

## LIFE-HISTORY COMPARISONS BETWEEN ORIENTALS AND WHITES AT A CANADIAN UNIVERSITY

J. PHILIPPE RUSHTON

Department of Psychology, University of Western Ontario, London, Ontario, Canada N6A 5C2

(Received 10 June 1991)

**Summary**—On questionnaires, Orientals scored lower than Whites in extraversion, sexuality, and delinquency although not in general intelligence, social class, speed of physical maturation, or neuroticism. Orientals also reported themselves wearing more corrective lenses and having a greater right hand preference. On ratings, both Orientals and Whites ranked Whites intermediate to Orientals and Blacks in intelligence, industriousness, activity, anxiety, rule-following, strength of the sex drive, and genital size, and Orientals as least sociable and least aggressive. With a tape measure, small positive correlations were found between head size and general intelligence in the Oriental sample ( $r = 0.14$ ) as well as the White ( $r = 0.21$ ) sample. No statistically significant difference was found in the absolute perimeter of the skull; with height covaried, Orientals were larger ( $P < 0.05$ ).

### INTRODUCTION

We have previously reported that a distinct racial pattern emerges with Caucasoids intermediate to Mongoloids and Negroids in reproductive behaviour, personality, brain size, intelligence, and social organization, whether assessed in Africa, Asia, Europe, or North America (Rushton, 1985, 1988, 1990, 1991; Rushton & Bogaert, 1987, 1988, 1989). For example, regardless of the country from which the samples are taken, the rate of dizygotic twinning per 1000 births is less than 4 among Mongoloids, 8 among Caucasoids, and 16 or greater among Negroids. Moreover, populations that produce the fewest gametes average the largest brains, whether measured by brain weight at autopsy, by endocranial volume, or by external head measurements. There is no known environmental factor capable of producing this inverse relationship or of causing so many variables to correlate in so comprehensive a fashion. There is, however, a genetic one: evolution.

Supportive evidence has been forthcoming (e.g. Ellis, 1987; Lynn, 1990a, b), with even some critics accepting the racial pattern whilst eschewing the gene-based theory (Mealey, 1990; Silverman, 1990). The work has also attracted a great deal of criticism, both in the journals where it appeared (e.g. Zuckerman & Brody, 1988; Lynn, 1989a, b; Cain & Vanderwolf, 1990; Leslie, 1990) and elsewhere (e.g. Flynn, 1989; Mealey, 1990; Silverman, 1990; Weizmann, Wiener, Wiesenthal & Ziegler, 1990; Zuckerman, 1990). Most of the criticism, however, merely deconstructed data into particulars and offered *post-hoc* alternative hypotheses for the scattered elements. It is essential to test the generality of the data base with new evidence.

### METHOD

#### *Subjects and procedure*

Seventy-three Oriental (42 female, 31 male) and 211 non-Oriental (112 female, 99 male) introductory psychology students with an average age of 20.3 yr participated over a 3-week period during the Fall term of 1988 (prior to the controversy and widespread publicity that arose over this work; see Gross, 1990). *Ss* were tested in groups of 30–80 in two separate testing sessions.

In the first session, lasting 2 hr, *Ss* completed a full-length intelligence test, the Multidimensional Aptitude Battery (Jackson, 1984). In the second session, lasting 3 hr, *Ss* completed the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975); the Sexual Opinion Survey (Fisher, Byrne, White & Kelley, 1988), the Self-Report Delinquency Scale (Rushton & Chrisjohn, 1981), and the Seriousness of Illness Rating Scale (Wylers, Masuda & Holmes, 1968), as well as self-report items assessing aspects of health, speed of maturation, sexual behaviour, and other life-history variables, many of which were similar to those used by Bogaert and Rushton (1989). Sex-combined composites were formed from many of these items: Family Health included health ratings of

various family members; Family Longevity included longevity ratings for various family members; Speed of Physical Maturation included age of puberty, age of pubic hair growth, age of menarche (for females), and age of first shaving (for males); Speed of Sexual Maturation included age of first masturbation, age of first petting, and age of first sexual intercourse; Reproductive Effort—Structures included size of genitalia, menstrual cycle length (for females), and amount of ejaculate (for males); Reproductive Effort—Behavioural included maximum number of orgasms in one 24 hr period, average number of orgasms per week, and maximum number of sexual partners in one month; and Family Altruism included parental marital status and self-ratings of altruism to family. Each *S* also rank ordered Blacks, Orientals, and Whites on several dimensions.

While filling out the questionnaires a measure of maximal head circumference was made using a stretchless tape. Made along the plane of the skull situated just above the ear, this is one of a number of standard skull size measurements and gives an indication of the size of the brain case (MacDougal, Wenger & Geen, 1982). Upon completion of the study, *Ss* were debriefed and received course credit.

