

## Differential K Theory and race differences in E and N

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**Summary**—Differential K Theory was recently proposed relating personality to reproductive strategy (Rushton, 1985). The more K the person is (the symbol derives from population biology), the more he or she will delay reproductive effort, produce fewer children and more intensely care for them. Concomitant characteristics include intelligence, altruism, law-abidingness and behavioural restraint. Race differences are hypothesized such that, in terms of K, Mongoloids > Caucasoids > Negroids. Barratt and Eysenck (1984) recently published standardized Extraversion (E), Neuroticism (N), Psychoticism (P) and Social Desirability (L) scores for males and females from 25 different countries, but did not analyse the data in such a way that racial differences were found. In the current study Barratt and Eysenck's data are aggregated across sex and over countries to examine whether theoretical predictions regarding race differences in behavioural restraint do in fact occur. Behavioural restraint was indexed by low E and high N scores. The means for 8 Mongoloid samples ( $N = 4044$ ) were contrasted with those of 38 Caucasoid ( $N = 19,807$ ) and 4 Negroid ones ( $N = 1906$ ), and the resultant comparisons confirmed expectations. Mongoloids are lower on E and higher on N than Caucasoids, who in turn are lower in E and higher on N than Negroids.

### INTRODUCTION

Large-scale, systematic cross-cultural research in which different countries and racial groups are compared on equivalent forms of the same standardized tests are very rare, and yet are likely to substantially advance our understanding of human similarities and differences (see Eysenck, 1983; Eysenck and Eysenck, 1982). In keeping with these prescriptions, Barratt and Eysenck (1984) recently published valuable information on standardized Extraversion (E), Neuroticism (N), Psychoticism (P) and Social Desirability (Lie, L) scores from 25 different countries. To explore any patterning in their data, Barrett and Eysenck (1984) calculated the Euclidean distance of each country from each other country, using the four personality dimensions in combination to do so. Subsequently they carried out cluster analyses to examine whether these distances could be attributed to such variables as geographical location, temperature range or racial similarity. They concluded that the personality profiles eluded such renderings.

The failure of Barratt's and Eysenck's data to conform to meaningful classification in regard to race is surprising for there are both empirical and theoretical reasons for expecting race differences in personality. To anticipate, and summarize, in terms of 'behavioural restraint', it is expected that Mongoloids > Caucasoids > Negroids.

Empirical evidence on race differences has been reviewed by Freedman (1979), Rushton (1984a, b, 1985) and Vernon (1982). For example, Vernon (1982) described a large number of studies carried out to assess the personality of the Chinese and Japanese, both in their homelands and in North America. Many investigators gave university students standardized personality tests such as Cattell's Sixteen Personality Factor Questionnaire (16PF), the Edward's Personal Preference Schedule and the Eysenck Personality Questionnaire (EPQ). Other studies relied on naturalistic observation and interviews. The evidence consistently favoured the hypothesis that, on average, Asians were both more introverted and more anxious than Europeans, and less dominant and less aggressive. These differences also manifested themselves in play behaviour, with Oriental children being quieter, more cautious, and less competitive and aggressive than Euro-Americans. Correlates of these differences show up as early as 24 hr after birth, for Freedman (1979) documented race differences in activity level in newborns, such that Orientals are less active than Europeans who, in turn, are less active than Africans. Other racial differences (e.g. in law-abidingness and sexual precocity) show the same rank ordering (Rushton, 1985).

In order to explain this patterning, and other individual differences in life histories, social behaviour and physiological functioning, Differential K Theory was recently proposed (Rushton, 1984b, 1985). K refers to one end of the *r/K* continuum evolutionary biologists use to differentiate the reproductive strategies organisms engage in (Wilson, 1975). At the K end, organisms produce very few offspring but invest a large amount of parental care and energy into each. At the *r* end, organisms produce a large number of offspring but invest little or no parental care or energy into any one. As a species, humans are at the K end of the continuum (Lovejoy, 1981). Some people, however, are postulated to be more K than others. The more K a person is, the more likely he or she is to come from an intact family, in which there is more intensive parental care, with fewer and more widely spaced offspring and a lower incidence of multiple birthing and infant mortality. Ks will tend to have a longer gestation period, a higher birthweight, a delayed sexual maturation, a lower sex drive and a longer life. Moreover, the K person is inclined to be more intelligent, altruistic, law-abiding and behaviourally restrained. Thus diverse organismic characteristics, not otherwise relatable, are presumed to covary along the K dimension (Rushton, 1985). On the basis of what is known about race differences in activity level, behavioural restraint, developmental precocity, speed of sexual maturation, intelligence, law-abidingness and multiple birthing, it appears that, on average, Orientals are more K than Europeans, who, in turn, are more K than Africans (Rushton, 1985). Dizygotic twinning, for example, an index of 'litter size', reveals a rate per 1000 among Orientals of 4; among Europeans, 8; and among Africans, 16 (Bulmer, 1970).

Since K involves behavioural restraint, and assuming this is measured on the EPQ, why did Barratt and Eysenck (1984) not find supportive evidence from their cluster analyses? One reason may have been due to their inclusion in the Euclidean distance metric of the L and P scales, both of which were given equal weight to those of E and N, although both are reported to be less well understood (Eysenck and Eysenck, 1975). While a case could be made for including P and L in the discussion, since both relate to sexuality (Eysenck, 1976), a better case can be made for limiting the analysis to E and N. The rationale

for this choice is based on Gray's (1981, 1982) theorizing that individual differences in anxiety and E are linked to the inhibitory system of the brain. It is this system which has been postulated to underlie those racial differences in personality and K behaviour which can be summarized by the term 'behavioural restraint' (Rushton, 1985). It was decided therefore to limit the analysis to E and N, with the prediction being made that in E, Mongoloids < Caucasoids < Negroids, with the opposite pattern expected in N.

