The Multidimensional Health Locus of Control Form-C (Ubbiali et al., 2008) is an 18-item self-administered questionnaire, useful for assessing Locus of Control beliefs with any medical or health-related condition.
- HIV Stigma Scale - brief version has been implemented from the 40-item HIV Stigma Scale to create a short version with 12 items (three from each of the four stigma subscales: personalized stigma, disclosure concerns, concerns with public attitudes and negative self-image) (Berger et al., 2001).
- HIVDQOL - (HIV Dependent Quality of Life) (Romaine et al. 2018) is a self-report questionnaire, assessed to measure QoL and the impact on QoL in PLWH. The HIVDQoL includes two overview items which measure present 'generic QoL' and 'HIV-specific QoL' and 26 domain-specific items.
- HADS - The Hospital Anxiety and Depression Scale (HADS) will be employed to assess symptoms of anxiety and depression (Zigmond and Snaith, 1983).

Table 1. PID-5 BF5 - The Personality Inventory for DSM-5 - Brief Form (PID-5 BF); TAS-20 - The Toronto Alexithymia Scale (TAS-20); The Multidimensional Health Locus of Control Form-C (MHLC-C); HIV Stigma Scale- brief version; HIV Dependent Quality of Life (HIVDQOL); The Hospital Anxiety and Depression Scale (HADS).

	T0 (1° Injection)	**T1** (5 months later)	**T2** (11 months later)
1. Socio-demographic information	X		
2. Clinical information	X	X	X
3. PID-5 BF	X		
4. TAS-20	X		
5. MHLC-C	X	X	X
6. HIV Stigma Scale	X	X	X
7. HADS	X	X	X
8. HIVDQOL	X	X	X

2.3. Statistical analysis

The sample size has been determined based on an a priori power analysis, using the software G*Power 3.1 (Faul et al., 2009), with a medium effect size F2: 0.15 (Cohen, 1988; Greene, 2000), and an alpha level of .05, as being sufficient for repeated measures Analysis of Variance (ANOVA) and t-test. To answer the first question, i.e., to monitor the trend of the variables under consideration over time, repeated measures ANOVA will be used. This will allow us to compare the results obtained from the questionnaires during the assessment, in order to highlight the presence of statistically significant differences in the scores at the different times.

To investigate, however, which factors can have the greatest impact on the outcome measures (quality of life, anxiety and depressive symptoms), bivariate Pearson or Spearman correlations will first be conducted in order to investigate the relationships with the demographic, clinical and psychological variables. The variables, which are found to be statistically significant correlated with the criterion variables, will then be inserted as independent variables in multiple hierarchical regression models.

All analyzes will be performed using the "Statistical Package for Social Sciences – SPSS" software, version 28 or later.

3. Discussion

Through the present study we expect to know which factors may significantly contribute to a better mental and physical health in PLWH. Furthermore, our aim is to show the trajectory of psychological well-being and QoL in the PLWH during LA therapy. These future data could have an important clinical implication. Timely psychological interventions could reduce the risk of long-term psychological distress, improve psychological adjustment to the disease and promote adherence to pharmacological treatment.

Finally, integrating psychological intervention into the complex treatment of PLWH means considering a biopsychosocial model of care that overcomes reductionist and ineffective models of care.

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SENSORY PROCESSING SENSITIVITY AND VIA CHARACTER STRENGTHS AMONG STUDENTS

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Abstract

Sensory processing sensitivity (SPS), a significant hereditary personality trait, plays a crucial role in how individuals perceive, process, and respond to stimuli. It is characterized by heightened sensitivity, deep cognitive engagement with sensory input, and a strong capacity for empathic responses. Individuals with high SPS, often referred to as highly sensitive persons (HSPs), are distinguished by their ability to detect subtle environmental changes and their predisposition toward reflective behaviors. While previous studies have emphasized the potential challenges faced by individuals with high SPS, there is a growing focus on understanding how these individuals can achieve greater well-being, given that they are more responsive and flexible to negative and positive environmental effects and can significantly benefit from psychological interventions. Apart from the complexity of sensory processing sensitivity, character strengths represent another psychological concept of interest. According to Peterson and Seligman (2004), these strengths are positive attributes that manifest in thoughts, emotions, and behaviors. Recognition and application of character strengths are associated with enhanced well-being, life satisfaction, and resilience. This research examines the relationship between SPS and the 24 VIA character strengths, aiming to provide insights into how SPS influences positive psychological traits. Using the HSP scale (Aron and Aron, 1997) and the VIA Character Strengths Survey (Peterson and Seligman, 2001) data were collected from 204 undergraduate students (61% female). Spearman's correlation analysis was conducted to examine their relationships. Statistical significance was set at $p < 0.05$. Results indicate that SPS is positively correlated with 15 of the 24 character strengths: curiosity, love of learning, open-mindedness, social intelligence, perspective, bravery, honesty, kindness, teamwork, fairness, leadership, prudence, appreciation of beauty, gratitude, and humor. No significant correlation was found between SPS and the following strengths: creativity, perseverance, love, self-regulation, hope, spirituality, humility, forgiveness, and zest. These findings highlight the cognitive and social advantages of high SPS. The significant associations with strengths such as curiosity, love of learning, judgment and appreciation of beauty align with theoretical assumptions that highly sensitive individuals engage in deeper cognitive processing and demonstrate a heightened awareness of their surroundings. Also, the connections with honesty, kindness, teamwork, leadership, fairness, prudence, gratitude and humor reflect a heightened sense of interpersonal dynamics, moral considerations, and social harmony. The results indicate that although SPS is often linked to emotional reactivity, it also fosters strengths that enhance well-being. Future research and interventions can leverage these insights to support highly sensitive individuals more effectively.

Keywords: *Sensory processing sensitivity, highly sensitive person, VIA character strengths*.

1. Introduction

Sensory processing sensitivity (SPS) is a biologically-based temperamental trait characterized by heightened sensitivity to environmental stimuli, leading to deeper cognitive processing and emotional reactivity (Aron & Aron, 1979). Approximately 30% of individuals exhibit high sensory processing sensitivity (Lionetti et al., 2018). A series of studies has shown that SPS is associated with higher levels of emotional reactivity, stress, fatigue, depression, and other mental health challenges (Benham, 2006; Hofmann & Bitran, 2007). However, SPS also correlates positively with empathy and creativity (Laros-van Gorkom et al., 2025), emotional intelligence (Li et al, 2020) and behavioral activation system reward responsiveness (Smolewska et al., 2006). This suggests that highly sensitive individuals respond in various ways to reward signals, including experiencing increased positive affect (e.g., elation and hope), increased energy, and increased psychomotor activity (Depue & Collins, 1999). In addition, evidence from functional magnetic resonance imaging (fMRI) studies suggests that SPS is linked to increased activity in brain regions

involved in awareness, empathy, and self-other processing (Acevedo et al., 2014). Although a wealth of studies has been conducted on this topic, a unified view of SPS is still lacking. Individuals with high SPS are more responsive and flexible to negative and positive environmental effects (Greven et al., 2018). Thus, favorable parenting practices and a positive home environment can lead to better emotional well-being among these individuals, while they also tend to benefit more from psychological interventions (Nocentini et al., 2018).

