

International Differences in Intelligence Symposium: Blindness, Deprivation, and IQ: A Meta-Analysis

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The genetic basis of individual within-group differences in intelligence among the majority populations of the industrial nations has been established through the use of twin studies and adoption studies. The question of the cause of the well documented difference in mean IQ test scores between ethnic groups, however, remains one of the most hotly debated issues in behavioral science. A major difficulty in resolving the question is that genetic differences and environmental (cultural, social, and economic differences) between the groups are usually confounded.

The present study examines a different group: the blind and partially sighted. One major non-genetic hypothesis, cultural deprivation, argues that the deleterious effects of a poor and non-stimulating environment increase over time, leading, for instance, to the full standard deviation difference in average test scores between Blacks and Whites in the US or between Dutch and immigrants in the Netherlands. The present study performed a meta-analysis of studies of the IQ of visually impaired children and adults. The results of our analysis demonstrated that visual deprivation showed no effect on the average IQ scores of a severely handicapped group, and therefore it disconfirmed the cumulative deficit hypothesis. Further disconfirmation of the cumulative deficit hypothesis comes from the finding that for the blind and partially sighted, any IQ deficit decreases with age, contrary to the predictions of cumulative deficit theory. Further, the fact that the severely deprived environment of visually impaired has no impact on their average IQ score makes it less likely that the arguably less deprived environment of, for instance, Blacks in the U.S. or immigrant groups in Europe is the cause of their lower mean IQs. Our meta-analytically based study makes environmental causes of group differences in IQ less plausible and therefore genetic causes less implausible.