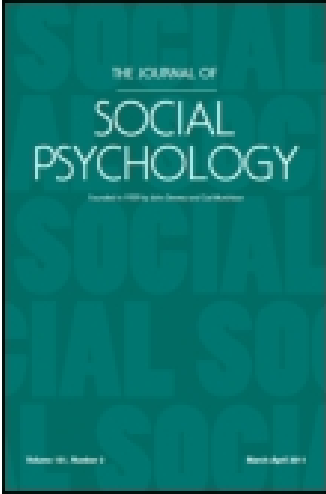


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### The Universality of Typology: A Comparison between English and Japanese Schoolchildren

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THE UNIVERSALITY OF TYPOLOGY: A COMPARISON  
BETWEEN ENGLISH AND JAPANESE SCHOOLCHILDREN\*

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SUMMARY

A study was undertaken comparing the responses of schoolchildren (ages 10-15 years) in Japan ( $N = 1091$ ) with those in England ( $N = 2320$ ) on the Eysenck Personality Questionnaire. Factor analyses showed that identical factors could be found in both samples, corresponding to P (psychoticism), E (extraversion), N (neuroticism), and L (a Lie or dissimulation factor, also often interpreted as a factor measuring conformity). Several items in each factor showed a lack of correspondence in loading pattern between the countries and had to be substituted by others in order to obtain scales useful for measurement of personality in Japan. Reduced scales were also constructed from items having similar loading patterns for the two countries, and comparisons made between the two groups on these scales. Japanese children had very significantly higher P scores, but did not differ appreciably with respect to E, N, and L from English children.

A. INTRODUCTION

In a previous paper, we have reported a comparison between Japanese and English students and schoolchildren with respect to personality factors E (extraversion), N (neuroticism), and P (psychoticism). Japanese scored higher than English on P and N, and lower on E (10). Eysenck (3) suggested that some of these differences might be genetic, and adduced some data on bloodgroup polymorphisms to support this hypothesis. These studies leave unanswered a very important question which is fundamental to any comparison between different cultural groups: namely, the question

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<sup>1</sup> Details of the new scales can be obtained from Professor Iwawaki, at the first address shown at the end of this article.

<sup>2</sup> Requests for reprints should be sent to Professor H. J. Eysenck at the second address shown at the end of this article.

of whether identical concepts can be postulated to underlie the personality description appropriate to inhabitants of the two countries compared. The present study aims to answer this question only for Japanese and English schoolchildren.

The method has already been employed in a series of studies investigating national differences between English and Nigerian (7), Yugoslav (11), Indian (8), Greek (2), New Zealand (14), and other groups. It is based on the same principles as the isolation of factors or dimensions of personality in the first place: i.e., a factor analysis of the intercorrelations between items in the questionnaire used (4). Results from two populations (two countries, men *vs.* women, working class *vs.* middle class) are only comparable if the two matrices of intercorrelations are identical within the limits of the sampling error. For practical purposes this requirement has been restated to read that two populations can be compared with respect to personality factors if and only if indices of factor comparison are in excess of .95, and preferably in excess of .98. This shows that the structure of personality in the two countries is identical (or sufficiently close to identity to make comparisons meaningful).

It is by no means certain or even likely that such identity would be found. Several attempts have been made to replicate Cattell's 16PF structure in other countries, such as England (4), Germany (9, 15), and even within the U.S.A. itself (1, 13), but the outcome has been universally negative, with factors emerging which have borne only the faintest resemblance to those postulated by Cattell. If this is so when studies are replicated in the original countries in which the typology originated, or in countries like England and Germany which are culturally very close to the U.S.A., then it can clearly not be taken for granted that comparisons between two countries as unlike each other as England and Japan can fruitfully be made.