Beyond the complexity of sensory processing sensitivity, another psychological construct of interest is character strengths. Defined by Peterson and Seligman (2004), character strengths represent positive traits expressed through thoughts, emotions, and behaviors. Research has demonstrated that the recognition and application of character strengths are associated with enhanced well-being, life satisfaction, and resilience (Seligman et al., 2005). Individuals who can identify and leverage their strengths tend to experience greater fulfillment in their personal and professional lives. Moreover, character strengths are seen as fundamental components in fostering positive relationships (Habenicht & Schutte, 2023), promoting psychological health, and enabling effective coping strategies during times of stress (Harzer at al., 2015). According to most conducted factor analyses, three fundamental groups of character strengths emerge: strengths of the "head", strengths of the "heart", and "other" character strengths (Peterson, 2006, as cited in Biswas-Diener & Dean, 2007).

The interplay between sensory processing sensitivity and character strengths remains underexplored. While previous studies have highlighted the potential challenges faced by individuals with high SPS (Benham, 2006; Hofmann & Bitran, 2007), there is a growing interest in understanding how these individuals can experience greater well-being and flourishing, knowing that they can benefit a lot by using psychological interventions (Greven et al., 2019). The aim of this study is to explore the relationship between SPS and VIA character strengths, that can contribute to understanding how individual differences in sensory processing relate to positive psychological traits.

2. Method

2.1. Participants and procedure

The study included 204 participants (61% female), aged between 18 and 27 years (M = 19.92). The participants were students from all academic years across eight institutes of the Faculty of Philosophy in Skopje and coming from various cities across Republic of North Macedonia. Most students were Macedonians (97%). All participants held student status at the time of the study.

Data collection was conducted in the premises of the faculty and through Google Forms distributed via social networks. Participants were informed of the objectives of the study, and that their responses were anonymous and confidential. The estimated time for completion was approximately 25-30 minutes.

2.2. Measures

Sensory processing sensitivity was assessed using the HSP Scale (Aron & Aron, 1997), a self-report questionnaire consisted of 27 items (only total score is used in this study). Participants responded on a 7-point Likert scale ranging from "1=strongly disagree" to "5=strongly agree". The higher the score, the greater the sensitivity. The Cronbach's alpha value for overall scale reliability was 0.82.

24 VIA character strengths were measured using VIA character strengths survey (Peterson & Seligman, 2001), consisted of 240 items, 10 items per scale (the 24 scales each assess a distinct character strength). Participants rated their responses on a 5-point Likert scale, with options ranging from "1=not at all like me" to "5=very much like me", where higher score indicates greater character strength. The Cronbach's alpha values for all scales ranged from 0.69 to 0.77.

2.3. Statistical analysis

The questionnaire data were analyzed statistically using JASP software (version 0.18.3.). Since most of the 24 variables did not follow a normal distribution, Spearman's correlation analysis was used to assess their relationships. The significance value was accepted as $p < .05$.

3. Results

The data analysis revealed a significant positive correlation between 15 character strengths and sensory processing sensitivity (SPS). Four of the five strengths classified as strengths of the "head" were significantly positively correlated with SPS: curiosity ($r = .30$, $p < .001$), love of learning ($r = .27$, $p < .001$), judgment ($r = .44$, $p < .001$), and appreciation of beauty ($r = .34$, $p < .001$). No significant correlation was found between creativity and SPS ($r = .09$, $p > .05$).

Of the 15 character strengths classified as “heart” strengths, 8 showed a significant positive correlation with SPS: honesty ($r = .21$, $p < .05$), kindness ($r = .25$, $p < .01$), teamwork ($r = .34$, $p < .001$), fairness ($r = .39$, $p < .001$), leadership ($r = .45$, $p < .001$), prudence ($r = .24$, $p < .001$), gratitude ($r = .39$, $p < .001$), and humor ($r = .24$, $p < .01$). No meaningful positive correlation emerged between SPS and perseverance ($r = .08$, $p > .05$), love ($r = -.01$, $p > .05$), hope ($r = .04$, $p > .05$), spirituality ($r = .05$, $p > .05$), humility ($r = .11$, $p > .05$), zest ($r = .12$, $p > .05$), or forgiveness ($r = .03$, $p > .05$).

Among the “other” character strengths, social intelligence ($r = .20$, $p < .05$), perspective ($r = .29$, $p < .001$), and bravery ($r = .19$, $p < .05$) positively correlated with SPS. No significant correlation was found between self-regulation and SPS ($r = .15$, $p > .05$).

4. Discussion

The findings of this study suggest that 15 out of the 24 character strengths exhibit a significant positive correlation with sensory processing sensitivity, highlighting their potential relevance in understanding the positive traits associated with highly sensitive individuals.

The results indicate that most of the strengths of the "head", such as curiosity, love of learning, judgment, and appreciation of beauty, are significantly positively correlated with SPS. This aligns with theoretical assumptions that highly sensitive individuals engage in deeper cognitive processing (Aron & Aron, 1997) and demonstrate a heightened awareness of their surroundings. The absence of a significant correlation between creativity and SPS is somewhat unexpected, as prior research has suggested that SPS is associated with creative thinking (Laros-van Gorkom et al., 2025). This discrepancy may be due to methodological differences, the specific sample characteristics, or variations in the way creativity manifests among highly sensitive individuals.

Regarding the strengths of the "heart", eight character strengths—including honesty, kindness, teamwork, fairness, leadership, prudence, gratitude, and humor—showed significant positive correlations with SPS. These findings suggest that individuals with high SPS may be particularly attuned to interpersonal dynamics, moral considerations, and social harmony. Their heightened sensitivity enables them to perceive and respond to subtle social cues, making them more empathetic and responsive in social interactions (Acevedo et al., 2014). This increased awareness may translate into stronger moral decision-making, as highly sensitive individuals tend to engage in deeper emotional and cognitive processing, leading to greater concern for fairness, justice, and ethical dilemmas (Greven et al., 2018). Moreover, highly sensitive individuals appear to be particularly invested in fostering social harmony. Their ability to detect emotional shifts and respond empathetically makes them well-suited for teamwork and leadership roles where emotional intelligence is crucial. Highly sensitive individuals process stimuli deeply (Aron & Aron, 1997), meaning they tend to analyze situations thoroughly before acting**.** This aligns with prudence, which involves weighing options carefully and avoiding impulsive decisions. Interestingly, strengths such as love, hope, spirituality, and perseverance did not show significant associations with SPS. This suggests that while highly sensitive individuals might exhibit strong social awareness and emotional depth, their sensitivity does not necessarily translate into higher levels of meaning and purpose and future-oriented mindset**.**

In the group of "other" strengths, social intelligence, perspective, and bravery were found to be positively correlated with SPS, further supporting the idea that highly sensitive individuals possess a heightened ability to understand complex social and emotional situations. However, the lack of a significant correlation between self-regulation and SPS is noteworthy, as one might expect highly sensitive individuals to struggle with emotional regulation due to their heightened reactivity to stimuli (Aron & Aron, 1997). Since highly sensitive individuals are more susceptible to emotional overwhelm, fostering self-regulation is essential for their well-being.

