

Norms for the Standard Progressive Matrices in Qatar

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Data for a recent standardization of the Progressive Matrices in Qatar for the ages 6 through 11 are presented. The results show that the mean IQ relative to that in Britain is approximately 88. The variance of the girls is greater than that of the boys.

Key Words: Intelligence; Progressive Matrices; Qatar; Variance.

Mean IQs for a nine countries in the Middle East have been reported in Lynn (2006) and Lynn and Vanhanen (2006). These IQs have been calculated in relation to a mean IQ of 100 (standard deviation of 15) in Britain. The countries for which these data have been reported are Egypt (IQ = 81), Iran (84), Iraq (87), Israel (95), Jordan (84), Kuwait (86), Lebanon (82), Qatar (78), Syria (83), Turkey (90), and Yemen (85). Thus, apart from Israel which has a large number of European immigrants, the IQs of these countries lie in the range between 78 (in Qatar) and 90 (in Turkey), and have a median value of 83. Some critics of these figures have contended that they are unreliable. The best way to examine this criticism is to examine further data and see whether they are consistent with those already published. In this paper we summarize a new study of this kind in Qatar. The IQ of 78 reported for Qatar is derived from a standardization of the Progressive Matrices on a sample of 273 10-13 year olds by Bart, Kamal & Lane (1987).

Method

The Standard Progressive Matrices has been standardized in Qatar by Al-Thani (2001) for a representative sample of 1135 (males, N=517; females, N=618) aged 6.0 through 11.6 years). The data are presented in a master's thesis awarded by Umm Al-Qura University, Saudi Arabia. The thesis is written in Arabic

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and therefore difficult to access by western scholars.

Results

The numbers, means and standard deviations of 12 age groups are given in Table 1. The right hand column gives the British percentile equivalents (PCE) of the scores taken from the 1979 British standardization given by Raven (except for the 6.0 age group for which there are no British norms).

Table 1.
Norms for the Progressive Matrices in Qatar

<i>Age</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>British PCE</i>
6	53	13.66	2.86	-
6.6	105	14.81	3.61	36
7	95	16.36	4.45	45
7.6	108	17.65	6.14	32
8	95	21.02	8.55	38
8.6	82	23.36	8.78	25
9	113	25.81	9.54	33
9.6	100	27.75	9.35	27
10	95	30.64	9.80	22
10.6	70	31.72	9.44	19
11	130	34.08	8.58	23
11.6	89	36.39	8.22	26

The thesis does not give separate means for males and females for each single age group. However, it does the overall means for males and females as 23.7 (SD 9.98) for males and 25.7 (SD 11.34) for females.

The study reports a test-retest correlation coefficient of 0.89 for males, 0.95 for females and 0.93 for the total sample, and a split-half reliability of 0.84 for males, 0.88 for females and 0.87 for the total sample. The study also reports a test validity obtained as the correlation coefficient of 0.86 between the SPM and the Draw-a-Man test.

Discussion

The results provide four points of interest. First, they confirm the conclusion advanced in Lynn (2006) that average IQs in the Middle East are somewhat lower than in the economically developed nations of Europe and North America. The last column of Table 1 shows that this is true for these results from Qatar. The mean of the British percentile equivalents is 29.6 and this is equivalent to an IQ of 92. The IQ

in Britain measured by the Progressive Matrices has been increasing since the 1930s at about 2 IQ points a decade (Lynn & Hampson, 1986). The British IQ should have increased by 4 IQ points from 1979-1999. Adjusting for this (and assuming that the Qatar data were collected in 1999), 4 IQ points need to be deducted from the Qatar IQ, to give a figure of 88.

Second, the IQ of 88 estimated from this study is somewhat higher than the IQ of 78 reported for 10-13 year olds in Qatar by Bart, Kamal & Lane (1987). However, as noted in the introduction, the median IQ of the middle east countries is 83. Thus, the Qatar IQ obtained by Bart et al. is 5 IQ points lower than the median, while the Qatar IQ obtained in the present study is 5 IQ points higher than the median. It looks as if these differences are due to sampling or administration errors and that the best reading for a Qatar IQ is obtained by averaging the two results to give an IQ of 83, precisely the same as the median of other countries in the middle east.

Third, the 6 to 8 year olds performed better, in relation to British norms, than the older children. This confirms results reported for Syria and the United Arab Emirates (Khaleefa & Lynn, 2008a, 2008b). Possibly the explanation for the younger children performing better than the older 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 and Irwing, 2004). It is abstract reasoning ability that has improved most with modernization in western countries (Flynn, 2007). Another possible factor may be that young Qatari children do better than older ones because the West provides a more cognitively stimulating environment, and this has a cumulative advantageous effect as children grow older.

Fourth, the standard deviation of the girls is greater than that of the boys, showing that the variance of girls is greater. The difference is normally expressed as the variance ratio (VR), calculated by dividing the boys' variance by the girls' variance. Thus, a VR greater than 1.0 shows that boys have greater variance than girls, while a VR less than 1.0 shows that girls have greater variance than boys. In the present data, the VR is 0.77, showing that the girls have greater variance than boys. This is contrary to the frequent assertion that males have greater variance than females. This contention was advanced in the early years of the twentieth century by Havelock Ellis (1904),

Thorndike (1910) and Terman (1916) to explain why men are so greatly over-represented among geniuses, when there is apparently no sex difference in general intelligence. The theory that there is greater variability among males entailing more males among those with very high intelligence (as well as more males with very low intelligence) seemed to provide a solution to this problem. This hypothesis has come to be widely accepted. For instance “While men and women average pretty much the same IQ score, men have always shown more variability in intelligence. In other words, there are more males than females with very high IQs and very low IQs” (Eysenck, 1981, p.42; “the consistent story has been that men and women have nearly identical IQs but that men have a broader distribution...the larger variation among men means that there are more men than women at either extreme of the IQ distribution” (Herrnstein and Murray, 1994, p. 275); “males are more variable than females” (Lehrke, 1997, p.140); “males’ scores are more variable on most tests than are those of females” (Jensen, 1998, p.537); and, more cautiously, “there is some evidence for slightly greater male variability” (Lubinski, 2000, p.416).

The present results fail to support the theory of greater male variability. Five other studies of the Progressive Matrices in the Middle East and north Africa have also failed to confirm the theory. Thus, there was no sex difference in variability was found in Syria, the United Arab Emirates, Yemen, Sudan and Libya (Khaleefa & Lynn, 2008a; Khaleefa & Lynn, 2008b; Khaleefa & Lynn, 2008c; Khaleefa, Khatib, Mutwakkil & Lynn, 2008; Lynn, Abdalla & Al-Shahomee, 2008). It is beginning to appear that the hypothesis of greater male variability of intelligence is another beautiful theory spoiled by some ugly facts.

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