#### B. METHOD

The present study used the J.E.P.Q. (5): i.e., the Junior version of the Eysenck Personality Questionnaire, on samples of Japanese school children. Results from these are being compared with the results obtained from the English standardization groups ( $N = 2320$  boys and girls) and reported in detail in Eysenck and Eysenck (5, 6). The items of the questionnaire were translated into Japanese, and the resulting inventory administered to 261 boys and 228 girls; these children constituted the first sample. The sec-

ond sample of 304 boys and 298 girls was collected in order to determine whether differences between the English and Japanese groups found in the first sample were not sampling accidents, but could be replicated. As the second sample behaved very much like the first, we shall report here only the results from the total sample of 565 boys and 526 girls. The mean age of the boys was 12.76, *SD* 1.69, and that of the girls 12.74, *SD* 1.74. Ages ranged from 10 to 15 years.

### C. RESULTS

#### 1. *Factor Comparisons and Scores*

Item correlations (phi coefficients) were run for the boys and girls separately, and the resulting matrices factor analyzed by the method of principal components, with subsequent rotation by means of Varimax followed by Promax. Four factors in all were rotated as the questionnaire had been designed explicitly to measure four factors: Psychoticism (P), extraversion (E), Neuroticism (N), and L (a lie scale, included to measure dissimulation). Table 1 sets out the indices of factor comparison, with the use of a formula given in Eysenck and Eysenck (4). We have compared Japanese boys and Japanese girls; Japanese boys and English boys, and Japanese girls and English girls. The indices for the cross-cultural comparisons are satisfactory; with the exception of the L scale value for the boys, they all exceed our criterion of .95, and half exceed the more severe criterion of .98. In the original first sample, the value for the L scale, for the boys, was .971; it is not clear why the addition of the second sample should have reduced the value so much, but it seems likely that this is a sampling accident, and hence a statistical artifact rather than a genuine discrepancy.

It is also not clear why the comparison between the Japanese boys and girls should result in relatively low indices of factor comparison for the P and L scales; again the values were much higher (.941 and .939) in the first sample than they are in the combined sample. Possibly we are dealing with

TABLE 1  
INDICES OF FACTOR COMPARISON FOR JAPANESE AND ENGLISH CHILDREN

Comparison	P	E	N	L
Japanese boys <i>vs.</i> Japanese girls:	.855	.990	.982	.875
Japanese boys <i>vs.</i> English boys:	.955	.987	.989	.893
Japanese girls <i>vs.</i> English girls:	.974	.999	.945	.980

*Note:* Data for English children are from Eysenck and Eysenck (5, 6). P = psychoticism; E = extraversion; N = neuroticism; and L = Lie Scale.

a quirk of sampling, but only a repetition of the study will enable us to be certain on this point.

In spite of the high indices of factor comparisons, there were in each scale individual items which had high loadings on one factor in the original English sample, but low loadings on either the Japanese boys, or girls, or both. Conversely, some items had high loadings for the Japanese groups which had originally not had high loadings in the English groups and had not therefore been included in the scales. New scales were constructed for the Japanese culture, excluding items having low loadings and including items having high loadings.

Table 2 shows the reliabilities of the new scales for Japanese boys and girls. The values range from a low of .66 for P in the girls to a high of .81 for N in the boys. The values are not dissimilar to the English ones and suggest that the scales are potentially useful, since internal consistency is neither too high (with corresponding item redundancy) nor too low (with corresponding lack of homogeneity).

Intercorrelations between the scales were calculated for Japanese boys and girls. Apart from the P *vs.* L correlations, which are negative ( $-.31$  and  $-.25$ ), and the E *vs.* N correlation ( $-.17$  and  $-.25$ ), all the others are small or negligible. Altogether the pattern is very similar to that seen with

TABLE 2  
RELIABILITIES (ALPHA COEFFICIENTS) AND MEAN SCORES FOR JAPANESE AND ENGLISH BOYS AND GIRLS ON PSYCHOTICISM (P), EXTRAVERSION (E), NEUROTICISM (N), AND LIE (L) SCALES