Overall, these results contribute to a more nuanced understanding of the relationship between SPS and character strengths. While SPS is often discussed in terms of its challenges—such as increased susceptibility to stress, anxiety, and emotional overwhelm—the study highlights its potential advantages, particularly in cognitive engagement, social awareness, and ethical decision-making. By considering the effectiveness of positive interventions for highly sensitive individuals (Nocentini et al., 2018), the findings may have practical implications for designing character strengths-based interventions aimed at supporting highly sensitive individuals and enhancing their personal and professional fulfillment.

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CONTEMPORARY VICISSITUDES OF THE OEDIPUS COMPLEX IN ADOLESCENCE

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Abstract

This study investigates contemporary developments in sexuality through a theoretical lens grounded in both the Oedipus Complex and the Castration Complex. We analyze data from the Ambulatory for Transgender Care at a public university hospital and conduct clinical observations with five adolescents. While the Oedipus Complex often no longer manifests as it did in Freud's time, associating it with the theory of castration offers a robust framework for understanding unconscious determinations and their role in adolescent experiences today. Three axes structure our research: The first axis is based on a literature review. We refer to psychoanalytic theory on adolescence, positioning it as a critical phase for structuring sexual differentiation and negotiating subjective identity within the division of the sexes, questioning binary identifications. We engage in an in-depth analysis of fundamental concepts by Freud and Lacan to examine the relationship between the Oedipus Complex and the theory of castration. Our hypothesis is that associating these two fundamental concepts provides a better understanding of today's clinical findings. The second axis is clinical. We present five carefully selected clinical vignettes and focus on the narratives of adolescents attending the Ambulatory. Our guiding question is: how does adolescent sexuality, with its contemporary issues of identity and self-construction, contribute new perspectives to psychoanalytic theories of sexuality? We also examine how these cases provide insights into the continued applicability of psychoanalytic concepts to contemporary clinical realities. At the same time, we critically analyze the clinical findings, integrating them with the theoretical framework established in the first axis. The third axis underscores the relevance of classical psychoanalytic theories for understanding the complexities of adolescence in today's context. By linking the Oedipus Complex to the theory of castration, this study addresses cases that raise issues Freud could not have anticipated, given their relative invisibility a century ago. This approach counters criticisms of psychoanalysis as an outdated or obsolete discipline, demonstrating its capacity to engage with and illuminate contemporary clinical challenges.

Keywords: *Psychoanalysis, Oedipus Complex, Castration Complex, adolescence, transgender care.*

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1. Introduction

Freud's first reference to Oedipus implies the tragedy long before the complex. Situating it is fundamental to our argument for two reasons: (1) because it allows us to demonstrate that the reduction of the Oedipal novella – distinguished here from the tragedy –, as it came to be read after this initial reference, significantly weakened the force and relevance of what led Freud to make that reference, as we will explain below; (2) because revisiting Oedipus in the context of the tragedy – where it originated with Sophocles – reinforces it as a structure that never ceases to be written, affirming its necessity. As Lacan observes in his 20th Seminar, "the necessary is linked (*conjugué*) to the impossible" (1999, p. 59).

It was in his letter to Fliess on October 15, 1897, that Freud referred to the tragedy *Oedipus Rex* for the first time.

> Being totally honest with oneself is a good exercise. A single idea of general value dawned on me. I have found, in my own case too, being in love with my mother and jealous of my father, and I now consider it a universal event in early childhood [...]. If this is so, we can understand the gripping power of *Oedipus Rex*, in spite of all the objections that reason raises against the presupposition of fate; and we can understand why the later "drama of fate" was bound to fail so miserably. Our feelings rise against any arbitrary individual compulsion [...]; but the Greek legend seizes upon a compulsion which everyone recognizes because he senses its existence within himself (Freud, 1897/1985, p. 272).

The association of the Oedipal novella with Sophocles' tragedy allowed Freud to recognize it as preordained as tragic, that is, inherent to the subjective constitution. It derives from what Freud defined as sexuality: also universal to human beings, it begins in childhood – a notion that was highly scandalous at the time – and "if the child has the mother as its greatest and first reference, the mother will also be its first object of sexual investment. In reality, there is nothing particularly surprising about this; what is surprising is that the child does not remain in this sexualized bond with the mother" (Alberti, 2004, p. 17).

Something necessarily intervenes in the child's relationship with the mother, allowing the child to redirect libido investments, find other objects, and experience itself as an object in other relationships. Freud defined this intervening factor as castration. While the clinical cases Freud had access to in his time identified the father as the agent of castration – leading generations of psychoanalysts to reduce the Oedipus complex to love for the mother and hatred for the father –contemporary psychoanalytic clinical practice suggests that the theoretical reference to the tragedy *Oedipus Rex* has far deeper roots than the mere repetition of a binary determination of universal sexual constitution. Upon rereading Freud's first mention of Sophocles' tragedy, it becomes evident that the tragic dimension lies in the miserable outcome of the *"later 'drama of fate'"* as Freud refers to the consequences of incestuous love: Oedipus blinds himself, castrating himself, and Jocasta takes her own life.

At the origin of culture lies the tragic – the *pound of flesh1* that must be lost, castrated: "To be an object of desire is something essentially different from being an object of any need." This is what is masked and repressed so that a subject may constitute itself within a culture without remaining in a sexualized bond with the mother. For it is not this bond that would be strange, but rather the impossibility of advancing toward something else as a subject of desire: "It is this subsistence of the object as such, of the object in desire, in time, that it has taken the place of what to the subject remains masked by its very nature. This sacrifice of himself, this *pound of flesh* engaged in its relationship to the signifier, it is because something comes to take the place of that, that this something becomes the object in desire" (Lacan, 1958-1959 /unpublished, p. 283).

At the origin of desire lies the tragic, this deadlock that Sophocles' tragedy so definitively narrates and that is so difficult for each of us to traverse. Adolescence bears witness to this difficulty for those who are willing—or able—to see how deeply subjective constitution depends on what Freud called civilization and its discontents.

