

Increases in intelligence and measurement invariance

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Abstract

Ever since Flynn (1984; 1987) documented a worldwide increase in scores on standardized intelligence tests, there has been extensive debate about the nature, the causes, and the implications of this increase (e.g. Neisser, 1998). The aim of the present study is to investigate whether four intelligence tests are factorially invariant with respect to cohorts. Factorial invariance addresses the issue of the nature of intelligence gains in the following way. As shown by Meredith (1993) factorial invariance implies measurement invariance, which means that a test is unbiased with respect to cohort (Mellenbergh, 1989). Unbiasedness in the context of the Flynn effect means that the same construct is measured in different cohorts and that the observed gain in scores can be accounted for by a latent difference in intelligence (Lubke, Dolan, Kelderman, & Mellenbergh, 2003). Factorial Invariance will be tested using Multi-Group Confirmatory Factor Analysis with Mean and Covariance Structure. The results indicate that factorial invariance with respect to cohorts is generally untenable. Particularly measurement intercepts of verbal subtests cannot be equated across cohorts. Finally, implications are discussed.

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