

## PREDICTING THE CONCLUSIONS OF NEGRO-WHITE INTELLIGENCE RESEARCH FROM BIOGRAPHICAL CHARACTERISTICS OF THE INVESTIGATOR

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Questionnaire data were gathered from 82 investigators who had published comparative studies of Negro and white intelligence. The sample represented 64% of the population of researchers. 7 biographical items discriminated between 6 categories of conclusions drawn from research on racial intelligence ( $R = .45$ ), which included the following: There are no differences between Negroes and whites in intelligence; differences are due to environment; differences are due to innate inferiority of Negroes. The 7 biographical variables were: age when research was published; birth order; whether grandparents were American or foreign born; mother's educational level; father's educational level; childhood in rural or urban community; and undergraduate scholastic standing.

After several comparative studies of Negro and white intelligence-test performance, McGurk (1943, 1951, 1953a, 1953b) concluded that even when the two groups are "equated for socioeconomic status," Negroes are innately inferior. Klineberg (1963) has also found that Negroes and whites differ on intelligence-test scores, and concluded these performance differences do not mean there is any innate difference between the two groups. Following an extensive literature review, Shuey (1958) reasoned that there are some native differences in intelligence between Negroes and whites. Dreger (1960), however, has argued that,

The usefulness of Shuey's otherwise excellent work is limited by what appears to be a polemic attitude. Her book seems to be an attempt to prove a non-egalitarian hypothesis rather than being strictly a review of the literature [p. 364].

This study was designed to examine whether the discrepant conclusions in research on racial intelligence could be predicted from biographical and demographic data about the investigator. The recent surge of interest in effects of the experimenter on results of psychological research gave birth to this study. Rosenthal's review (1964) gives firm support to both the reality and the generality of the experimenter-bias phenomenon.

This study was a preliminary foray into the social psychology of racial research. It was not an attempt to show that investigators

have consciously and deliberately influenced the outcomes of their research on racial intelligence. This was not a study of racial prejudice, nor was it an attempt to discredit certain conclusions. Our hypothesis was: the conclusions investigators have reached about whether Negroes are or are not innately inferior to whites in intelligence can be predicted from biographical and demographic data about the investigators. A questionnaire was designed to assess systematic differences in the life histories of researchers who have arrived at various conclusions about Negro-white intelligence.

### METHOD

#### *Subjects*

The names of 128 authors of research on racial intelligence were found by a survey of the published literature.<sup>1</sup> Each had published at least one study from which comparisons of Negro and white intelligence were made. From this initial survey, mailing addresses were found for 104 potential subjects, and questionnaires were sent to each. After three follow-up mailings, 82 completed questionnaires were received. This sample of 82 respondents represented 64% of the authors identified in the literature review, and 78% of those with whom contact was attempted.

#### *Questionnaire and Independent Variables*

Subjects responded anonymously to a 35-item questionnaire. It was presented as part of a scien-

<sup>1</sup>The major sources for authors of research on racial intelligence were Dreger (1960, 1965), Klineberg (1963), and Shuey (1958).

tific personnel project designed to assess background and demographic characteristics of a selected sample of American scientists. The items were constructed following the guidelines of Owens, Glennon, and Albright (1962). Twenty-two items provided the data for this study. Some items were selected from the literature on biographical and demographic correlates of racial prejudice; for example, Weller (1964) found a positive correlation between age and anti-Negro prejudice. The remainder of the items were from *A Catalog of Life History Items* (Glennon, Albright, & Owens, 1966). The following are abbreviated statements of the 22 items:

1. Age when research was published (Weller, 1964).
2. Birth order.
3. Mother American born or foreign born.
4. Mother's education (Lombardi, 1962).
5. Father American born or foreign born.
6. Father's education.
7. Father's occupation and occupational prestige (Tumin, 1959).
8. Grandparents American born or foreign born.
9. Childhood in rural or urban community (Allport, 1954).
10. Integration of religion into the family as a child (Allport, 1954).
11. Size of high school graduating class.
12. Scholastic standing in high school.
13. Nature of undergraduate college.
14. Enrollment of college.
15. Scholastic standing as an undergraduate.
16. Undergraduate major (Kelly, Ferson, & Holtzman, 1958).
17. Percentage undergraduate expenses earned (Tumin, 1959).
18. Age when received bachelor's degree.
19. Years between bachelor and doctoral degrees.
20. Religious preference (Kelly et al., 1958).

21. Frequency of attendance at religious services (Holtzman, 1956).
22. Membership in voluntary organizations (Noel & Pinkney, 1964).