We define adolescence as (1) "a long process of elaborating choices and (2) a long process of elaborating the lack in the Other" (Alberti, 2004/2016, p. 10, *Our Translation*). For choices to exist, indicators, directions, and determinants are essential, as they are provided by the culture of a given era, by social imperatives, and by the desire that the Other has for their children: "The subject receives them throughout childhood from parents, educators, peers, the media, and ultimately from the world around them, through what is transmitted by language – spoken, written, visual, communicative, or even through silence, which is also a form of language. They may continue to receive these same indicators, directions, and determinants throughout the entire adolescent process, as long as there is someone available to transmit them" (idem, p. 3). Psychoanalytic clinical practice imposes that whoever "cannot meet at its horizon the subjectivity of his time" should give up the psychoanalytic practice (Lacan, 1953/2006, p. 264). Adolescents today do not live in the same cultural milieu as those in Freud's time. Nevertheless, they face the same challenge: accomplishing what Freud explicitly identified as the fundamental task of the adolescent subject. After latency, "[...] one of the most significant, but also one of the most painful, psychical achievements of the pubertal period is completed: detachment from parental authority, a process that alone makes possible the opposition, which is so important for the progress of civilization, between the new generation and the old" (Freud, 1905/1949, p. 227).

Psychoanalysis, founded by Freud and later revisited by Lacan in his rereading project, is articulated with an epistemology that respects the singularity of its ethics. It demands that we, as researchers and psychoanalysts, position ourselves at the cutting edge of clinical practice, considering that, according to this epistemology, no psychoanalysis is possible unless the clinic itself guides it. Lacan identifies the clinic as the real that surprises the psychoanalyst, and working with adolescents is perhaps

[1] Lacan revisits it from Molière's play *The Merchant of Venice* in the lesson of April 22, 1959, in his 6th Seminar.

one of the most striking experiences of this encounter. This is likely because the adolescent, when speaking to the psychoanalyst, is confronting an unnameable and enigmatic Real regarding their place in the world. The Real, which does not cease not to be written, is intertwined with the impossible – just as we previously noted that it's conjugated with the necessary. The impossible to bear for the subject, which is inherent to psychoanalysis, and the impossible to bear for the social body manifest themselves in the clinic when working with transgender adolescents.

We propose the hypothesis that it is through questions about sexual positioning that today, the adolescent subject seeks to come to terms with what must be lost in order to move toward something else – as a subject of desire.

Sophocles' tragedy revolves around the fundamental enigma that every adolescent subject encounters. While Freud originally associated this enigma with the childhood question, "Where do babies come from?" – which, in the tragedy, appears in the riddle of Oedipus' answers to the Sphinx, "What is the man?" that is, the deadly enigma of origin – the question of sexual positioning entails the enigma of sexual identity, which adolescents must confront. Today, however, they encounter multiple ways to respond to it, as will be discussed in the Discussion section.

2. Design

Our research is based on therapeutic interaction, closely resembling an action-research approach in which the analyst and the patient work together on the issues that emerge from the patient's speech. The study is conducted in collaboration with the interdisciplinary team of the Identity Service – Transdiversity Outpatient Clinic at the Policlínica Piquet Carneiro of the State University of Rio de Janeiro.

Two fundamental principles guide this clinical practice, as identified by Sigmund Freud in *Recommendations to Physicians Practising Psychoanalysis* (1912/1924): free-floating attention on the part of the analyst and free association on the part of the patient, family members, and team members. No other rule is considered for the simple reason that no psychoanalytic research can extend beyond these two fundamental principles.

3. Objectives

This study aims to investigate contemporary developments in sexuality through a theoretical lens grounded in both the Oedipus Complex and the Castration Complex. By exploring how adolescent sexuality, with its contemporary issues of identity and self-construction, contributes to new perspectives on psychoanalytic theories of sexuality, we seek to deepen our understanding of these evolving concepts.

4. Methods

We ground the methodology used in the construction of this theoretical-clinical qualitative research with transgender adolescent subjects on clinical experience at the Identity Service – Transdiversity Outpatient Clinic of the Policlínica Piquet Carneiro (PPC-UERJ), which we have conducted since 2022, as well as on a detailed review of the psychoanalytic literature and related bibliographies. The clinical vignettes we present focus on the narratives of adolescents attending the outpatient clinic. We also examine how these cases provide insights into the ongoing relevance of psychoanalytic concepts in contemporary clinical realities. We base our methodology upon a qualitative and interdisciplinary approach centered on psychoanalytic listening and dialogue with medicine and other disciplines; this methodology seeks to foster the subjective experiences of transgender adolescents, articulating them with psychoanalytic theoretical formulations. The articulation provides a solid theoretical foundation for investigating the complex dynamics involving castration, transgender identity, and adolescence.

5. Discussion

There is no adolescence without puberty and, in addition to the bodily transformations accompanying it, involves a process of separation from parental authority. Alberti describes this process as follows: “The adolescent subject experiences themselves in attempts to elaborate the castration of the Other and the encounters they have with the real, no longer under the childhood illusion that their parents can protect them” (Alberti, 2009, p. 276, *Our Translation*).

At the outpatient clinic where we work with the adolescents mentioned in this study, their primary demand is medical intervention for gender affirmation. Subjective constructions of themselves often take a secondary place since they perceive the hormonal treatment as the primary solution for gender dysphoria, which generates intense estrangement concerning their own body.

Here is where psychoanalytic listening can intervene, inviting the adolescent to speak as an alternative resource for dealing with dysphoria. The distress is evident in their discourse: "Do you think it's nice to look in the mirror and see a bulge where there shouldn't be anything?" asks a transgender girl, while another adolescent expresses: "This bulge [pointing to the breasts] shouldn't be here! I dream of the day when I won't have this anymore and can walk around freely without a shirt". This "bulge" in the mirror distorts the image and propels the adolescent into a reconfiguration of their being. When we approach the question of sex through the logical framework of the Real of castration, we can affirm, with Lacan, that castration is Real: it is something one must go through. Being able to listen to adolescents from a position different from that dictated by medical discourse has already allowed us to hear statements such as: "It's sad to talk about these things with people who minimize our pain, who believe all of this will just pass. I am living it, and I know that what I feel does not go away, but coming here to talk to you makes a difference because, in your eyes, it's as if a new world exists for me".

Alberti and Ferreira (2019) highlight the importance of identifying how psychoanalysis advances in addressing the questions woven by different realities and discourses into experiences and knowledge about being for sex. They emphasize the need to trust in the speaking subject's ability to navigate the discontent of civilization. No signifier fully accounts for jouissance, and sexual relations themselves embody an experience of incompleteness: the partners are not where I experience them, nor am I where they experience me, which is why it remains enigmatic.