## RESULTS

Sex-combined means and standard deviations for the variables are reported separately for Orientals and Whites in Table 1. An ANOVA was performed to test for differences between the races while statistically controlling for sex.

Table 1. Means and standard deviations for Oriental and White students

Variables	Orientals		Whites	
	Mean	SD	Mean	SD
Age (yr)	19.8	1.6	21.0	4.4**
Canadian birth (1 = yes; 2 = no)	1.8	0.4	1.1	0.3**
English first language (1 = yes; 2 = no)	1.7	0.4	1.1	0.2***
Height (inches)	65.7	3.3	67.7	3.8***
Weight (lb)	127.9	25.2	144.7	27.3***
Corrective lenses (1 = yes; 2 = no)	1.3	0.4	1.6	0.5***
Hand preference (1 = left; 7 = right)	6.7	0.9	6.0	1.8**
Father's educational level (1 = elementary; 5 = professional)	2.8	1.5	3.0	1.5
Family's socioeconomic background (1 = unskilled; 7 = wealthy)	4.5	1.6	4.8	1.5
Family Altruism (z-score)	0.4	1.4	0.2	1.3
Intelligence (General)	117.6	12.5	119.5	13.6
Intelligence (Verbal)	112.8	13.5	117.7	12.5**
Intelligence (Performance)	120.6	13.2	118.8	14.4
Head perimeter (mm)	568.4	21.5	567.5	20.1
Family Health (1 = poor; 7 = good)	3.8	0.5	3.8	0.5
Family Longevity (z-score)	-0.8	2.5	0.3	2.1
Seriousness of Illness Scale	35.9	19.2	42.1	17.9*
Speed of Physical Maturation (yr)	13.7	1.6	12.7	1.5
Speed of Sexual Maturation (yr)	15.9	1.9	15.2	2.0
Reproductive Effort—Structures (z-score)	-0.8	2.8	0.2	2.5**
Reproductive Effort—Behavioural (z-score)	-0.9	3.1	0.4	3.4**
Periodicity of sexual response, females only (1 = not periodic; 2 = periodic)	1.3	0.5	1.5	0.5*
Erotophobia—Erotophilia (high = erotophilia)	144.8	22.1	153.7	22.2**
Self-Report Delinquency	26.8	5.4	32.0	8.4***
EPQ—Extraversion	12.8	4.3	15.7	3.7***
EPQ—Psychoticism	4.6	2.4	3.2	2.4***
EPQ—Neuroticism	13.0	4.9	11.9	5.1
EPQ—Lie	6.9	2.9	6.4	3.5

\**P* = 0.05; \*\**P* = 0.01; \*\*\**P* = 0.001.

Table 2. Ranking of races on various dimensions by Orientals and Whites

	Oriental ranking of			White ranking of		
	Blacks	Whites	Orientals	Blacks	Whites	Orientals
Intelligence	2.86 <sup>a</sup>	1.98 <sup>b</sup>	1.08 <sup>c</sup>	2.92 <sup>a</sup>	1.84 <sup>b</sup>	1.23 <sup>c</sup>
Brain size	2.40 <sup>a</sup>	1.81 <sup>b</sup>	1.71 <sup>c</sup>	2.29 <sup>a</sup>	1.74 <sup>b</sup>	1.94 <sup>b</sup>
Industriousness	2.49 <sup>a</sup>	2.32 <sup>a</sup>	1.15 <sup>b</sup>	2.63 <sup>a</sup>	2.13 <sup>b</sup>	1.24 <sup>c</sup>
Activity	1.49 <sup>a</sup>	1.79 <sup>b</sup>	2.64 <sup>c</sup>	1.52 <sup>a</sup>	2.01 <sup>b</sup>	2.45 <sup>c</sup>
Anxiety	2.40 <sup>a</sup>	2.08 <sup>a</sup>	1.50 <sup>b</sup>	2.15	2.00	1.88
Sociability	2.26 <sup>a</sup>	1.20 <sup>b</sup>	2.53 <sup>c</sup>	1.95 <sup>a</sup>	1.28 <sup>b</sup>	2.77 <sup>c</sup>
Aggressiveness	2.02	1.76	2.18	1.61 <sup>a</sup>	1.80 <sup>b</sup>	2.58 <sup>c</sup>
Rule-following	2.74 <sup>a</sup>	2.08 <sup>b</sup>	1.18 <sup>c</sup>	2.82 <sup>a</sup>	1.83 <sup>b</sup>	1.37 <sup>c</sup>
Strength of sex drive	1.67 <sup>a</sup>	1.48 <sup>a</sup>	2.81 <sup>b</sup>	1.48 <sup>a</sup>	1.68 <sup>b</sup>	2.81 <sup>c</sup>
Size of genitalia	1.30 <sup>a</sup>	1.83 <sup>b</sup>	2.87 <sup>c</sup>	1.09 <sup>a</sup>	1.98 <sup>b</sup>	2.94 <sup>c</sup>

Note: Different superscripts indicate significant differences  $P < 0.05$ .