### Dependent Variable

The dependent variable was the categorization of the respondent's research into eight different groups according to the stated conclusions of the research. Table 1 presents the number of respondents and the total number of authors in each category.<sup>2</sup> It also presents the number of respondents in each research category as a percentage of total authors. For two categories of research results (5 and 6) there were no respondents, and these categories played no further role in the study. This was not considered to be a serious limitation because there were only two authors whose research had been classified in each of these categories. For the other six categories the response rate was satisfactory, the lowest return was 46%.<sup>3</sup>

<sup>2</sup>The assignment to categories was made independently by the two authors, and the agreement was .94. One assignment was made without knowledge of the investigator's name, and the other assignment was made without knowledge of the reputation of the investigator.

<sup>3</sup>Where possible, entries in the American Psychological Association Directory and American Sociological Association Directory were used to compare respondents with nonrespondents on some of the 22 variables. Where comparisons were available, they were made for: age, nature of undergraduate college, age when received bachelor's degree, and years between bachelor and doctoral degrees. There were no differences between respondents and nonrespondents on these four variables. The more meaningful comparison would have been between the set of

TABLE 1  
CATEGORIZATION OF SUBJECTS ACCORDING TO CONCLUSIONS OF THEIR RESEARCH<sup>1</sup>

Category #	Respondents <sup>a</sup>	Total authors <sup>b</sup>	Respondents as a % of total authors <sup>c</sup>	Published conclusions
1	41	61	67%	There are differences due to environment.
2	9	14	64%	Study was not conclusive, but there is an indication of differences due to environment.
3	6	13	46%	Negroes are superior on some tests, whites are superior on other tests.
4	15	21	71%	There are no differences between Negroes and whites.
5	0	2	0%	Study was not conclusive, but there is an indication of no differences.
6	0	2	0%	Study was not conclusive, because samples were not equated.
7	5	6	83%	Study was not conclusive, but there is an indication of innate Negro inferiority.
8	6	9	67%	Negroes are innately inferior.

<sup>a</sup> N = 82.

<sup>b</sup> N = 128.

<sup>c</sup> Respondents as a percentage of 104 potential subjects to whom questionnaires were sent: Category 1 (82%); 2 (82%); 3 (60%); 4 (88%); 5 (0%); 6 (0%); 7 (100%); 8 (86%).

TABLE 2  
VARIABLES WHICH DISCRIMINATED AMONG CATEGORIES OF RESEARCH CONCLUSIONS

Variable	Category of research conclusions					
	1 (N = 41)	2 (N = 9)	3 (N = 6)	4 (N = 15)	7 (N = 5)	8 (N = 6)
Age when research was published	38.2 <sub>a</sub>	38.8 <sub>a</sub>	34.2 <sub>b</sub>	34.5 <sub>b</sub>	31.1 <sub>c</sub>	30.4 <sub>b</sub>
Birth order	2.5 <sub>a</sub>	2.6 <sub>a</sub>	2.0 <sub>ab</sub>	2.2 <sub>ab</sub>	1.2 <sub>b</sub>	1.3 <sub>b</sub>
Grandparents foreign born (proportion)	.41 <sub>a</sub>	.39 <sub>a</sub>	.54 <sub>ab</sub>	.67 <sub>c</sub>	.30 <sub>abd</sub>	.08 <sub>d</sub>
Mother's education (years)	10.5 <sub>a</sub>	11.2 <sub>ab</sub>	12.2 <sub>abc</sub>	12.5 <sub>bc</sub>	13.4 <sub>c</sub>	13.5 <sub>c</sub>
Father's education (years)	12.2 <sub>a</sub>	11.8 <sub>a</sub>	9.2 <sub>b</sub>	8.7 <sub>b</sub>	15.4 <sub>c</sub>	15.0 <sub>c</sub>
Urban childhood (proportion)	.78 <sub>a</sub>	.77 <sub>ab</sub>	.83 <sub>ab</sub>	.73 <sub>ab</sub>	.20 <sub>bc</sub>	.17 <sub>c</sub>
Undergraduate scholastic standing (percentile)	.77 <sub>a</sub>	.79 <sub>a</sub>	.75 <sub>a</sub>	.81 <sub>a</sub>	.90 <sub>b</sub>	.90 <sub>b</sub>

Note.—Items within a row having a single subscript in common do not differ significantly from each other; items not sharing a letter in common are significant at the .05 level.

### RESULTS

The data were first analyzed by means of a discriminant analysis program to see if the set of 22 independent variables discriminated between subjects grouped according to the conclusions of their research. The chi-square from this analysis was highly significant (170.9,  $df = 105$ ,  $p < .001$ ), indicating subjects in the different categories responded differently to the biographic and demographic items. A multiple regression analysis was used as an indication of the strength of this relationship (a Foster-Burr test, 1964, permitted the assumption of homogeneity of variance). The multiple correlation (corrected) was .47 ( $p < .01$ ). These summary statistics indicated that categories of research conclusions could be predicted from this battery of questionnaire responses. The relations between individual independent variables and research conclusions were then examined.