Therefore, adolescence implies paradigmatically the fact that unease regarding one's sex is the rule for everyone. A transgender adolescent who has already begun their transition through hormone therapy – resulting in "a beard and a deeper voice" – still experiences "a void" and states: "Inconformity is inherent to identity." In their own words, regarding gender self-affirmation, "For all of us rules the non-conformity." This statement aligns with Lacan's assertion that "sexual meaning (*sens*) indicates the direction toward which it fails (*échoue*)" (Lacan, 1999, p. 79). Lacan further states: "What analytic discourse brings forth is precisely the idea that this meaning is semblant" – the semblant of what is usually called a man or a woman.

In his Seminar *Les Non Dupes Errent*, the lesson from February 19th, 1974, Lacan points out that, when faced with these encounters with the real, which do not cease not to be written, "we all invent a trick to fill the hole of the Real" (Lacan, 1973-1974). This hole – Lacan also calls it "there is no sexual relation" – traumatizes (*troumatisme*), and at it's place, "We invent!" (idem). When the adolescent subject encounters the impossible to be said due to a lack of signifiers to name it, they invent! By literally "naming themselves", as they consider their birth name a "dead name", transgender adolescents find a way to "know-how" (savoir-faire) to deal with the impossible. "I don't want to be called by my dead name,"a transgender adolescent tells us with deep sadness. In their words, hearing their dead name reminds them of everything they wish to forget. Another adolescent emphasizes the profound sense of disrespect they feel when someone calls them by "the name of someone who doesn't exist": "I suffer when they call me by my dead name."

Transgender adolescents who arrive at the outpatient clinic often find themselves in a state of profound vulnerability, shaped by their histories of marginalization, their trans identity, gender dysphoria, and the daily experiences of transphobia. For them, adolescence is more than just a transition – it is a state of paralysis as they consciously or unconsciously confront the question: "What if I were cis?" Many have been abandoned by their families and rejected by parents who do not accept their condition. Those who lack family support experience their transgender identity with more remarkable anguish and helplessness, often idealizing cisgender adolescence: "If I were cis, everything would be different." This statement veils the castration with which the adolescent must come to terms, as adolescence is when one cannot escape the loss of the *pound of flesh*, the object of anguish. This Real, always at play, denaturalizes what can be conceived as man and woman and points to the fundamental Lacanian assertion that "there is no sexual relation" – meaning there is no proportion between the sexes, just as they do not complement one another.

A transgender adolescent who expressed satisfaction with her body during her very first consultation explains it is a society that considers it a "wrong body,"and that is why she needs to transition – so she can be "passable" as a woman, use the women's restroom without the risk of being attacked. In her words, if we lived in a different society – one that could accommodate dissident and disruptive bodies – that "conversation" with the psychologist would not even be happening because she could simply be a woman with a penis and a beard. This statement makes evident the shift in discourse that adolescents bring forward, transforming the old narrative of "I was born in the wrong body" into a denunciation: "Society does not accept my dissident body!".

In the lesson of June 21, 1972, in his 19th Seminar, Lacan declares that discourses imprison bodies. Sexual jouissance is the jouissance of the body-to-body encounter. However, as long as there are two or more bodies, it is impossible to say which one enjoys: “This is what makes it possible here, for multiple bodies to be imprisoned, even making entire series of bodies possible.” (Lacan, 2011, p. 225).

The imprisonment of bodies can be experienced both by the adolescent struggling with castration anguish, facing the necessity of losing something, and by those subjected to normative discourse, often leading to segregation. The adolescent who questions is segregated, nothing is new in that. What is new

are the different ways of questioning, which now center, as mentioned, on the issue of sexual identity. *Troumatisme* – hole + trauma – the tragic as a rupture in meaning penetrates the meaninglessness of the real. The subject is left speechless and seeks, through the act, within their own agitated body, to forge a response that separates them. They then ask themselves, deceptively, what loss would be acceptable: Which "bulge" should fall away? What (trans)formation could restore what has been lost forever?

A transgender adolescent who has undergone a meaningful analytic process formulates the following metaphor: "I have always hated this idea that being trans is like being a butterfly! That doesn't exist! No one is one thing and then becomes something completely different. I prefer to say that I have an exoskeleton. Something is constraining me, and I need to shed it, but it's not easy. I no longer fit inside it, but I don't know what awaits me without this exoskeleton that is already familiar. In any case, even if I change my shell, I will still be myself. There's no chance of becoming something else".

6. Final considerations

Clinical work with transgender adolescents, marked by intense challenges related to gender identity and the body, requires attentive and interdisciplinary listening, where the analytic process plays a fundamental role in creating new meanings and possibilities for these subjects. When the adolescent questions the conjunction between the necessary and the impossible, the tragic dimension of the human condition can be elaborated—and for this, we must make ourselves available to listen. The words of these adolescents reveal that trans identity can be both a source of suffering and a path for the invention of a new way of life, where name, body, and gender take on new meanings. The structural tragic will always persist; the discourses that imprison may shift over time, and the adolescent is the one who awakens. Not like Oedipus, who had to blind himself to avoid seeing, but as the one who makes things visible and questions them.

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Workshops

de facto JUVENILE LIFE WITHOUT PAROLE (JLWOP) – HOW JUDGES IGNORE THE LAW

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Abstract

In 2012, the U.S. Supreme Court in *Miller v. Alabama* held that mandatory life without parole sentences for juvenile offenders are unconstitutional. Several years later, the Court in *Montgomery v. Louisiana* determined *Miller* must be applied retroactively. However, *Montgomery* did more than decide the of retroactivity – it expanded *Miller's* holding. The Court ruled that those sentenced as teenagers to mandatory life imprisonment without parole must have a chance to argue that they be released from prison. Following the decision in *Montgomery*, state courts have split over whether the decision requires additional protections for juveniles facing life without parole. States' statutory schemes and appellate court decisions have allowed for the use of *de facto* life sentences for juveniles convicted of homicide as well as nonhomicide offenses. This session will posit that *Montgomery* does in fact mandate additional procedures beyond what many states have implemented. We propose that the time is ripe for courts to determine whether these 'virtual life' terms adhere to the Court's Eighth Amendment prohibition against cruel and unusual punishment.