Inspection of the table will indicate that, compared to Whites, Orientals were younger, were more likely to have been born outside of Canada, reported English as a first language less often, were smaller in body size, were more likely to wear corrective lenses, and were less likely to be left handed. No difference was found in family socio-economic background or in overall IQ but Orientals scored lower in verbal IQ. No statistically significant difference was found in the absolute perimeter of the skull; when height was covaried the skull perimeter for Orientals was found to be larger ( $P < 0.05$ ). Moreover, small positive correlations were found between head size and general intelligence in both the Oriental ( $r = 0.14$ ) and White samples ( $r = 0.21$ ).

With respect to life-history variables, no differences were found in ratings of family health and longevity. Using the Seriousness of Illness Rating Scale, however, Orientals were found to be healthier than Whites. No differences were found on the Speed of Physical Maturation or the Speed of Sexual Maturation composites. On both measures of Reproductive Effort, Orientals were more restrained than Whites. At the item level, Orientals reported significantly fewer sexual partners, a lower frequency of orgasm, and a lower percentage of orgasm even when engaged in intercourse. For example, the mean number of reported sexual partners over the previous 3 months was 1.0 for Orientals (both sexes combined) and 1.5 for Whites, and the reported percentage frequency of reaching orgasm in each act of intercourse was 77% for Oriental males, 88% for White males, 40% for Oriental females, and 57% for White females. Oriental females also reported significantly less periodicity of sexual response than White counterparts. Orientals were also more likely to leave blank the sexual-oriented questions, and on the Sexual Opinion Survey, to indicate less liking for sexual material. Orientals also endorsed fewer items on the Self-Report Delinquency Scale. In Personality, Orientals scored significantly lower in Extraversion and higher in Psychoticism than Whites, but scored equally on the Neuroticism and Lie Scales.

Table 2 presents the social perceptions of three racial groups, as judged separately by Orientals and Whites. Orientals viewed themselves as having more intelligence, industry, anxiety, and rule-following behaviour than Whites or Blacks, while being significantly lower in activity level, sociability, aggressiveness, strength of the sex drive, and genital size.

## DISCUSSION

When race differences occurred, Orientals reported more social, personal, and sexual "restraint" than Whites, results that accord with previous findings (Rushton, 1988; Rushton & Bogaert, 1989; also see Vernon, 1982). One commentator stated that our "conclusions about race variables so precisely parallel racist stereotypes that it is difficult to dismiss the possibility of bias in the theory and/or the data" (Silverman, 1990, p. 1). The alternative possibility, which we favour, is that aggregated human judgements reflect social reality with some degree of accuracy. More often than not the Oriental sample ranked themselves relative to Whites and Blacks in the same direction that Whites also ranked them. This direction is typically the same as occurs on the objective measures.

It is worth drawing attention to our replication of the head size-IQ relationship within an Oriental sample. The finding joins those assembled from several studies of Whites and Blacks (e.g. Lynn, 1990a; Rushton, 1990; Jensen & Sinha, 1992) including one by Willerman, Schultz, Rutledge and Bigler (1991) using magnetic resonance imaging to measure the brain *in vivo*. Thus

a very strong case can be made for a positive correlation between brain size and intelligence among humans.

In conclusion, this study provided ample opportunity for disconfirmation of previous findings. Yet the null hypothesis could not be maintained and there was no evidence of a ranking opposite to prediction. The onus is now on critics to produce contradictory evidence.

*Acknowledgements*—We are grateful to A. F. Bogaert and K. P. Ossenkopp for initial discussions, to A. F. Bogaert, K. A. Horner and M. Parr for assisting with data collection, and to The Pioneer Fund for financial support.

