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Has the black–white intelligence difference in the United States been narrowing over time?

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Abstract

Several claims have been advanced that the black–white difference in intelligence in the United States has been narrowing over time. Evidence on mean vocabulary scores obtained by representative samples of the American population for a series of years over the period 1972 to 1996 shows no statistically significant tendency in this direction.

Key words: Intelligence; Black–white differences

1. Introduction

During the 1990's several scholars have maintained that the difference in average intelligence between blacks and whites in the United States has decreased in recent years. The objective of this paper is to present new evidence on this thesis. The theory that the black–white IQ difference is decreasing was first advanced by Vincent (1991) who presented data showing that in the 1960's through the 1980's the mean IQ difference between blacks and whites was 14–16 IQ points, approximately the same as that found among enlisted men in World War 1 and in numerous subsequent studies reviewed by Shuey (1966). However, Vincent also presented four studies of children published in the 1980's among whom the black–white difference was only 5–9 IQ points. Vincent proposed that lack of educational and economic opportunities impaired the intelligence of blacks throughout most of the twentieth century but the improvement of these in recent decades has been responsible for an increase in the intelligence of blacks relative to that of whites and "the

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quarter-century push toward equal opportunity in the United States finally is beginning to show results'' (p. 269).

Vincent's thesis was accepted by Herrnstein and Murray: ''Is the difference in black and white test scores diminishing? The answer is yes.'' (Herrnstein and Murray, 1994, p. 289). Herrnstein and Murray cited the reduction of the black–white difference in science, math and reading found in the National Assessment of Educational Progress from the 1960's to 1990 as a corroboration of a diminishing IQ difference. The Task Force on intelligence set up by the American Psychological Association also concluded that the black–white IQ difference ''may have decreased in recent years although larger and more definitive studies are needed before this trend can be regarded as established'' (Neisser et al., 1995, p. 31).

Despite this apparently consistent trend, some contrary results have appeared in the standardisation data of the Differential Ability Scale (Lynn, 1996). This test was standardised in the United States on 2 to 17 year old children in 1986. The black–white difference on General Cognitive Ability was 14 IQ points, considerably larger than the differences cited by Vincent and within the 14–16 IQ point range typically found in numerous studies reported since the time of World War 1.

One of the problems in assessing whether the black–white intelligence difference has narrowed in recent years is that the magnitude of the difference varies with the nature of the test. Good tests of *g*, generally of reasoning ability, typically show greater black–white differences than poor tests of *g*, typically tests of less complex tasks such as memory, as Jensen (1985) has shown in detail. Results showing a reduction of the black–white difference could reflect the nature of the recent tests. The best way of overcoming this problem is to examine the results of the same test administered to representative samples of blacks and whites at different points in time. Rather little data of this kind exist but we turn now to the presentation of some that fulfil this condition.

2. Method

The data for this study come from the General Social Surveys carried out by the National Opinion Research Center (NORC). These surveys are carried out annually on representative samples of adults from continental United States, excluding those in institutions and non-English speakers. The numbers in the samples vary from year to year but are approximately 1500. The total numbers in the present study consist of 14,657 whites and 2510 blacks. Full details of the sampling procedures are given by Davis and Smith (1996).

The questions asked in the annual surveys are varied from year to year. From 1972 through 1996 a number of the surveys have included a test of vocabulary. This consists of ten words which the respondents are asked to define. Correct answers were summed to give a vocabulary score and this is adopted as a measure of intelligence. Vocabulary size has been shown to be a good measure of intelligence in numerous studies. For example, in the Wechsler Adult Intelligence Scale the vocabulary subtest correlates 0.75 with the Full Scale IQ, more highly than any other subtest (Wechsler, 1958).

The surveys also record the respondents' race. It is therefore possible to examine the differences in the mean vocabulary scores obtained by blacks and whites over the 22 year period 1972–96 and ascertain whether the differences have declined.

Table 1
Differences between blacks and whites on vocabulary scores expressed as *d*s, 1974–1996

Year	*d*	Year	*d*	Year	*d*
1974	0.72	1982	0.66	1990	0.46
1976	0.79	1984	0.67	1991	0.70
1978	0.70	1987	0.73	1993	0.56
		1988	0.58	1994	0.83
		1989	0.65	1996	0.64

3. Results

The results are shown in Table 1. This gives the black–white differences expressed as *d* scores (the difference between the means divided by the pooled standard deviation) for all the years in which the vocabulary test was administered. The rank correlation between the year in which the data were collected and the size of the black–white difference is -0.37 and the Pearson correlation is -0.32. These correlations are in the direction of a narrowing of the black–white difference over the 24 year period but they are not statistically significant.

The regression equation (the regression of *d* on years) is $d = 1.04–0.004$ years. The linear slope, a 0.004 decrease in black–white difference per year, is nonsignificant ($p = 0.29$). A trend analysis to determine whether there might be some significant nonlinear trend of *d* across years was carried out. This consisted of a multiple regression with years, years squared, and years cubed as independent variables, but the *R* is nonsignificant.

4. Discussion

The results indicate that there has been a small but not statistically significant tendency for the black–white difference in intelligence to narrow over the period 1972–96. It may be considered that the vocabulary test is rather short and less than ideal as a measure of intelligence. Probably the shortness of the scale reduces the reliability, but there is no reason to believe that this would obscure a reduction in the black–white differences over time, if such a reduction were actually taking place. Furthermore, the shortness of the vocabulary scale may be considered to be compensated for by the carefully drawn nationally representative samples and the large sample size, which is far greater than that in any other study of this issue. Consequently, it is suggested that, in view of the present results, the best reading of the data as a whole is that there is no conclusive evidence that the black–white difference in intelligence has been narrowing over time. Readers may be interested to note that there has also been no change in black–white income differences over the same time period. Data from census returns and Current Population Surveys show that median black male earnings were approximately 60% of those of whites, and median black female earnings approximately 90% those of whites, throughout the period 1970 to 1996 (Farley, 1997). Thus, the data on

the absence of any narrowing of black–white differences in either intelligence or earnings are consistent.

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