



The development of holistic face processing: An evaluation with the complete design of the composite task



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ABSTRACT

The composite paradigm is widely used to quantify *holistic processing* (HP) of faces: participants perform a sequential *same-different* task on one half (e.g., top) of a test-face relative to the corresponding half of a study-face. There is, however, debate regarding the appropriate design in this task. In the *partial* design, the irrelevant halves (e.g., bottom) of test- and study-faces are always different; an alignment effect indexes HP. In the *complete* design, besides alignment, *congruency* between the irrelevant and critical halves of the test-face is manipulated regarding the same/different response status of the study-face. The HP indexed in the complete design does not confound congruency and alignment and has good construct and convergent validities. De Heering, Houthuys, & Rossion (2007) argued that HP is mature as early as 4-year-olds but employed the partial design. Here we revisit this claim, testing four groups of 4- to 9/10 year-old children and two groups of adults. We found evidence of HP only from 6-year-olds on when considering the complete design, whereas significant alignment effects were found in the index adopted in the partial design already in 4-year-olds but which we demonstrate that reflects other factors besides HP, including response bias associated with congruency.