Comment

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Flynn Effects Not Genetic and Unrelated to Race Differences

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Flynn's (January 1999) demonstration that the populations of several countries have increased in average IQ by about three points a decade over the past 50 years is an important contribution to the understanding of the nature and nurture of human intelligence. At first glance, the Flynn effect may also present itself as a way of explaining away the one standard deviation difference in the mean IQ of Blacks and Whites in the United States. It is unfortunate, then, that Flynn does not report in sufficient detail a summary of what the gains over time do and do not tell us about the nature of the Black–White difference.

Table 1 (taken from Rushton, 1999) shows the results of a principal components analysis of the secular gains in IQ of people from the United States, Germany, Austria, and Scotland; Black–White IQ difference scores from the United States; inbreeding depression scores from cousin marriages in Japan; and *g* loadings from the Wechsler Intelligence Scale for Children–Revised (WISC-R) and the Wechsler Intelligence Scale for Children–Third Edition (WISC-III) standardization samples. The important findings are (a) the IQ gains on the WISC-R and WISC-III form a cluster, showing that the secular trend is a reliable pheonomenon, but (b) this cluster is independent of the cluster formed by Black–White differences, inbreeding depression scores (a purely genetic effect), and *g*-factor loadings (a largely genetic effect). This analysis shows that the secular increase in IQ and the mean Black–White IQ difference behave in entirely different ways. The secular increase is unrelated to *g* and other heritable measures, while the magnitude of the Black–White difference is related to heritable *g* and inbreeding depression. These results provide further evidence for the crucial role played by *g*. In his latest book, *The g Factor*, Jensen (1998, Chapter 11) analyzed 17 independent data sets from 171 psychometric tests on a total of nearly 45,000 Blacks and 245,000 Whites and found that *g* loadings consistently predict the magnitude of the Black–White difference (r = +.63).

Flynn's (1999, p. 5) statement that the "massive IQ gains over time" provide support for an environmental origin of race differences is not supported by factor analysis. Although the Flynn effect does suggest that improving the environment can improve test scores, which is important to know, the cluster analysis of that effect shows that it is unrelated to the *g* factor. The *g* factor is associated with inbreeding depression, for which there is no nongenetic explanation, and so is less amenable to environmental manipulation. Indeed, massive evidence indicates that *g* is related to the size and functioning of the brain on which there are also Black–White differences (Jensen, 1998; Rushton, 1997). The good news is that psychologists now have the knowledge to do their best to improve conditions and test scores without denying the ever-growing evidence for the heritability of cognitive ability. Meanwhile, the secular rise in IQ remains one of the unsolved psychometric mysteries.

Table 1
Principal Components Analysis and Varimax Rotation for Pearson Correlations of Inbreeding Depression Scores, Black–White Differences, g Loadings, and Gains Over Time on the Wechsler Intelligence Scales for Children (With Reliability Partialled Out)

	Principal component			
	Unrotated loading		Varimax rotated loading	
Variable	I	II	1	2
Inbreeding depression scores from Japan	.31	.61	.26	**.63**
Black–White differences from the United States	.29	.70	.23	**.72**
WISC-R *g* loadings from the United States	–.33	.90	–.40	**.87**
WISC-III *g* loadings from the United States	–.61	.64	–.66	**.59**
United States gains 1 (WISC to WISC-R)	.73	–.20	**.75**	–.13
United States gains 2 (WISC-R to WISC-III)	.81	.40	**.77**	.47
Germany gains	.91	.03	**.91**	.11
Austria gains	.87	.00	**.86**	.07
Scotland gains	.97	.08	**.96**	.17
% of total variance explained	48.60	25.49	48.44	25.65

Note. Data are from "Secular Gains in IQ Not Related to the *g* Factor and Inbreeding Depression—Unlike Black–White Differences: A Reply to Flynn," by J. Philippe Rushton, 1999, *Personality and Individual Differences, 26,* p. 387. Copyright 1999 by Elsevier Science. Reprinted with permission. WISC-R = Wechsler Intelligence Scales for Children–Revised; WISC-III = Wechsler Intelligence Scales for Children–Third Edition. Bold numbers indicate significant loadings on factors.

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IQ Gains and Fluid *g*

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Rushton's (2000, this issue) point is anticipated on page 16 of my article (Flynn, 1999). When IQ tests are ranked by fluid *g* loading, there is a positive correlation with the magnitude of IQ gains: The latest data show *r* values of .50 to .78 (Colom, Juan-Espinosa, & Garcia, 1999; Flynn, in press). Factor analysis then shows inbreeding depression isolated from a cluster including fluid *g*, IQ gains, and Black–White differences (Flynn, in press). I have no faith in the methodology, but such as it is, it does not isolate IQ gains from Black–White differences.

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