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A Study of the Colored Progressive Matrices in Kuwait

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The Colored Progressive Matrices was standardized in Kuwait in 1985 on a sample of 2,000 children aged 6.5 to 10.5 years. The sample obtained a British IQ of 92. Results show a decline in performance with increasing age.

Key Words: Kuwait, Colored Progressive Matrices, intelligence.

A research program to collect IQs for all nations in the world was initiated by Lynn (1978) and has been extended in a number of subsequent publications summarized most recently by Lynn and Vanhanen (2012). In these studies national IQs are calculated in relation to a British mean of 100 and standard deviation of 15 and are designated "British IQs," also known as "Greenwich IQ." These national IQs are significantly associated with a number of social and economic phenomena including educational attainment, per capita income, infant mortality and democratic institutions (Lynn and Vanhanen, 2012). This nexus is important especially in development economics. Although the direction of causation needs to be further investigated, it is plausible that IQ is not merely a consequence of economic development and educational penetration. We rather

postulate that intelligence is an important cause of economic, social and political developments.

Two studies of the IQ in Kuwait are given by Lynn and Vanhanen (2012) in their most recent compilation of national IQs. The first of these reported an IQ of 86 obtained on the Standard Progressive Matrices test by a sample of 6529 children aged 6-15 years (Abdel-Khalek and Lynn, 2006). The second reported an IQ of 87 obtained on the Standard Progressive Matrices test by a sample of 8410 children aged 7-17 years (Abdel-Khalek and Raven, 2008). In this paper we add to this research program by summarizing a study of intelligence in Kuwait measured with the Colored Progressive Matrices.

Method

Test

Intelligence was measured with Raven's Colored Progressive Matrices (CPM), a 36-item nonverbal test of figural reasoning (Raven, Raven & Court, 1998). While the easier items require abilities of pattern recognition and matching, as well as a sense of symmetry, the later and more difficult items require abstract reasoning ability. The CPM is the child version of the Raven tests, similar to the Standard Progressive Matrices (SPM) for older children and adults but with greater reliance on visual as opposed to reasoning ability.

Sample

The test was administered without time limit in Kuwait in 1984-1986 to a representative sample of 2000 children aged 6.5 -10.5 years by Abdel Fatah Al-Qurashi (1987). 2% of the sample were mentally retarded, as in Western populations. The study does not give information on how the sample was selected. The study was published in Arabic.

Results

The results are given in Table 1. This shows for each of the five age groups the mean score of the sample, the corresponding British percentile in the 1982 British standardization sample given in Raven & Court (1990), and the IQ equivalents of the percentiles. The average mean British IQ of the total sample is 92.

Discussion

The British IQ of 92.7 obtained in the present study requires a slight reduction by approximately one point because the test was administered in Kuwait in 1985, three years after the British standardization in 1982. On the CPM test, the British

Table 1. *The Colored Progressive Matrices data for Kuwait*

Age	Mean	SD	British Pc	British IQ
6.5	17.5	5.4	50	100.0
7.5	18.7	5.5	38	95.5
8.5	20.9	6.3	31	92.5
9.5	22.8	5.9	19	89.0
10.5	24.2	6.3	18	86.3

IQ for children aged 6.5 to 10.5 years increased by approximately 8.7 points between 1982 and 2007, or 0.35 points per year (Lynn, 2009). Therefore we propose 92 as the best estimate for the IQ in Kuwait at the time of the study, 1984-1986.

The IQ of 92 obtained in the present study is higher than the averages of 86 and 87 obtained in the two previous studies of the IQ in Kuwait summarized in the introduction, which both used the SPM rather than the CPM. The higher IQ of 92 obtained in the present study can most likely be attributed to the younger age of the sample. Table 1 shows that compared to British children, younger children in Kuwait performed better than older children. A trend for younger children to obtain higher British-scaled IQs than older children has also been reported for other Middle Eastern countries including Syria and the United Arab Emirates (Khaleefa and Lynn, 2008a, 2008b). A possible explanation for the better performance of younger children in these Middle Eastern countries is that for young children most of the discrimination occurs on the initial and easier items in the Progressive Matrices, which are largely measures of visualization ability. At older ages, scores reflect mainly the performance on the more difficult items, which measure abstract reasoning ability (Lynn, Allik and Irwing, 2004). It is abstract reasoning ability that has improved most with modernization in Western countries (Flynn, 2007).

One possible explanation for lower reasoning ability of older children and adults in many non-Western countries may be that schools in Britain and other economically developed nations provide a more cognitively stimulating education, giving Western children a cumulative advantage as they grow older. This explanation conforms to Jensen's (1974) cumulative deficit hypothesis. Jensen observed that relative to white standards, the intelligence of black children declined with age in the rural South of the United States (but not in California), and hypothesized that an adverse environment has a depressing effect on intelligence that increases with age.

The rather high ability level of the youngest age groups in our study, which have had little exposure to the school system, is remarkable. According to the

Barro-Lee data set (www.barrolee.com), at the time of the study in 1985 the average length of schooling in the parents' generation (assumed to be born 1945-1950 on average) was only 5.6 years. 48% of the parents had never been in school at all. We can therefore expect that the home environment of many of the children was far from optimal for the development of their intelligence, but we don't see the expected low performance, not at least on the nonverbal CPM test. It is possible that the abilities that are measured with this test, which are mainly visual rather than abstract and conceptual in this age group, are not much affected by the intellectual sophistication of the early home environment. Clearly, more studies in developing countries are needed to determine which aspects of intelligence are affected by the early home environment and which are not.

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