Keywords: *Juvenile life without parole, JLWOP, juvenile capital murders, de facto life sentences, unconstitutional juvenile life sentences without parole.*

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1. Summary

While one in seven individuals in confinement today are serving life sentences, a proportion of the incarcerated population includes individuals sentenced to "nonlife terms" that are long enough to resemble a life term. Consider a 17-year-old in Arkansas was sentenced to 240 years in prison for multiple counts of robbery and aggravated robbery; confirmed on appeal by the Supreme Court of Arkansas (*Proctor v. Kelley*). Fundamentally, a *de facto* or 'virtual' life sentence is a lengthy sentence that technically is not a life sentence but is the fundamental equivalent of one. The Sentencing Project considers a virtual life sentence to be 50 years or more. (Laugalis et.al., 2023). *Montgomery's* holding that life without parole is only justified for the irreparably corrupt offender is complicated by one significant factor: it is impossible to tell with any certainty which juveniles fall into this category. The Court in *Graham* acknowledged this fact, stating that, "juvenile offenders cannot with reliability be classified among the worst offenders"[1] (*Graham v. Florida)*. This is because the science of adolescent brain development, on which the Court based its conclusion that 'children are different', plainly states that making an accurate determination about a juvenile's permanent character is impossible. The Court in *Graham* considered taking a case-by-case approach by creating a rule that would require courts to take a juvenile offender's age into consideration at sentencing, much like what the *Miller* Court did[2]. However, the Court found such an approach insufficient to provide adequate constitutional protections[3]. The Court proceeded to cite five reasons why a categorical ban on juvenile life without parole for nonhomicide offenders was necessary: (1) cannot identify the incorrigible offender; (2) high risk of erroneous sentencing; (3) differences between juvenile and adult offenders too large to allow for such a risk; (4) juveniles have impaired criminal representation; and (5) juveniles should have a chance to demonstrate maturity and reform[4] . Neither of these last two factors are crime specific. Undoubtedly, every factor that led the Court to deem a categorical ban necessary in nonhomicide cases equally applies to the sentencing of juvenile

[1] *Graham v. Florida*
[2] *Id*. at 76
[3] *Id* at 78
[4] *Id*. at 77-79

homicide offenders to life without parole. Based on these factors, the *Graham* Court ultimately concluded that laws "allowing the imposition of these sentences based only on a *discretionary, subjective judgment* by a judge or jury that the offender is *irredeemably depraved*, are *insufficient* to prevent the possibility that the offender will receive a life without parole sentence for which he or she lacks the moral culpability"[5] (emphasis added)**.** The majority of U.S. Circuit Courts of Appeals have equated *de facto* life with LWOP.

However, the most recent Supreme Court ruling in *Jones v. Mississippi (2021)* may be moving away from how youth should be sentenced, i.e., that decision has renewed interest in the constitutionality of lengthy sentences for juveniles. Here the Supreme Court ruled 6-3 that states *can* sentence juvenile offenders to life in prison without parole without making a separate assessment of their incorrigibility. The Court's ruling held that the Eighth Amendment does not require a finding that a juvenile is permanently incorrigible before imposing a sentence of life without parole, i.e., states have discretionary ability to hold juvenile offenders to life sentences without parole without having to make a separate assessment of their incorrigibility (Laugalis et al, 2023*).* Enabling *de facto* life sentences, either through the sentencing court's discretion or a minimum term of 40 years, directly contradicts the Court's *Graham* and *Miller* decisions. Adolescent characteristics that may influence criminal behavior include impulsivity, immaturity, lower cognitive functioning, and being more prone to peer pressure. Understanding these differences and applying them to sentencing laws and policies has been inconsistent. For juveniles with long sentences an option is a parole hearing providing them the opportunity for redemption; a parole hearing after significant time to transform and rehabilitate means imposing sentences that are 'developmentally appropriate.' Failing to provide juveniles with a meaningful opportunity for release under the Court precedents of *Graham*, *Miller*, and *Montgomery* condemns juveniles to *de facto* life sentences. Determining the constitutionality of *de facto* life sentences might be the next frontier for legal jurisprudence at the state or federal level. More states may need to take steps to clarify the definition of *de facto* life based on adolescent culpability and the rehabilitative potential of youth.

2. Conclusion

This session will explore these and related issues.

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OCCUPATIONAL PSYCHOLOGY: BUILDING A FRAMEWORK GUIDING THE APPLICATION OF SCIENTIFIC KNOWLEDGE INTO FIELD INTERVENTION PRACTICES

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Abstract

Applied occupational psychologists support organizations in evaluating and enhancing psychological health in the workplace. Often, these interventions claim scientific legitimacy by using tools based on fundamental research, particularly questionnaires. However, our experience highlights significant methodological weaknesses in these interventions, sometimes questioning their scientific validity. Scientific claims are occasionally used as authority arguments to support an intervention's legitimacy, without reference to a consensus framework linking research to practice. This raises key questions: Can a field intervention truly be scientifically valid or legitimate? How much of scientific knowledge can be applied in practice, and what precautions are needed? Is an empirical approach inherently less legitimate than a scientific one in improving work conditions? This workshop will facilitate an epistemological dialogue between researchers and practitioners to develop insights and recommendations on: Ethical considerations when using research-based tools; criteria for determining an intervention's scientific rigor; and the legitimacy of field interventions beyond scientific anchoring. The workshop is designed to bring together researchers and practitioners in occupational psychology, with a maximum of 50 participants and will use a collaborative method, based on analyzing shared experiences and debating key points. Outcomes will include a guide on ethical and best practices for robust interventions and the complementary roles of scientific tools and empirical approaches.

Keywords: *Occupational psychology, scientific legitimacy, epistemological dialogue, research-to-practice, deontological guidelines.*

1. Introduction

In occupational psychology, integrating scientific knowledge into field interventions is often seen as a marker of legitimacy, but this reliance raises important epistemological and methodological concerns. While many interventions use tools derived from research, such as psychometric assessments, they sometimes overlook limitations in their application. Furthermore, these scientific claims often lack frameworks that link research findings to practical workplace solutions, leading to an overuse of scientific authority without aligning with evidence-based principles. Moreover, some interventions falsely claim to be scientifically grounded, when their legitimacy should rest on different criteria. This underlines the need to critically examine what constitutes an evidence-based intervention beyond merely applying scientific tools.

This article introduces a workshop that aims to address these issues by distinguishing "evidence-based" from "scientific" approaches, exploring broader aspects of evidence-based methodologies. Through dialogue between researchers and practitioners, the workshop will clarify how scientific inputs can inform interventions and propose frameworks for legitimizing non-scientific components. Drawing on key insights from literature, such as Thayer et al. (2011), Caetano and Santos (2017), and Briner and Rousseau (2011), the workshop acknowledges the importance of balancing scientific rigor with practical relevance, considering both organizational context and practitioner expertise. The literature also highlights barriers to implementing evidence-based practices, such as publication bias (Banks & McDaniel, 2011) and limited access to academic research (Rogelberg et al., 2022), emphasizing the need for an inclusive approach that integrates both scientific and non-scientific elements.

