



PERGAMON

Personality and Individual Differences 29 (2000) 591–620

PERSONALITY AND
INDIVIDUAL DIFFERENCES

www.elsevier.com/locate/paid

Review Paper

Size matters: a review and new analyses of racial differences in cranial capacity and intelligence that refute Kamin and Omari

J. Philippe Rushton*, C. Davison Ankney

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

Received 6 August 1999; received in revised form 9 November 1999; accepted 22 November 1999

Abstract

We provide a case by case examination of Kamin and Omari's critical review (*South African Journal of Psychology*, 1998, 28, 119–128) concluding that race differences in head size were too small to explain their differences in IQ. Although Kamin and Omari make several valid points and identified an "anomalous" finding in two samples (that Blacks averaged greater head circumference than Whites), in the main their review is highly misleading. We find, among other things, that Kamin and Omari: (1) ignored the relation between brain size and IQ established by magnetic resonance imaging and the race differences in brain size established by MRI, autopsies, and endocranial volume; (2) erred in attributing to arithmetic errors and uncontrolled differences in sex ratio the differences in head size found from birth to age seven in the National Collaborative Perinatal Project; (3) neglected data showing that young Black girls mature faster than White girls which explains why Black girls sometimes average cranial sizes equal to or greater than their White age peers; and (4) seized upon ad hoc "alternative" findings and explanations for particular studies. When the principle of aggregation is employed and data averaged across the numerous studies, the race differences in average cranial capacity clearly emerge. New analyses in this article also confirm that whereas Blacks average proportionately longer heads, Whites and Asians average proportionately wider and higher heads, which explains why different equations for estimating cranial volume sometimes produce different results. We conclude that brain volume bears a strong relation to cognitive ability, and that increasing encephalization over evolutionary time led to progressively more spherically shaped heads with corresponding increases in head width and head height. © 2000 Elsevier Science Ltd. All rights reserved.

Keywords: Brain size; Evolutionary theory; Human origins; Intelligence; Race differences

* Corresponding author. Tel.: +1-519-661-3685; fax: +1-519-850-2302.

E-mail address: rushton@julian.uwo.ca (J.P. Rushton).

Contents

1.	Introduction	593
1.1.	The Kamin and Omari (1998) critique.	594
1.2.	The Lee and Pearson (1901) equations	596
2.	The National Collaborative Perinatal Project.	597
2.1.	Lynn's (1990) study.	598
2.2.	K&O critique	598
2.3.	R&A reply	598
2.4.	Jensen and Johnson's (1994) study	599
2.5.	K&O critique	599
2.6.	R&A reply	600
3.	Krogman's (1970) Philadelphia Growth Study	600
3.1.	Lynn's (1993) study.	600
3.2.	K&O critique	600
3.3.	R&A reply	601
4.	Osborne's (1980) Georgia Twin Study.	601
4.1.	Jensen's (1994) study	601
4.2.	K&O critique	602
4.3.	R&A reply	602
4.4.	Rushton and Osborne's (1995) study.	602
4.5.	K&O critique	603
4.6.	R&A reply	603
5.	Herskovits's (1930) international data	605
5.1.	Rushton's (1990, 1993) studies	605
5.2.	K&O critique	605
5.3.	R&A reply	606
6.	NASA (1978) data.	607
6.1.	Rushton's (1991a) study.	607
6.2.	K&O critique	607
6.3.	R&A reply	608
7.	US military data (1988)	608
7.1.	Rushton's (1992) study	608
7.2.	K&O critique	609
7.3.	R&A reply	609
8.	International Labour Office data	610
8.1.	Rushton's (1994) study	610
8.2.	K&O critique	610
8.3.	R&A reply	611
9.	Head shape and cranial capacity: new analyses	612
9.1.	Methods	613
9.2.	Results	613
9.3.	Evolutionary considerations	614
10.	General discussion.	617
	References	618