

LOS OBJETIVOS DE DESARROLLO SOSTENIBLE PROBLEMAS Y RETOS PARA UNA AGENDA MULTIDISCIPLINAR

Libro de Actas

Congreso Internacional "Los Objetivos de Desarrollo Sostenible":
Problemas y retos para una agenda multidisciplinar"

International Congress "The Sustainable Development Goals:
Problems and Challenges for a multidisciplinary agenda"

Lisboa - Badajoz, 29-30 de junio de 2022 (Reunión virtual)



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José Francisco Rangel Preciado, Jose Manuel Dias Lopes y Francisco Manuel Parejo Moruno (Eds.),

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Capítulo 22.

On the roles of education and health in sustainable development

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RESUMEN

El nivel de desarrollo de los indicadores de un país generalmente se mide utilizando indicadores compuestos, que reflejan las dimensiones que se consideran importantes para medir ese nivel. El Indicador de Desarrollo Humano (IDH), creado en el Programa de Desarrollo de las Naciones Unidas (ONU), ya en la década de 1990, es, entre esos indicadores, eventualmente el más conocido. Como es sabido, el IDH considera que, además de la riqueza económica, la educación y la salud son aspectos cruciales para evaluar el nivel de desarrollo de un país. El enfoque puesto en las personas, desde el inicio de la creación del IDH, para medir el desarrollo se hizo aún más evidente en los objetivos de desarrollo sostenible 2030 de la ONU (<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>; consultado el 31 de marzo de 2022). En estos, el objetivo 3 es garantizar una vida saludable (y bienestar) en todas las edades, mientras que el objetivo 4 es lograr una educación de calidad. De hecho, estos dos objetivos son complementarios, ya que el conocimiento y una vida larga y saludable interactúan entre sí, quedando claro que una mejor educación contribuye a una vida más saludable, por lo tanto, más larga, y esto, a su vez, permite un mejor nivel de educación.

Palabras clave: Desarrollo, educación, salud, sostenibilidad.

RESUMO

O nível de desenvolvimento de um país geralmente é medido por meio de indicadores compostos, refletindo as dimensões que são consideradas importantes para medir esse nível. O Indicador de Desenvolvimento Humano (IDH), criado no Programa das Nações Unidas (ONU) para o Desenvolvimento, já na década de 1990, é, dentre esses indicadores, eventualmente o mais conhecido. Como se sabe, o IDH considera que, além da riqueza econômica, a educação e a saúde são aspetos cruciais para avaliar o nível de desenvolvimento de um país. O foco nas pessoas, desde o início da criação do IDH, para medir o desenvolvimento ficou ainda mais evidente nas metas de desenvolvimento sustentável da ONU para 2030 (<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>; acedido em 31 de março de 2022). Nestes, o objetivo 3 é garantir uma vida saudável (e bem-estar) em todas as idades, enquanto o objetivo 4 é alcançar uma educação de qualidade. Na verdade, estes dois objetivos são complementares, pois o conhecimento e uma vida longa e saudável interagem entre si, ficando claro que uma melhor educação contribui para uma vida mais saudável, portanto mais longa, e isso, por sua vez, permite um melhor nível de educação.

Palavras-chave: Desenvolvimento, educação, saúde, sustentabilidade.

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ABSTRACT

The level of development of a country is generally measured using composite indicators, reflecting the dimensions that are considered to be important to measure that level. The Human Development Indicator (HDI), created in the United Nations (UN) Development Programme, as early as the 1990s, is, among those indicators, eventually the best known. As is known, the HDI considers that, in addition to economic wealth, education and health are crucial aspects to assess the level of development of a country. The focus placed on people, since the beginning of the creation of HDI, to measure development became even more evident in the UN's 2030 sustainable development goals (<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>; accessed on March 31, 2022). In these, goal 3 is to ensure a healthy life (and well-being) at all ages, while goal 4 is to achieve a quality education. In fact, these two goals are complementary, as knowledge and a long and healthy life interact with each other, being clear that better education contributes to a healthier, therefore longer, life, and this, in turn, allows for a better level of education.

Key-words: Development, education, health, sustainability.

1. Presentación del tema objeto de estudio

With regard to the two pillars of (sustainable) development, specifically education and health, there is no simpler way to put them in position than as stated in Kickbusch et al. (2013: 35): "Health is vital to education. Education is vital to health." The interaction – virtuous in the case of (more) developed countries and vicious in the case of underdeveloped countries – between the levels of education and health is obvious. Healthier individuals, communities, or societies obtain higher levels of education and these, in turn, also allow for better results in terms of health, not only through increased knowledge, but also through higher income, associated with higher levels of productivity, allowing greater access to the necessary health care, both in preventive and curative terms. See, among many others, Feinstein et al. (2006) and Groot & van den Brink (2006).