2. Methodology and objectives

The workshop employs a collaborative methodology that combines structured discussions, case study analyses, and the development of actionable recommendations. Participants will begin by analyzing current challenges and barriers to implementing evidence-based practices, such as:

- **Disconnect Between Research and Practice:** The lack of accessible, practitioner-oriented research.
- **Overemphasis on Scientific Rigor:** Neglecting the relevance of empirical and experiential knowledge.
- **Ethical and Practical Dilemmas:** Balancing organizational goals with employee well-being.
- The objectives of the workshop are threefold:
- **Develop Ethical Guidelines:** Establish principles for the responsible use of scientific tools and data.
- **Define Scientific Rigor:** Create criteria to evaluate the scientific validity of interventions.
- **Explore Legitimacy Beyond Science:** Propose frameworks for legitimizing non-scientific aspects of interventions, such as ethical reasoning and experiential knowledge.

3. Framework of the workshop

The workshop is structured around two core axes, each with a working group of researchers and practitioners. This collaborative approach aims to leverage participants' diverse expertise for a multidimensional analysis of evidence-based interventions.

3.1. Group 1: Scientific inputs in field interventions

This group will explore how scientific knowledge can inform field interventions, including:

- **Models and Frameworks**: The role of theoretical models in shaping intervention strategies.
- **Analytical Tools**: The use of scientifically validated tools, like psychometric questionnaires, for assessing workplace conditions.
- **Best Practices**: Guidelines derived from research for decision-making.

The group will also address the challenges of applying scientific findings to dynamic workplace environments and discuss criteria for assessing the reliability of transposing scientific constructs into interventions, balancing scientific integrity with practical adaptation.

3.2. Group 2: Non-scientific components of evidence-based interventions

The second group will focus on the non-scientific aspects of interventions, such as:

- **Ethical Guidelines**: Establishing principles when scientific evidence is lacking.
- **Experiential Knowledge**: Using practitioners' experience to complement scientific insights.
- **Organizational Contexts**: Adapting interventions to workplace dynamics.

This group will propose frameworks for legitimizing these non-scientific components, ensuring they align with evidence-based practice through ethical reasoning and professional expertise.

4. Expected outcomes

The anticipated outcomes of the workshop include:

- **A Guide to Ethical and Evidence-Based Practices**: A comprehensive document outlining best practices for integrating scientific and non-scientific elements into workplace interventions.
- **Recommendations for Researchers and Practitioners**: Actionable insights to improve collaboration and knowledge transfer between the two groups.
- **Frameworks for Evaluating Intervention Legitimacy**: Criteria and methodologies for assessing the validity and effectiveness of interventions, regardless of their scientific basis.

Additionally, the workshop will explore avenues for sustaining dialogue between researchers and practitioners around key elements emerging from the workshop, in order to continue feeding an essential corpus that supports the research-practice continuum.

These outcomes will contribute to the ongoing development of occupational psychology as a discipline promoting more robust and ethical approaches to workplace interventions.

5. Conclusion

This workshop represents an opportunity to precise what makes an evidence-based practice in occupational psychology. By addressing the epistemological and methodological challenges of integrating scientific knowledge into field interventions, it seeks to promote a holistic and inclusive understanding of what it means to be "evidence-based."

Through collaboration between researchers and practitioners, the workshop aims to generate practical solutions to longstanding challenges, fostering a culture of innovation and accountability in workplace interventions. Ultimately, the insights and recommendations emerging from this workshop will serve as a valuable resource for advancing the field of occupational psychology.

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THE MEANING PROFILE: ITS NATURE AND FUNCTIONS

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Abstract

Meaning is a construct with a long history of applications in many disciplines, in each of which it was differently defined. Previous definitions of meaning in psychology focused on behavior, images and verbal responses or associations, which limit the scope of the possible uses of meaning and its assessment. The new proposed definition is based on the assumptions that meaning is communicable, includes an interpersonal and a personal part, and is a multi-dimensional developing construct. The definition is that meaning is consists of units that include a referent to which meaning values are assigned. The six sets of meaning variables are described. They are used in meaning assignment and in coding meaning responses. Coding the responses of an individual to the meaning test that includes 11 stimulus words yields the individual's meaning profile. Meaning profiles can be constructed for groups of people, for personality traits, cognitive acts or processes, values, attitudes, constructs, concepts, people or emotions. The possible uses of meaning profiles in assessment, comparing traits, analyzing constructs, validation procedures and identifying traits are described. The procedure of training of meaning for its expansion or adaptation to particular goals is presented.

Keywords: *Meaning, cognition, meaning profile, personality traits, emotions.*

1. Introduction

Meaning is an old construct that has suffered many upheavals and has gained numerous definitions in the different disciplines that have used it, with the result that its nature has become increasingly blurred. However, it has survived the hardships due to its undeniable importance. The status of meaning in psychology has been similarly complicated. First it was admitted into the fold of psychology as a behavior which was replaced by kinesthetic responses. Then the admission regulation changed to images, which were followed by verbal responses or associations. Yet, all these changes did not provide an assessment method of meaning that would function for all individuals, all stimuli and all forms of expression.

2. Objectives

The major objective is to describe a new definition of meaning on the basis of the system of meaning (Kreitler, 2022a) that would bind theory, methodology and research together and to present its function in different domains of psychology.

2.1. What is meaning?

The definition of meaning is based on the following assumptions: (a) Meaning is communicable because most of the meanings we know and use have been learned from others; (b) Meaning includes a part that is interpersonally shared and another part which is more personal and private; (c) Meaning may be expressed both verbally and through non-verbal means, such as movements, drawings and images; (d) Meaning is a complex multi-dimensional or multi-layered construct, since both on the social and the individual levels, meaning develops slowly, absorbing components from different sources.

These assumptions led to the shaping of methods for collecting and coding data in regard to meaning that have led to a new definition of meaning and a new methodology for its assessment. The data consisted of responses of several thousands of subjects differing in age (2 to over 90 years), gender, education and cultural background who were requested to communicate the interpersonally-shared and personal meanings of a great variety of stimuli, using any means of expression they considered adequate. Analysis of the meaning communications revealed that they presented a rich variety of contents consisting of units, each of which included two components, one in need of meaning, the other providing the meaning (Kreitler & Urbanek, 2014).

Meaning was defined as a referent-centered pattern of meaning values. In this definition, referent is the input, the carrier of meaning, which can be anything, such as a word, an object, a situation, an event, or even a whole period, whereas meaning values are cognitive contents assigned to the referent for the purpose of expressing or communicating its meaning (Kreitler & Kreitler, 1990a).

