

SOME INTELLIGENCE AND PERSONALITY DATA OF SINGAPORE MEDICAL STUDENTS

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SYNOPSIS

The intelligence and personality scores of 91 Singapore (4th year) medical students as measured by the Raven Progressive Matrices and the Eysenck Personality Inventory were analysed according to ethnic grouping, age and sex. The results show no significant differences in intelligence and personality characteristics among the ethnic groups and between the sexes except on one measure where males were found to be significantly more extraverted than females. No significant correlation was found between age and personality factors but there was a significant negative correlation between intelligence and age. Singapore medical students were found to be of "superior" intellectual status. Cross-cultural comparison shows that there were no significant differences in personality between British and Singapore medical students. Australian medical students were found to have a lower "neuroticism" score than their Singapore counterparts.

INTRODUCTION

The purpose of this study is to present some data on the intelligence and personality of students studying medicine at the University of Singapore. Such data will be examined in relation to ethnic grouping, age and sex. The potential value of such data lies in an appreciation of psychological factors associated with mental health and academic performance.

The study also made possible a comparison of intellectual level and personality factors of Singapore medical students with those of Australia and Britain where similar or the same tests had been applied. For instance, Mowbray and Davies (1968) have made a survey of Australian medical students with the E.P.I. (Form B). Eysenck & Eysenck (1964) have included a small sample of medical students in their normative data of the E.P.I.

MATERIALS AND METHODS

The Tests

The Raven (1956) Progressive Matrices (R.P.M.), a non-verbal test of intelligence, is regarded by most British psychologists as the best available measure of Spearman's 'g' factor. The test consists of 60 designs each of which has a small segment removed. The subject has to choose the missing part from 6 to 8 given alternatives. The test involves accuracy of discrimination, reasoning by analogy, permutation, and logical relations.

Time limit may or may not be imposed. This test is deemed most suitable for the Singapore population as it minimises any cultural bias among the ethnic groups.

The Eysenck Personality Inventory (E.P.I.) is a questionnaire of 114 Yes-No items (Forms A & B) constructed to measure two orthogonal dimensions of personality: extraversion-introversion (E) and neuroticism or emotional stability (N). The E and N scales are claimed by Eysenck & Eysenck (1964, p. 12) to be independent for all practical purposes. The inventory also contains an 18 item lie (L) scale which may be used to measure or eliminate subjects showing "desirability response set" or "faking".

The Sample

91 fourth year medical students were examined by the R.P.M. and E.P.I. (Forms A & B) when they attended their lectures in psychology during December 1970 to March 1972. Of these 91 students, 76 were males and 15 females; 85 were Chinese, 3 Malays and 6 Indians/Ceylonese/Pakistanis. The mean age of the sample was 22.84 years (S.D. = 0.93).

RESULTS AND DISCUSSION

The mean R.P.M. raw score of the group is 55.61 (S.D. = 2.62) which is in the I.Q. range of 125-135+ (ACER Manual for Standard Progressive Matrices, p. 12). It is necessary to note that the I.Q. range quoted here is for timed (20 minutes) testing (1938 edition of the R.P.M.) whereas no time limit was imposed on this sample. However, most of the subjects completed the test in about 30 minutes.

The data obtained show no significant differences in intelligence and personality characteristics among the ethnic groups. Intellectually, there is no significant difference between the sexes. On personality factors, there are again no significant differences except on one measure E_A (i.e. E on Form A of the E.P.I.). Here it was found that males are significantly more extraverted than females ($t = 1.98$, d.f. = 89, $p < .05$).

No significant correlation is found between age and personality factors in this study. However, scores on the R.P.M. show a significant ($r = -0.229$, $p < .05$) downward trend with age. This negative correlation is in line with established observation that intellectual efficiency declines with increasing age after intellectual maturation.

Cross-cultural Comparison

TABLE I

R.P.M. SCORES OF SINGAPORE (MEDICAL) AND AUSTRALIAN (UNIVERSITY) STUDENTS

	N	\bar{X}	S.D.	IQ Range
S'pore Med. Students	91	55.61	2.62	125 - 135+
Aust. Univ. Students*	115	51.06	4.06	115 - 129

*ACER Manual, p. 19.

Table I presents the scores of Singapore medical students (on the 1956 ed. R.P.M.) and a mixed group of Australian University students (on the 1938 ed. R.P.M.) which included 23 medical students. No British figures were obtained in this study. The data show a significant difference

($t = 9.27$, d.f. = 204, $p < .001$) between the two groups. It must of course be noted that the two populations are not quite the same despite the fact that there were 23 medical students in the Australian group. In addition, the scores of the Australian subjects were obtained via the 1938 R.P.M. under timed testing condition. The 1956 R.P.M. is only slightly different from the 1938 version.

Nevertheless, the results show that Singapore medical students are of "superior" intellectual status by an internationally accepted method and standard of intellectual assessment.

Table II presents the E.P.I. scores of British (Eysenck & Eysenck, 1964), Australian (Mowbray & Davies, 1968) and Singapore medical students. Except for the British group, both the Australian and Singapore subjects are fourth year students. The data suggest there are no significant differences in personality between British and Singapore medical students as measured by the full E.P.I. (Forms A & B). However, the Australian medical students had a significantly lower mean N_B (i.e. N on Form B of the E.P.I.) score than their Singapore counterparts ($t = 2.95$, d.f. = 542, $p < .01$). This does not mean that Singapore medical students are more "neurotic". For comparison, data from the Manual of the E.P.I. (Eysenck & Eysenck, 1964) shows that the mean N_B score of the British normative group of 2,000 is given as 10.523 (S.D. = 4.708) which is slightly higher than the N_B score (mean = 9.428, S.D. = 5.256) of the Singapore medical students. In other words, the Singapore medical students are relatively more stable emotionally than the average Britisher.

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TABLE II

E.P.I. SCORES OF BRITISH, AUSTRALIAN AND SINGAPORE MEDICAL STUDENTS

	N	Age (Yrs.)	Form A			Form B			Forms A & B		
			E	N	L	E	N	L	E	N	L
British*	13	$\bar{X} = 20.846$ S.D. = 4.356	10.769 3.700	9.231 3.833	— —	13.615 3.664	9.077 3.616	— —	24.385 6.983	18.308 7.052	— —
Australian†	453	$\bar{X} = 20.97$ S.D. = 3.70	— —	— —	— —	13.05 4.3	7.91 4.3	— —	— —	— —	— —
Singapore	91	$\bar{X} = 22.84$ S.D. = 0.93	10.318 3.851	8.670 5.051	2.565 1.637	12.695 3.236	9.428 5.256	1.274 1.334	23.252 6.760	18.044 9.638	3.593 2.362

*L scores not available for medical students but Eysenck & Eysenck (1964) gave the following: 651 Ss. on $L_A = (\bar{X} = 2.263$, S.D. = 1.572); 329 Ss. on $L_B = (\bar{X} = 1.383$, S.D. = 1.354) and $L_{A\&B} = (\bar{X} = 3.565$, S.D. = 2.475).

†Data not available for Form A and Form A & B.

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