Given the evident relationship between education and health, it is not surprising that the literature has devoted attention to an interception of both, i.e., health literacy, both from a theoretical and empirical point of view. Based on the definition of literacy as the degree to which individuals have the capacity to obtain, process and understand basic health information and services necessary to make appropriate health decisions (Berkman et al., 2010; Catford & Nutbeam, 1984), DeMarco & Nystrom (2010) confirmed that patients with a low level of health literacy have greater difficulties in following verbal or written medical guidelines and/or understanding health-related information materials – for example, package inserts on medicines. They also demonstrated that these patients are less likely to use preventive health services and have less knowledge of their real health status. This generally results in a more frequent visit to hospital emergencies, which is associated with a higher rate of hospitalization and mortality. In fact, low levels of health literacy can lead to a delay in the demand for health care – due to less knowledge about the real state of health – especially in preventive terms, which ends up resulting in the use of health care at the hospitals, which are considerably (more) expensive. In this way, one immediately realizes the importance of health literacy for the sustainability of the health care system, since it contributes to the reduction of costs (in the short, medium, and long terms).

As regards sustainability, as is well known, one of the most pressing problems of modern societies is that aging causes natural (and obviously understandable) pressures on national health systems. Clearly, one way of alleviating this pressure is to avoid, as much as possible, health care needs that, by ignorance, do not immediately trigger the (desirable)

demand for such care, as well as demand (and possible consumption) for health care, without the need for it.

2. Objetivos de la investigación

Taking into account the evident importance of, in particular, health literacy, in the case of this paper, we want to study the importance, in general, of education and health on sustainable development. In other words, the objective is to analyze the significance of health (and) education in contributing to sustainable development; see, among others, Orme & Dooris (2010). From the outset, this significance derives from the nature of merit goods, which education and healthcare generally assume. Thus, gains in these pillars of development spread throughout the community, making sustainability easier to achieve. Let us put our objective in context, by analysing the evolution of the Human Development Index (HDI), between 1990 and 2018 in the 198 countries considered by the data source. Clearly, in global terms, there was an improvement in this development indicator, in terms of its value, however it was not accompanied by a reduction in its dispersion, which indicates the maintenance of a situation of inequality in the levels of human development, across the world.

With regard to the education indicator, it shows a similar evolution to the HDI, being apparent that the improvement in the levels of education would have been more expressive, but the inequality in this indicator will have remained constant throughout the period under analysis.

From the viewpoint of health, the same kind of conclusion is to be taken, i.e., there were, across the world, gains in levels but not in equity.

In fact, the evolution of those indicators confirms something that is common knowledge, i.e., that education and health indexes should be positively correlated. The correlation between those two indicators is approximately 81.8%, in 2018.

That being said, our objective is to go a little bit further than that common knowledge, by considering the importance of space (location of the countries) and time (dynamics between education and health throughout time).

3. Metodología y fuentes

In the first part of the paper, data visualization techniques are used. The comparative static analysis presented in this part must be complemented with a dynamic analysis, which results precisely from the nature of the issues at stake. In fact, gains in education and/or health interact with each other over time, according to a logic of self-reinforcing loops. Therefore, in the second part, a special methodology on the time-series field is considered.

In methodological terms, the temporal interaction of the effects of education and health levels, and their consequences on development levels, can be studied through the so-called crossed autocorrelation functions (ACFs). In simple terms, these make it possible to verify how the level of correlation between two time series behaves, when time lags between them are considered.

Concerning the data, we use the values of the Human Development Indicator (HDI), created in the United Nations (UN) Development Programme, from 1990 to 2018, for the

198 countries considered by the UN. Given our objectives, the values for the Education and Health Indicators are also used.

4. Resultados principales de la investigación

In this paper, we wanted to contribute for the understanding of the roles of education and health on sustainable development.

From what has been said above, it is clear that a better understanding of how levels of education and access to health care can contribute to sustainable development involves contextualizing each of these factors. From this point of view, it is, from the outset, interesting to break down the analysis by levels of human development.

In the first part of the paper, it was considered how has the level of human development evolved, between 1990 and 2018, in the different regions considered by the data source. In general, there were indeed improvements in the level of human development in the different regions of the world, but the level of these improvements differed greatly between these regions, with the evolution of the dispersion of levels of human development within each of these regions having also differed.

In what concerns the levels of education, despite the improvement, the fact is that there are still quite high inter- and intra-regional disparities across the world. Somewhat surprising, data seems to show that it is, in terms of health, that the world will have improved the most, from the point of view of levels and their disparity, between regions and within regions.

In the second part of the paper, it was possible to show that, indeed, gains in education and/or health at some point in time exhibit a significant positive correlation (until around 5 to 6 years) with gains in education and/or health themselves and, naturally, with gains in human development. This kind of self-reinforcing effects are to be more evident the higher the HDI level.

To sum up, it was possible to conclude that:

- (Obviously) increases in education and/or in health contribute to increases in development;
- (Still obviously) not only on the short-run but also on the medium (and long)-run;
- (But not in a so obvious manner) the persistence and magnitude of the effects depends on the level of development.

5. Limitaciones y propuestas para futuras investigaciones

This paper has (many) limitations, which we intend to take as opportunities for further investigation. One of these avenues is the analysis of education and health contribute to the inequality-adjusted development. Indeed, a society characterised by unacceptable levels of inequity will, sooner or later, be unsustainable.

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