#### METHOD

Weighted averages for E and N were calculated for the three racial categories Mongoloid, Caucasoid and Negroid, from the 25 countries listed in Barratt and Eysenck's (1984) Table 2. Of those countries, four are primarily Mongoloid stock (China, Japan, Hong Kong and Singapore), two are Negroid (Nigeria, Uganda) and the remainder are primarily Caucasoid. While this latter category contains a heterogeneous mix (India, Egypt, Puerto Rico and Brazil, as well as many European nations), it was decided to include them all rather than appear selective in choice of country. However, the results do not differ if the 19 countries are replaced by a subset of north European ethnic background (e.g. Germany, France, U.K.) or other combinations. Since sex was not under consideration in this paper the groups were collapsed across males and females, thus providing the maximum number of data points from which to test the theory.

#### RESULTS AND DISCUSSION

The E and N scores for the three racial groups, calculated using weighted averages as discussed above, are shown, along with the sample sizes, in Table 1. As can be seen the predictions concerning the rank ordering of the races on E and N are confirmed. Unfortunately, since Barratt and Eysenck (1984) did not publish standard deviations it is not possible to supply statistical tests of significance to these data. However, the rank orders do remain constant regardless of whether we take unweighted means rather than weighted and with *N*s of this size and what we know of the standard deviations and norms for these dimensions uncorrected for length (Eysenck and Eysenck, 1975), even small differences would be significant.

Table 1. Racial differences in mean E and N scores based on weighted averages of male and female samples for 25 different countries (after Barratt and Eysenck, 1984)

	Mongoloids ( <i>N</i> = 4044)	Caucasoids ( <i>N</i> = 19,807)	Negroids ( <i>N</i> = 1906)
E	16.05	18.81	20.77
N	14.90	14.61	13.94

It is concluded that Mongoloids are more behaviourally restrained than Caucasoids who, in turn, are more so than Negroids. These findings are in accord with previous results and provide support for the Differential K Theory of race differences. Differential K Theory is, to the best of my knowledge, the first scientific theory to systematize racial differences in personality and relate them to evolutionary mechanisms. Since the theory makes clear *a priori* predictions (see Rushton, 1985), it offers an empirical goldmine for cross-cultural researchers. The study of racial variation has been much neglected by psychologists and we are left with either stereotypes (which may or may not be true), or impassioned polemics that no 'real' differences exist. Barratt and Eysenck (1984) have shown that meaningful cross-cultural investigations can be conducted using psychometrically reliable procedures, and it is to be hoped that their innovations will be emulated.

Explaining race differences may provide a useful catalyst for understanding individual differences, for the former constitutes an aggregate of the latter. In the Introduction, several traits were discussed on which race differences had been found (e.g. activity level, aggressiveness, anxiety, cautiousness, competitiveness, developmental and sexual precociousness, dominance and law-abidingness), and these were summarized under the general term 'behavioural restraint'. The relationship of most of these traits to the Eysenckian factors will be apparent. Alternative formulations, however, including those based on the brain inhibition system (Gray, 1981, 1982) may also prove fruitful. On the basis of the (limited) data in Table 1, in which E and N are negatively correlated, only one underlying mechanism need be implicated. Perhaps the scientific study of racial differences in behaviour will illuminate alternative accounts of the underlying structure of the personality, as well as other issues.

#### REFERENCES

- Barratt P. and Eysenck S. (1984) The assessment of personality factors across 25 countries. *Person. individ. Diff.* 5, 615-632.
- Bulmer M. G. (1970) *The Biology of Twinning in Man*. Clarendon Press, Oxford.
- Eysenck H. J. (1976) *Sex and Personality*. Open Books, London.
- Eysenck H. J. and Eysenck S. B. G. (1975) *Manual of the Eysenck Personality Questionnaire*. Hodden & Stoughton, London.
- Eysenck H. J. and Eysenck S. B. G. (1982) Recent advances in the cross-cultural study of personality. In *Advances in Personality Assessment* (Edited by Spielberger C. D. and Butcher J. N.). Erlbaum, Hillsdale, N.J.
- Eysenck S. B. G. (1983) One approach to cross-cultural studies of personality. *Aust. J. Psychol.* 35, 381-391.
- Freedman D. G. (1979) *Human Sociobiology: a Holistic Approach*. Free Press, New York.
- Gray J. A. (1981) A critique of Eysenck's theory of personality. In *A Model for Personality* (Edited by Eysenck H. J.). Springer, New York.
- Gray J. A. (1982) *The Neuropsychology of Anxiety: an Enquiry Into the Functions of the Septo-Hippocampal System*. OUP, New York.
- Lovejoy C. O. (1981) The origin of man. *Science* 211, 341-350.
- Rushton J. P. (1984a) Sociobiology: toward a theory of individual and group differences in personality and social behavior. In *Annals of Theoretical Psychology*, Vol. 2 (Edited by Royce J. R. and Mos L. P.). Plenum Press, New York.
- Rushton J. P. (1984b) Group differences, genetic similarity, and the importance of personality traits. In *Annals of Theoretical Psychology*, Vol. 2 (Edited by Royce J. R. and Mos L. P.). Plenum Press, New York.
- Rushton J. P. (1985) Differential K Theory: the sociobiology of individual and group differences. *Person. individ. Diff.* 6, 441-452.
- Vernon P. E. (1982) *The Abilities and Achievements of Orientals in North America*. Academic Press, New York.
- Wilson E. O. (1975) *Sociobiology: the New Synthesis*. Harvard Univ. Press, Cambridge, Mass.