

A New Study of Intelligence in Egypt

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Data are presented for a sample of 1756 Egyptian primary school children (863 boys and 893 girls) aged 5 through 11 years assessed for intelligence with Raven's Coloured Progressive Matrices. The sample had an IQ of 85 according to British norms.

Key Words: Intelligence; Coloured Progressive Matrices; Egypt

In a compilation of IQs for all nations in the world calculated on a metric with the British mean and standard deviation set at 100 and 15 respectively, Lynn and Vanhanen (2012) give three studies for the Egyptian IQ producing a median estimate of 81. In addition, a study limited to a single Egyptian village produced very low IQs for both children (Wachs et al., 1995) and adults (Wachs et al., 1996) on the Wechsler and Raven tests. More recently, a country-wide standardization of Raven's Coloured Progressive Matrices performed 2011-2013 produced an estimated average IQ of 84 (Bakhiet & Lynn, 2014). The objective of the present

study is to present an updated estimate of the average IQ of Egyptian children, assessed with the Coloured Progressive Matrices.

Method

The sample consisted of 1756 Egyptian school children (863 boys and 893 girls) aged 5 through 11 years attending three village primary schools in the province of Menoufia in the north of Egypt. The children's intelligence was assessed in early 2017 with Raven's Coloured Progressive Matrices (CPM), a British non-verbal reasoning test designed for children aged 5 through 11 years (Raven, Court & Raven, 1995) and re-standardized in Britain in 2007 (Raven, 2008). The children were tested individually without a time limit.

Results

The results are given in Table 1 showing the numbers, CPM mean raw scores (out of a maximum of 36) and standard deviations, and the IQs on the 2007 British standardization (Raven, 2008). There were no significant differences between the scores of the boys and girls.

Table 1. *Coloured Progressive Matrices mean raw scores, standard deviations, and IQs according to 2007 British norms for 5-11 year olds in Egypt.*

Age	N	Mean ± SD	IQ
5	128	17.4 ± 4.6	97.5
6	230	21.2 ± 7.1	97.5
7	269	21.1 ± 7.6	85
8	350	21.9 ± 7.3	80
9	326	23.5 ± 6.9	80
10	304	26.3 ± 6.7	85
11	149	24.4 ± 6.8	70
Total	1756	22.6 ± 7.3	85

Discussion

There are two points of interest in the results. First, relative to a British mean of 100 and standard deviation of 15, the average IQ of this Egyptian sample, averaged across the seven age groups, is estimated as 85. While the present results are congruent with those of several other recent studies in producing IQ estimates in the 80s, the earlier study that can best be compared with the present

one is Wachs et al. (1995). Like the present one, this early study was performed with village children in northern Egypt. It found that the average CPM raw score for children aged 7.0–10.1 years was 15.01 for boys and 13.44 for girls. This corresponds to British-scaled IQs of 60 for boys and less than 60 for girls according to 2007 British norms, and approximately 78 and 72 according to 1982 British norms. The difference in scaled IQs is caused by strong secular gains (Flynn effects) for low-scoring British children between 1982 and 2007.

Comparison of the two Egyptian studies suggests marked improvement in the cognitive level of Egyptian village children over the last 25 years, from the early 1990s to 2017. Based on raw score differences and the standard deviations in Table 1, the IQ gain appears to amount to at least one (Egyptian) standard deviation. In addition, the sex difference favoring boys is no longer present. The low IQs reported by Wachs et al. (1995) are not an outlier. A small study by von der Lippe (1999), performed 1994/95 in working-class neighborhoods of Cairo, reported scores on Raven's Standard Progressive Matrices (SPM) that were far below the British norming range. In this study the mean SPM score of mothers was 22.25 out of 60, range 9-49. Together, these results suggest that there have been substantial Flynn effects among rural and working class Egyptians in recent decades. Rising exposure to formal schooling (see www.barrolee.com), and possibly rising educational standards, are likely causes. Schooling is the most firmly established environmental determinant of cognitive abilities in Western countries (Ritchie & Tucker-Drob, 2017), and is therefore a plausible cause of Flynn effects in developing countries today.

Second, the IQs of the Egyptian children declined with age. The 5 and 6 year olds obtained IQs of 97.5, the 7 to 10 year olds obtained IQs between 80 and 85, and the 11 year olds obtained an IQ of 70. This decline of British-scaled IQs with age has been reported in some other Middle East countries including Syria, the United Arab Emirates and Yemen (Khaleefa & Lynn, 2008a,b,c). A possible explanation for the younger children performing better than the older ones is that the initial and easier items in the test are measures of visualization ability while the later items are measures of abstract reasoning ability (Lynn, Allik & Irwing, 2004). It is abstract reasoning ability that has improved most with modernization in Western countries (Flynn, 2007).

Another possible reason why older children in Middle East countries do worse than younger ones according to British norms is that environments are less cognitively stimulating in the Middle East than in Britain. If so, this is predicted to have a cumulative effect as children grow older. It would be consistent with Jensen's (1977) cumulative deficit hypothesis stating that an adverse environment has a depressing effect on intelligence that increases with age and

that he demonstrated for blacks in the rural South of the United States. If this interpretation is correct, there are still ample opportunities to raise the intelligence of Egyptian school children. Because the observed IQ decline occurs during school age, deficiencies in the school system can be hypothesized as a likely cause of the cumulative deficit. Further improvements in the school system are therefore likely to produce large benefits.

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