3. Method

The major tools used in the assessment of meaning are the following six sets of meaning variables: (a) *Meaning Dimensions*, which characterize the contents of the meaning values from the viewpoint of the specific information communicated about the referent, such as the referent's Sensory Qualities (e.g., Sky – blue), Feelings and Emotions it experiences (e.g., Mother –loves her child) or evokes (e.g., Darkness– fear), Range of Inclusion (e.g., Body - the head, arms, and torso); (b) *Types of Relation*, which characterize the immediacy of the relation between the referent and the cognitive contents, for example, attributive (e.g., Winter - cool), comparative (e.g., Spring - warmer than winter), exemplifying instance (e.g., Country - the U.S.); (c) *Forms of Relation*, which characterize the formal regulation of the relation between the referent and the cognitive contents, in terms of its validity (positive or negative; e.g., Meditation - is not a religion), quantification (absolute, partial; Melon - sometimes yellow), and status (factual, desired or desirable; Regulations - should be obeyed, Wealth- I wish I had more); (d) *Referent Shifts*, which characterize the relation between the referent and the original input, or - in a chain of responses to some input - the relation between the referent and the previous one, for example, the referent may be identical to the input or the previous referent, it may be its opposite, or a part of it, or unrelated to it (e.g., when the presented stimulus was "U.S." and the response was "I love New York", the referent in the response was a part of the stimulus) ; (e) *Forms of Expression*, which characterize the forms of expression of the meaning units (e.g., verbal, denotation, graphic) and its directness (e.g., actual gesture or verbal description of gesture) (Kreitler & Kreitler, 1990a; (f) *Meta-Meaning* variables, which characterize the attitude toward the meaning communication that has been assumed by the respondent or is indicated for the recipients (e.g., it is incomplete, it is a quotation, it is a metaphor).

Together, the six sets of variables constitute the system of meaning. It includes also the components of other definitions proposed for meaning (Kreitler, 2022a).

3.1. The assessment of meaning

Any kind of meaning, regardless of the media of communication or language of its expression can be subjected to assessment. In assessing meaning the material is first reduced to meaning units, each of which consists of a referent and a meaning value. Then each unit is characterized in terms of the meaning variables defined in the meaning system, namely, it is coded on one meaning dimension, one type of relation, one form of relation, one referent shift and one form of expression. Summing the codings in each set of meaning variables across all meaning units in the given meaning statement yields a profile representing the frequencies with which each meaning variable has been applied in that meaning statement. The overall summary of frequencies of meaning variables in the given statement of meaning may be called the meaning profile of that statement, which may be a story, a letter, an email, a map, a painting or any other art product. Both the coding and the summary are made with a computer program.

3.2. Meaning test

In order to get information about the characteristic tendencies of an individual to use certain meaning variables it is necessary to assess the meaning responses of the individual to specific pretested stimuli. The 11 standard stimuli used for that purpose constitute the Meaning Test. There are three parallel sets of these stimuli for adults and three different sets for children (2-10 years of age). The standard instructions ask the subjects to communicate the interpersonally-shared and personal meanings of these stimuli to someone who does not know the meanings, using any means of expression they find adequate.

3.3. Meaning profile

Coding the meanings produced in this manner in terms of the meaning variables yields the subject's *meaning profile* which summarizes the frequency with which the subject used each of the meaning variables across all 11 stimulus words in the test. The subject's meaning profile includes meaning variables from the five sets described above.

Similar principles apply in regard to the meaning profiles of groups. The meaning profile of a group may be of interest either in order to characterize it as such or in order to compare it with the meaning profiles of other groups. In this context, a group is defined for example in terms of demographic characteristics, attitudes and beliefs, health states, behaviors, or responses to questionnaires. The meaning profile of a group represents the means of the frequencies of responses in the different meaning variables of members of the group who have responded to the Meaning Test.

The meaning profile of a personality trait is based on the results of the following procedure. The meaning test and a questionnaire are administered to a group of individuals. The meaning test is elaborated and produces the individuals' meaning profiles. The personality measure is coded separately and produces a score of the trait. The meaning profiles and the trait's scores for each individual are compared by t-test. The t-test provides information about the meaning variables that differentiate significantly between the high scorers and low scorers on the trait's measure. These are the meaning variables that define the traits' meaning profiles. The same result can be attained by correlating the meaning profiles and the trait's scores. This procedure shows the traits are in fact patterns of meaning assignment tendencies.

The same procedure can be applied in regard to cognitive processes, such as creativity, intuition, decision making; attitudes; emotions; people; management and leadership styles (Kreitler, 2022b).

4. Discussion

A meaning profile is a mine of information when it is subjected to interpretation or comparison with other meaning profiles. The individual's meaning profile provides information about the cognitive content and processes that are used by the subject naturally, without investing special effort, for perception, thinking, solving problems, communication, understanding situations and others, and expressing oneself.

Applying the meaning profile may shorten the process of assessing different constructs. The meaning profile can be used for comparisons with an endless number of different meaning profiles of traits, cognitive processes, emotions etc. without administering the meaning test repeatedly to the same subjects. The comparisons would yield the scores of the individual on all the traits and other constructs whose meaning profiles are available. These scores were found to be valid (Kreitler & Kreitler, 1990). The advantages of the described procedure of assessment are higher reliability of the results, increased amount of information, reduced costs and liberating the individuals from additional work involved in responding repeatedly to the Meaning Test. Thus, meaning profiles can be used for predicting the responses of an individual to stimuli or situations in regard to which the individual has not been assessed, for example, humor or adequacy for a particular job.

The meaning profiles can also provide insight into the dynamics of the examined tendency. For example, social desirability. The question is whether it assesses desire for love or evaluation. Comparison with other profile shows it is evaluation (Kreitler & Kreitler, 1990).

Further, the meaning profile of a trait provides guidelines for validation-by-meaning in the form of a complete and systematic list of the tendencies whose assessment defines the domains in which the trait has to be or can be validated. This procedure is broad-ranging, complete, and theoretically anchored.

Additionally, analyzing the formal characteristics of a large number of the meaning profiles of a specific kind, e.g., personality traits enable specifying the relative percentages of the different kinds of meaning variables in these profiles, (i.e., meaning dimensions, 54.75%, types of relation 25.75%). This enables identifying new candidates for personality traits or deciding whether different tendencies, such as humor, MMPI scores or being a left-winger have the characteristics of personality traits.

Moreover, the individual's adequacy for a particular profession can be evaluated by comparing the individual's meaning profile with those representing different professions.

Finally, analyzing the meaning profile of an individual in a state of despair can give the therapist suggestions about possible meaning variables that could be enhanced in order to overcome the sense of meaninglessness (Kreitler, 2016).

The above specifications are merely examples of many more functions and uses of the meaning profiles and the meaning system in psychology, including education, politics, or psychotherapy. In some of the above cases the training of meaning is appropriate.

Training is considered advisable for expanding an individual's meaning profile, for example, when it is limited (e.g., due to developmental retardation) or does not include a sufficient number of variables required for a specific occupation or for studying a given theme such as mathematics. The major principles of training are that each variable is trained separately, and the focus of training is only strengthening rather than weakening. The three basic levels of training are (a) expanding the number and range of meaning values, (b) elaborating the meaning of the trained meaning variable by using it as a referent, and (c) training the meaning variable by using it in exercises of different tasks.

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