Scale	Reli- ability	Boys		Reli- ability	Girls	
		Mean	SD		Mean	SD
Japanese (new scales)						
P	.70	7.11	3.42	.66	5.34	2.99
E	.78	14.96	3.64	.74	15.67	3.20
N	.81	9.18	4.37	.80	10.41	4.26
L	.71	7.06	3.29	.72	7.42	3.26
Japanese (reduced scale)						
P	.63	4.04	2.54	.54	2.77	2.03
E	.77	12.78	3.26	.73	13.26	2.82
N	.76	6.80	3.15	.73	7.90	2.91
L	.68	6.36	3.03	.67	6.56	2.81
English (reduced scale) <sup>a</sup>						
P	.54	2.90	2.10	.51	1.36	1.49
E	.69	13.23	2.67	.64	13.19	2.45
N	.76	6.45	3.24	.76	7.80	3.16
L	.82	5.43	3.83	.81	6.15	3.78

<sup>a</sup> Data for English children are from Eysenck and Eysenck (5, 6).

English children. The low correlation between N and L ( $-.08$  and  $-.18$ ) suggests that little dissimulation has taken place; Michaelis and Eysenck (12) have shown that the size of this correlation (negative) is a monotonic function of motivation to dissimulation. L scores are therefore likely to measure conformity, rather than dissimulation.

Table 2 shows the mean scores and *SDs* of the Japanese boys and girls on the four new scales. These values cannot, of course, be compared directly with the English norms as the scales on which they are based are somewhat different; in the absence of more extensive data, they may serve as a preliminary standardization for Japanese children. Certain sex differences appear, with girls having high scores on N and on L. English children, too, showed these differences, in the same direction. It is unusual to find that on E, too, the girls have higher scores; in Western countries this has not been so.

## 2. *National Comparisons*

The data so far presented do not make possible a comparison between the two nations. In order to do this, a new score matrix was written, with the use of only those items for each factor which had substantial loadings on that factor for both nationalities, and for both sexes in each nationality. In this way we obtain, for each factor, a scale which is applicable to both groups equally. Clearly these scales are shorter than the original ones, because of the omission of items on which the two groups do not have congruent loadings, but in compensation the scores on these scales are properly comparable. The new P scale has 14 items, the new E scale has 18 items. The new reduced scales are likely to be less reliable, because of their shortness, but, of course, this is an inevitable feature of the method of construction.

Table 2 gives means and *SDs* for the scales, for the Japanese and English boys and girls; there are 344 English boys and 295 English girls, matched for age with the Japanese sample. First of all, we may compare boys and girls within each national group on these new scales. On P, boys have significantly higher scores in both groups ( $p < .001$ ). On E, there are no differences in the English groups; Japanese girls are slightly more extraverted than Japanese boys ( $p < .05$ ). For N, girls have higher scores in both groups ( $p < .001$ ). For L, girls have slightly higher scores in the English sample ( $p < .05$ ). Thus sex comparisons give rather similar differences in both cultures.

Comparing English and Japanese boys, and Japanese and English girls, the following differences are found. Japanese boys and girls have higher P scores than English boys and girls ( $p < .001$ ); there are no significant differences on N. English boys are very slightly more extraverted than Japanese boys ( $p < .05$ ), with the girls showing no difference. The L scores of Japanese boys are significantly higher than those of English boys ( $p < .001$ ); there are no differences for girls. This last result may be interpreted as indicating greater conformity among Japanese boys, as compared with English boys. All these results require confirmation from the study of other, larger samples, but they are not subject to criticisms which can be made of the use of raw scores on the original test. Admittedly, the reliabilities of the new scales (also given in Table 2) are not very high, particularly for the P scale, but for group comparisons they are not too unsatisfactory. Even with its low reliability, the P scale has given clear-cut and very significant differences, both by sex and by nationality.