Seven biographical items were found to be significant predictors of research conclusions. These relationships are reported in Table 2.

To test the hypothesis that questionnaire responses varied with categories of research conclusions, different statistical tests were used depending upon the nature of the data. For interval scale data (e.g., age when research was published) approximate tests for homogeneity of variance were accomplished by Hartley's  $F$  max (Winer, 1962), and following a significant overall  $F$  test, the Newman-Keuls method (Winer, 1962) was

used to determine the nature of the differences between means. For ordinal data (e.g., birth order) the Kruskal-Wallis  $H$  test (Siegel, 1956) was used. Chi-squares were used for nominal scale data (e.g., parents' birthplaces).

*Age.* Age when research was published was found to be a predictor of research outcome ( $F = 7.1$ ,  $df = 5/76$ ,  $p < .01$ ). The Newman-Keuls procedure showed that categories of research results could be clustered into three groups according to differences in mean ages of the researchers: Categories 1 and 2, Categories 3 and 4, and Categories 7 and 8 were each significantly different from each other ( $p < .05$ ). The year in which the research was published is discussed below. It was not found to be related to the conclusions of the research.

The older researchers tended to conclude that differences in Negro-white intelligence-test performance were due to environment, and the youngest researchers tended to report indications of innate inferiority. Those subjects falling between these two groups in age reported either variable performance (Category 3) or no differences (Category 4).

*Birth order.* The birth order of the researcher was a predictor of the conclusions of his research ( $H = 13.1$ ,  $df = 5$ ,  $p < .05$ ). A Mann-Whitney  $U$  test showed that categories of research results could be clustered into two groups according to differences in birth order. Categories 1 and 2 were significantly different from Categories 7 and 8 ( $p < .05$ ). Those researchers who reported intelligence differences due to environment

respondents and the original list of 128 authors, but relevant information was not available.

tended to be later born; while those who reported innate differences tended to be firstborn.<sup>4</sup>

*Parents' and grandparents' birthplaces.* Chi-square analyses of frequencies of mothers, fathers, and total number of parents who were foreign born revealed no significant differences between researchers. However, frequency of grandparents who were foreign born was a predictor of research conclusions ( $\chi^2 = 28.6$ ,  $df = 5$ ,  $p < .01$ ). Separate chi-square analyses produced no clear groupings of the six categories of research results. Those researchers who reported no differences between Negroes and whites had a significantly higher frequency of grandparents who were foreign born than did the two categories (1 and 2) reporting indications of environmental differences ( $p < .05$ ) or Categories 7 and 8 reporting indications of innate differences ( $p < .05$ ). Category 8 (innate inferiority) had a lower frequency of foreign born grandparents than any of the other categories ( $p < .05$ ), except Category 7 which reported finding indications of innate inferiority.

*Parents' education.* The educational levels of both parents were predictors of research conclusions (for fathers,  $F = 10.4$ ; for mothers,  $F = 8.3$ ,  $df = 5/76$ ,  $p < .01$ ). The Newman-Keuls procedure produced clusters of categories of research results. Researchers who reported intelligence differences due to environment (Categories 1 and 2) reported lower mean years of education for both their mothers and fathers ( $p < .05$ ) than did researchers who reported innate differences (Categories 7 and 8). Respondents in Categories 3 and 4 (variable performance or no differences) reported the lowest levels of education for their fathers ( $p < .05$ ); and also, it is interesting to note, their mothers had significantly more education than did their fathers ( $p < .05$ ).

<sup>4</sup> Of the firstborn subjects, 38% were only children. The ratio of only children to firstborn with siblings did not vary significantly across the six categories of research conclusions ( $\chi^2 = 1.2$ ,  $df = 5$ ). An additional control for the possible influence of family size was that the ratio of firstborn subjects with siblings to later borns was significantly different across the categories of research ( $\chi^2 = 12.05$ ,  $df = 5$ ,  $p < .05$ ).

*Rural-urban childhood.* Whether the researcher spent most of his childhood in a rural or urban community was a predictor of the conclusions of his research ( $\chi^2 = 17.1$ ,  $df < 5$ ,  $p < .01$ ). Fisher exact-probability tests showed that researchers who reported findings of innate inferiority (Category 8) were more likely than other researchers except those in Category 7 to have had rural childhoods ( $p < .05$ ). When Categories 7 and 8 were combined the frequency of rural childhoods in this new grouping were significantly greater than for any of the other four categories ( $p < .05$ ). Researchers who reported Negro inferiority were most likely to have spent their childhood in rural communities.

