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Short Communication

Sex differences in the intelligence of students at an Egyptian university

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ABSTRACT

Results are reported for intelligence assessed with the Advanced Progressive Matrices of a sample of 1502 students at an Egyptian university. The men obtained a British IQ of 103.8 and the women a British IQ of 101.0. The men students had greater variability than the women students.

1. Introduction

There have been two studies of sex differences in the intelligence of university students in Egypt. The first reported results for a sample from the arts faculty of the University of Alexandria, and from the Higher Institute of Social Work in Alexandria (Abdel-Khalek, 1988). Intelligence was measured by the Standard Progressive Matrices. The men students obtained an average score of 44.2, equivalent to the 10th percentile on the 1992 British standardization sample given in Raven, Court and Raven (1994, p.73) and a British IQ of 81. The women students obtained an average score of 40.8, equivalent to the 7th percentile on the 1992 British standardization sample given in Raven et al. (1994, p.73) and a British IQ of 78. These IQs should be raised by 1 IQ point because the Egyptian data were obtained six years before the British standardization data, giving the men students a British IQ of 82 and the women students a British IQ of 79.

The second study reported results for a sample of under-graduates and post-graduates in the faculty of education at Ain-Shams University in Cairo. Ain-Shams is a state university and is widely regarded as the third university in terms of status in Egypt. The sample was tested in the year 2000 and consisted of 586 men and 1561 women and was tested with the Standard Progressive Matrices (Abdel-Khalek, Nour-Eddin, & Lynn, 2015). The sample obtained a British IQ of 81 and men students obtained an average score of 44.83 and the women students obtained an average score of 44.28. The male advantage .058*d* (standard deviation units) and is equivalent to .87 IQ points.

We report here the results of a more recent study of the intelligence of university students in Egypt in order to ascertain whether scores have increased over time, and whether the higher scores obtained by men are still present.

2. Method

The sample consisted of 1502 students (643 men and 859 women). with a mean age of 20 years at Minia University in Egypt. Minia University was established in 1976 in the city of Minya in the south of Egypt. The sample was drawn from the nine major faculties listed in Table 1. Intelligence was assessed in 2014–2015 with the Advanced Progressive Matrices, a non-verbal reasoning test described by Raven, Court and Raven (1994) and a more difficult version of the Standard Progressive Matrices. The test consists of Part 1 which is given for practice and Part 2 consisting of 36 items which are scored to give the norms.

3. Results

Table 1 gives the numbers, mean scores and standard deviations of the students in the nine major faculties. There are no statistically significant differences between the means across the faculties. Table 2 gives the numbers, means and standard deviations of the men and women, the equivalent British percentiles and the British IQs given for the 1982 norms in Raven et al. (1994, Table APM XIII). The higher mean score obtained by men is statistically significant with $t = 4.31$, $p < .001$).

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Table 1
Advanced Progressive Matrices scores of students at Minia University.

Faculty	N	Mean (SD)	Faculty	N	Mean (SD)
Education	197	22.06 (5.98)	Agriculture	195	23.31 (5.90)
Special education	211	22.15 (5.24)	Medicine	171	25.33 (5.73)
Kindergarten	126	20.34 (6.12)	Arts	159	24.08 (5.92)
Pharmacy	136	24.01 (6.36)	Islamic studies	137	23.26 (5.90)
Engineering	170	25.14 (5.16)	Total	1502	23.31 (5.96)

Table 2
Advanced Progressive Matrices scores of men and women students at Minia University.

	Men	Women
N	643	859
Score	24.08	22.74
SD	6.05	5.83
British PC	60	53
British IQ	103.8	101.0

4. Discussion

The results show three interesting features. First, the British IQ of 102.4, as the average of the men and women students, is much higher than the British IQ of 80.5 obtained for university students in the mid-1980s by Abdel-Khalek (1988) and the British IQ of 81 obtained for university students in 2000 in the faculty of education at Ain-Shams University in Cairo by Abdel-Khalek et al. (2015). The higher British IQ obtained by the present sample may be attributable to an increase in the British IQ of Egyptian students, but alternatively it may be attributable to the differences in the samples. The two earlier studies were based on samples from arts and education students and these typically obtain lower IQs than science students. In the Ain-Shams University study, science students obtained a British IQ of 91 and arts students obtained a British IQ of 79.

Second, the men obtained a significantly higher IQ than the women by 2.8 points. This confirms the results of the meta-analysis of 22 studies of sex differences in university students of the Progressive Matrices by Irwing and Lynn (2005) showing that men obtained a higher IQ by an average of 4.6 IQ points.

Third, the men students had greater variability than the women students shown by their greater standard deviation of 6.05 compared with 5.83. This confirms the results of the meta-analysis of sex differences in university students of the Progressive Matrices by Irwing and Lynn (2005) and the frequent contention that males have greater variability than females that has been made from the early years of the twentieth century, e.g., by Havelock Ellis (1904), Thorndike (1910) and Terman (1916).

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