#### D. DISCUSSION

The results of this study establish two important points fairly clearly. In the first place, it is apparent that identical factors emerged from the analysis of intercorrelations of the questionnaire items in the Japanese sample of schoolchildren as had originally emerged from a similar analysis of intercorrelations in an English sample; P, E, N, and L are as clear-cut and interpretable in the Japanese culture as they are in Western cultures, in India, and in Nigeria. Reliabilities, intercorrelations, and other properties of the scales are quite similar to those observed in English samples, and we may conclude that these scales are likely to be as useful for scientific and applied purposes in Japan as they have proved to be in Western countries.

In the second place, there are certain items which do not fit into the pattern, having loadings which deviate systematically from those found in England. This has necessitated the omission of certain items from the original scales, and the addition of other items. The new scales clearly measure the same psychological variables, but because of the alterations in the items we cannot compare directly mean scores between the two cultures. This does not detract from the value of the new scales as far as use in Japan is concerned.

A third point emerges with rather less clarity, following the reduction of the original scales by omitting items not showing similar loading patterns between the two nations. These new, reduced scales, it is suggested, can be



used for making proper comparisons between the nations; when this is done, the Japanese emerge as very significantly higher on P with E, N, and L showing little in the way of differences for either boys or girls. This finding must be regarded as suggestive only, until replicated on different samples from the two countries.

## REFERENCES

1. BECKER, W. C. A comparison of the factor structure and other properties of the 16PF and the Guilford-Martin inventories. *Educ. & Psychol. Meas.*, 1961, **21**, 393-404.
2. DIMITRIOU, E. C., & EYSENCK, S. B. G. National differences in personality: Greece and England. *Internat. J. Intercult. Relat.*, in press.
3. EYSENCK, H. J. National differences in personality as related to ABO blood group polymorphism. *Psychol. Rep.*, 1977, **41**, 1257-1258.
4. EYSENCK, H. J., & EYSENCK, S. B. G. *Personality Structure and Measurement*. London: Routledge & Kegan Paul, 1969.
5. ———. *Manual of the E.P.Q.* London: Hodder & Stoughton, 1975.
6. ———. *Psychoticism as a Dimension of Personality*. London: Hodder & Stoughton, 1976.
7. EYSENCK, S. B. G., ADELAJA, O., & EYSENCK, H. J. A comparative study of personality in Nigerian and English subjects. *J. Soc. Psychol.*, 1977, **102**, 171-178.
8. EYSENCK, H. J., GUPTA, B. S., & EYSENCK, S. B. G. National differences in personality: India and England. *Ind. J. Psychol.*, in press.
9. GREIF, S. Untersuchungen zur deutschen Übersetzung des 16PF Fragebognes. *Psychol. Beiträge*, 1970, **12**, 186-213.
10. IWAWAKI, S., EYSENCK, S. B. G., & EYSENCK, H. J. Differences in personality between Japanese and English. *J. Soc. Psychol.*, 1977, **102**, 27-33.
11. LOJK, L., EYSENCK, S. B. G., & EYSENCK, H. J. National differences in personality: Yugoslavia and England. *Brit. J. Psychol.*, in press.
12. MICHAELIS, W., & EYSENCK, H. J. The determination of personality inventory factor patterns and intercorrelations by changes in real-life motivation. *J. Genet. Psychol.*, 1971, **118**, 223-234.
13. PETERSON, D. R. The age generality of personality factors derived from ratings. *Educ. & Psychol. Meas.*, 1960, **20**, 461-474.
14. SAKLOFSKE, D. H., & EYSENCK, S. B. G. Cross-cultural comparisons of personality: New Zealand children and English children. *Psychol. Rep.*, 1978, **42**, 1111-1116.
15. TIMM, U. Reliabilität und Faktoren Struktur von Cattell's 16 PF Test bei einer deutschen Stichprobe. *Zeit. für Exper. & Angewandte Psychol.*, 1968, **15**, 354-373.

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