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Critically consider research into the role of cultural factors in the development of intelligence test performance

Intelligence can be defined in several ways, ranging from broader definitions such as the ability to cope with life, to more specific definitions such as skill in problem-solving and reasoning. Intelligence tests are implemented by psychologists in order to assess such skills, and a quantitative measure of this intelligence is usually presented in the form of an IQ (intelligence quotient). IQ scores are the basis of much research into the development of intelligence test performance.

One cultural factor which may have an affect on a child's measured intelligence is mother love; attachments may play a part in children's cognitive development. This hypothesis can be tested by studying children who have been separated from an attachment object (i.e. a parent), and Skeels & Dye found evidence to suggest that the formation of an attachment improves intelligence test performance. In their study, 13 of the most mentally retarded infants in an orphanage were moved to an institution for mentally retarded women, where they would form an attachment with a mildly retarded woman. Over the next four years, those who had moved had an average IQ gain of 32 points, compared with an average reduction of 21 IQ points for those who remained in the orphanage; this difference was still evident 27 years later. This study can be commended for its implications: at the time the accepted view was that IQ was constant throughout life, but the study showed that, with the right treatment, IQ can be significantly improved.

Another factor in IQ development is quality of education. Schweinhart *et al.*'s Perry Preschool Project provides evidence for this; compared to children given no pre-school education, those who had been given quality pre-school education appeared not only to have improved IQs later in life, but they were also less likely to commit crime and drop out of high school. This finding is duplicated by Operation Headstart, which provided children from disadvantaged homes with pre-school programs. There was an average IQ gain of 10 points in the first year and, although the IQ scores returned to average levels, subsequent progress such as high school graduation was higher in those who had taken part in the project. This indicates that an increased quality of education may lead to an increase in IQ.

Another cultural factor that may influence the development of measured intelligence is a child's home environment. Bradley *et al.* Identified six factors, including parental involvement and the provision of play materials, which were significant in a child's development of intelligence, and called it the HOME inventory. If the HOME score of a child was low, a child's IQ may have declined between 10 and 20 points between the ages 1 and 3, whereas the opposite was true for those with high HOME inventory scores. This theory would be supported by Piaget and Vygotsky, the theories of both of whom suggest that the provision of age-appropriate play materials are likely to improve cognitive development. In addition, Vygotsky emphasises the role of culture in cognitive development, which is very much in line with the HOME inventory study.

It may even be that diet is a cultural factor which has an influence on a child's development of intelligence. In a study by Schönthaler & Bier, children who had been given vitamin-mineral supplements performed better on a non-verbal IQ test than those who had been given a placebo. This supports the idea that diet has an influence on intelligence, but it it not necessarily the case that supplements improve IQ; the researchers suggested that it was a poor diet that diminished IQ, and the improved diet restored the cognitive abilities of the children who previously had a poor diet.

The idea that it is environmental cultural factors, rather than race and genetic cultural factors, that have an effect on a child's intelligence test performance is supported by Scarr & Weinberg, who found that both white and black children, when adopted by middle-class white families, performed better on IQ tests at age 7 than the average for their respective ethnic groups. They attributed this improvement to growing up in a culture of tests and schools, and exposure to better healthcare and socialisation. However, in a follow-up study ten years later, it was found that the black children's IQs were not notably higher than the average for their group, indicating

that an upbringing in a white, middle-class home had little or no influence on their intelligence. However, this does not necessarily indicate that it is a genetic cause, since skin colour and intelligence are believed to have very different genetic structures. It may be in indirect genetic influence, in that black children raisedin a white home have lower self-expectation, or that they socialise with other black children at school (which may have more of an influence than their white, middle-class home).

IQ tests have, however, been heavily criticised for lacking reliability, as an IQ result from one test can vary dramatically with an IQ result from another. Additionally, they have been criticised for being culturally biased; there are many different types of thought (e.g. language, problem-solving, pattern recognition, reasoning), and some types of thought are more valued in some cultures than in others. This may extend to sub-cultural differences between people of different socioeconomic status. For example, it has often been found that black American children perform less well on IQ tests than white children, however, Serpell (1979) found that white children performed significantly less well than black children on an IQ test aimed at black Americans. This brings into question the use of IQ tests as a valid method of measuring intelligence.