*Undergraduate standing.* Scholastic standing as an undergraduate was also found to be a predictor of research conclusions ( $H = 15.9$ ,  $df = 5$ ,  $p < .05$ ). A Mann-Whitney  $U$  test showed that the categories of research conclusions could be clustered into two groups. Categories 7 and 8 were significantly different from the other four categories in undergraduate standing ( $p < .05$ ). Those researchers who reported that intelligence differences indicated innate inferiority tended to have higher scholastic standings as undergraduates.

*Other independent variables.* No other items were found to be significant predictors of research conclusions.

The sample of investigators included nine females. There were no differences between males and females in terms of either the categorization of their research results or the distribution of their responses to biographical items.

Similarly, it was thought that the geographical area of the country where the investigator lived as a child might be a significant variable. It was not. Geography was not a predictor of research results, nor did it have an interactional effect upon the distribution of responses to other biographical items. The data did not include the geographic location of the investigator at the time he actually conducted his research.

It was also thought that the year in which the research was published might be related to the conclusions of the research and also

might be related to the biographical predictors. No such relationships were found. The dates on which the research was actually performed were not available.

After the relationship between each independent variable and the research results was examined, the relationship between the set of seven predictive variables in Table 2 and the categories of research conclusions was analyzed. This discriminant analysis produced a chi-square of 145.2 ( $df = 30$ ,  $p < .001$ ), which was highly significant. The multiple correlation (corrected) was .45 ( $p < .01$ ), which was essentially the same as the correlation for the total set of 22 independent variables (.47). While the correlation between the set of seven predictors and the criterion account for only about 20% of the variance, one wonders if attitude questionnaires could have done as well. The authors' data, however, cannot answer this question.

In addition to the 22 biographical items, one question was included which dealt with racial attitudes: "How do you feel about the rate of change in our society as a consequence of the present Civil Rights movement?" Sixty-seven percent of the subjects felt that "changes are occurring too slowly"; 7%, "too rapidly"; and 26% felt that "changes are occurring at about the appropriate rate." These attitudes about civil rights were not related to research conclusions.

#### DISCUSSION

Seven biographical items were found to be significant predictors of category of research conclusions: age when research was published; birth order; whether grandparents were American or foreign born; level of mother's education; level of father's education; rural or urban childhood; and undergraduate scholastic standing.

In terms of the seven predictive items, three groups of investigators seemed to emerge: Categories 1 and 2, Categories 3 and 4, and Categories 7 and 8. In every comparison Categories 1 and 2 were significantly different from Category 8, and in five out of seven comparisons Categories 1 and 2 were significantly different from Categories 7 and 8. The six categories of research results were therefore collapsed into three categories

(1 + 2; 3 + 4; 7 + 8), and the multiple correlation (corrected) with the seven predictive items was .55 ( $p < .01$ ). This represented about 30% of the variance.

Investigators whose research was categorized as indicating innate Negro inferiority (7 and 8) tended to cluster together most frequently in their responses to the biographical items. These researchers tended to be the youngest in the sample at the time their research was published; they tended to be firstborn and to have the most grandparents who were American born; both their mothers and fathers completed more years of schooling than did the parents of the other investigators; most of these researchers were raised in a rural community as children; and they had the highest scholastic standings as undergraduates. Taken together these biographical data would seem to indicate that investigators whose research was categorized as concluding that Negroes are innately inferior intellectually came from higher socioeconomic backgrounds.

The other two clusters of investigators were not as differentiated from one another. Investigators reporting findings of environment differences between Negroes and whites (1 and 2) tended to be the oldest, to be later born, and to report the lowest level of education for their mothers. Investigators in Categories 5 and 6, who reported either no differences between Negroes and whites or variable intellectual performance, tended to cluster together in their responses to the biographical items, and often their responses lay somewhere between the extremes of the other investigators.

It should be noted that no cause and effect relationships have been demonstrated by this study. The purpose of the study was not to spin speculative hypotheses to attempt to account for the variable conclusions from research on racial intelligence. The purpose was simply to determine if biographical data could be used to predict research conclusions. If the categories of research conclusions which were used were meaningful categories, and also, if the sample of 64% of the population and its distribution among the six categories were acceptable, then this study has been a success as a descriptive venture.

While only about 20-30% of the variance in research conclusions was predicted from the seven biographical items, this represents a surprisingly strong relationship. Most psychological tests do not have predictive validities which are any higher. This study, therefore, provides some support for the arguments by Owens and Henry (1966) for the usefulness of biographical data as predictors of significant behavioral phenomena.

As Levy and Orr (1959) have shown, there is a social psychology of Rorschach research. The authors conclude there is also a social psychology of racial intelligence research.

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