## REFERENCES

- Bogaert, A. F. & Rushton, J. P. (1989). Sexuality, delinquency and  $r/K$  reproductive strategies: Data from a Canadian university sample. *Personality and Individual Differences*, 10, 1071–1077.
- Cain, D. P. & Vanderwolf, C. H. (1990). A critique of Rushton on race, brain size and intelligence. *Personality and Individual Differences*, 11, 777–784.
- Ellis, L. (1987). Criminal behavior and  $r/K$  selection: An extension of gene-based evolutionary theory. *Deviant Behavior*, 8, 149–176.
- Eysenck, H. J. & Eysenck, S. B. G. (1975). *Manual of the Eysenck Personality Questionnaire*. San Diego, CA: Educational and Industrial Testing Service.
- Fisher, W. A., Byrne, S., White, L. A. & Kelley, K. (1988). Erotophobia–Erotophilia as a dimension of personality. *Journal of Sex Research*, 25, 123–151.
- Flynn, J. R. (1989). Rushton, evolution, and race: An essay on intelligence and virtue. *The Psychologist: Bulletin of the British Psychological Society*, 2, 363–366.
- Gross, B. (1990). The case of Philippe Rushton. *Academic Questions*, 3, (No. 4), 35–46.
- Jackson, D. N. (1984). *Multidimensional Aptitude Battery Manual*. Port Huron, MI: Research Psychologists Press.
- Jensen, A. R. & Sinha, S. N. (1992). Physical correlates of human intelligence. In Vernon, P. A. (Ed.), *Biological Approaches to the Study of Human Intelligence*. Norwood, NJ: Ablex.
- Leslie, C. (1990). Scientific racism: Reflections on peer review, science and ideology. *Social Science and Medicine*, 31, 891–912.
- Lynn, M. (1989a). Race differences in sexual behavior: A critique of Rushton and Bogaert's evolutionary hypothesis. *Journal of Research in Personality*, 23, 1–6.
- Lynn, M. (1989b). Criticism of an evolutionary hypothesis about race differences: A rebuttal to Rushton's reply. *Journal of Research in Personality*, 23, 21–34.
- Lynn, R. (1990a). New evidence on brain size and intelligence: A comment on Rushton and Cain and Vanderwolf. *Personality and Individual Differences*, 11, 795–797.
- Lynn, R. (1990b). Testosterone and gonadotropin levels and  $r/K$  reproductive strategies. *Psychological Reports*, 67, 1203–1206.
- MacDougal, J. D., Wenger, H. A. & Geen, H. J. (1982). *Physiological Testing of the Elite Athlete*. New York: Mutual Press.
- Mealey, L. (1990). Differential use of reproductive strategies by human groups? *Psychological Science*, 1, 385–387.
- Rushton, J. P. (1985). Differential  $K$  theory: The sociobiology of individual and group differences. *Personality and Individual Differences*, 6, 441–452.
- Rushton, J. P. (1988). Race differences in behaviour: Testing an evolutionary hypothesis. *Personality and Individual Differences*, 9, 1009–1024.
- Rushton, J. P. (1990). Race, brain size and intelligence: A rejoinder to Cain and Vanderwolf. *Personality and Individual Differences*, 11, 785–794.
- Rushton, J. P. (1991). Do  $r-K$  strategies underlie human race differences? A reply to Weizmann *et al.* *Canadian Psychology*, 32, 29–42.
- Rushton, J. P. & Bogaert, A. F. (1987). Race differences in sexual behavior: Testing an evolutionary hypothesis. *Journal of Research in Personality*, 21, 529–551.
- Rushton, J. P. & Bogaert, A. F. (1988). Race versus social class difference in sexual behavior: A follow-up of the  $r/K$  dimension. *Journal of Research in Personality*, 22, 259–272.
- Rushton, J. P. & Bogaert, A. F. (1989). Population differences in susceptibility to AIDS: An evolutionary analysis. *Social Science and Medicine*, 28, 1211–1220.
- Rushton, J. P. & Chrisjohn, R. D. (1981). Extraversion, neuroticism, psychoticism and self-reported delinquency. *Personality and Individual Differences*, 2, 11–20.
- Silverman, I. (1990). The  $r/K$  theory of human individual differences: Scientific and social issues. *Ethology and Sociobiology*, 11, 1–9.
- Vernon, P. E. (1982). *The Abilities and Achievements of Orientals in North America*. New York: Academic Press.
- Weizmann, F., Wiener, N. I., Weisenthal, D. L. & Ziegler, M. (1990). Differential  $K$  theory and racial hierarchies. *Canadian Psychology*, 31, 1–13.
- Willerman, L., Schultz, R., Rutledge, J. N. & Bigler, E. D. (1991). *In vivo* brain size and intelligence. *Intelligence*, 15, 223–228.
- Wyler, A. R., Masuda, M. & Holmes, T. H. (1968). The seriousness of illness rating scale. *Journal of Psychosomatic Research*, 11, 365–375.
- Zuckerman, M. (1990). Some dubious premises in research and theory on racial differences: Scientific, social, and ethical issues. *American Psychologist*, 45, 1297–1303.
- Zuckerman, M. & Brody, N. (1988). Oysters, rabbits and people: A critique of "Race Differences in Behaviour" by J. P. Rushton. *Personality and Individual Differences*, 9, 1025–1033.