PERGAMON

Personality and Individual Differences 34 (2003) 177–183

PERSONALITY AND INDIVIDUAL DIFFERENCES

www.elsevier.com/locate/paid

African–White IQ differences from Zimbabwe on the Wechsler Intelligence Scale for Children-Revised are mainly on the *g* factor

J. Philippe Rushton[a,*], Arthur R. Jensen[b]

[a]*Department of Psychology, The University of Western Ontario, London, Ontario, N6A 5C2, Canada*
[b]*The University of California at Berkeley, USA*

Received 12 November 2001; received in revised form 3 May 2002; accepted 14 June 2002

Abstract

African–White differences on the sub-tests of the Wechsler Intelligence Scale for Children-Revised (WISC-R) in Zimbabwe are like the Black–White differences in the US in being positively associated with the sub-tests' *g* loadings (*g* being the general factor of intelligence). Published means and S.D.s for 204 12- to 14-year-old Zimbabweans on 10 WISC-R sub-tests were compared against those for 1868 White Americans. A principal factor analysis of the correlation matrix from the US standardization sample for Whites, along with the point-biserial correlation of African–White standardized differences, showed that fully 77% of the between-group race variance was attributable to a single source, namely *g*.

Keywords: IQ scores; *g* factor; Jensen effect; Black–White differences

Sub-saharan Africans, on average, score two standard deviations (S.D.s) lower on IQ tests than do people of European descent, while in the US, African Americans (Blacks) score just over one S.D. lower than do Whites (Jensen, 1998; Lynn & Vanhanen, 2002; Rushton & Skuy, 2000). In the US, it is known that Black–White differences are more pronounced on more highly *g*-loaded tests than they are on less *g*-loaded tests, *g* being the general factor of intelligence. This relation between the magnitude of a sub-tests' *g*-loading and its relative Black–White difference is known as "Spearman's hypothesis," after the British psychologist Charles Spearman (1927, p. 379) because he was the first to suggest it. It has also been called the "Spearman-Jensen hypothesis", because it was Jensen (1985, 1987, 1998) who brought Spearman's hypothesis to widespread attention and who did the empirical work confirming it. More recently and more generally,

* Corresponding author. Tel.: +1-519-661-3685; fax: +1-519-850-2302.
E-mail address: rushton@uwo.ca (J. P. Rushton).

0191-8869/02/$ - see front matter
PII: S0191-8869(02)00192-7

g-factor relationships have become known as "Jensen Effects", because otherwise there is no name for them, only a long explanation of how the effect is calculated. Jensen Effects are not omnipresent and their absence can be as informative as their presence. For example, Rushton (1999) found that the Flynn Effect is not a Jensen Effect because the secular rise in IQ does not appear to be on *g*.

The Black–White difference on the *g*-factor is the best-established Jensen Effect. In *The g Factor* (1998, chap. 11), Jensen summarized the results from 17 independent data sets from the US of nearly 45,000 Blacks and 245,000 Whites derived from 171 psychometric tests and showed *g* loadings consistently predicted the magnitude of the Black–White difference ($r = 0.63$; Spearman $\rho = 0.71$, $P < 0.05$). The most recent test of Spearman's hypothesis, based on 19 cognitive tests given to US Army veterans (3335 Whites and 502 Blacks) showed a correlation of 0.72; $P < 0.01$ (Nyborg & Jensen, 2000). Jensen Effects were borne out even among 3 year olds who were administered eight sub-tests of the Stanford–Binet, where the rank correlation between *g* loadings and the Black–White differences was 0.71 ($P < 0.05$). Even when the *g* loading is calculated from performance on elementary reaction-time tasks, which correlate with IQ (such as moving the hand to press a button to turn off a light, which all children can do in less than 1 s), the correlations between the *g* loadings of these tasks and the Black–White differences range from 0.70 to 0.81.

Since the studies on which Jensen (1998) based his analysis were all carried out in the US, this might be thought a phenomenon of limited interest, with its explanation sought in local conditions. However, five studies from South Africa have found that Black–White IQ differences are mainly on the *g* factor. Lynn and Owen (1994) were the first to explicitly find this effect in their analysis of data from over 3000 African, White, and Indian high-school students given 10 subtests of the South African Junior Aptitude Test. They found the African–White differences correlated 0.62 ($P < 0.05$) with the *g* factor extracted from the African sample (although only 0.23 with *g* extracted from the White sample).

Subsequently, Rushton and Skuy (2000) gave 309 17- to 23-year-old first-year psychology students at the University of the Witwatersrand in Johannesburg the untimed Standard Progressive Matrices. They used the item–total correlations as an estimate of each item's *g* loading and found that item *g* loadings showed a significant positive correlation with the standardized differences in the percentage of Africans and Whites passing the same items. These Jensen Effects were found using both the African item–total correlations, $r = 0.39$ ($P < 0.01$, $N = 58$, with $\rho = 0.43$, $P < 0.01$), and the White item–total correlations, $r = 0.34$ ($P < 0.01$, $N = 46$, $\rho = 0.41$, $P < 0.01$).

Rushton (2001) analyzed 10 sub-tests of the Weschler Intelligence Scale for Children-Revised (WISC-R) from data published by Skuy, Schutte, Fridjhon, and O'Carroll (2001) on 154 Black South African high school students from Johannesburg. The mean score for Whites was set at the US standardization sample mean of 10 (which included African Americans). The mean African–White differences were then calculated and also expressed in S.D. units, using the African S.D.s. When the *g* loadings from the WISC-R national standardization data were extracted they correlated $r = 0.77$ ($P < 0.05$) with the standardized African-White differences, thereby showing the Jensen Effect. For many of the African students, English was not their first language. However, the Jensen Effect remained even after the Vocabulary sub-test was excluded from the data, and the mean of the 11 other sub-tests substituted in its place ($r = 0.66$, $P < 0.05$). Nor did the Jensen Effect disappear if *g* was extracted from the African rather than from the White standardization