This paper summarizes the work of Riverside Research Institute (RRI) in the racial balance area during the past several years. Working under contract to the New York State Education Department, and with grant support from the National Institute of Child Health and Human Development, RRI has been developing racial attitude measures for use in the public schools and has been designing the types of studies which are needed to assess definitively the non-cognitive and cognitive effects on students of alternative racial balance policies. Furthermore, to the extent permitted by available funds, RRI has carried out research to identify desegregation policies under the control of educational authorities which have demonstrable positive or negative effects on the attitudes and achievement of students. To date, a battery of non-cognitive measures for assessing the effectiveness of racial balance programs has been developed and field-tested, and the non-cognitive and cognitive effects of several important desegregation policies have been investigated. Policies which have been studied include those which result in variations of (1) racial balance across schools within a district as well as (2) across classes within a school, and (3) the proportion of black students per class. Preliminary evidence concerning teacher effects on students' racial attitudes has also been analyzed. (Author/JM)
Efficacy of School Integration Policies in Reducing Racial Polarization

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To date, a battery of non-cognitive measures for assessing the effectiveness of racial balance programs has been developed and field-tested, and the non-cognitive and cognitive effects of several important desegregation policies have been investigated. Policies which have been studied include those which
result in variations of racial balance across schools within a district (school racial balance), racial balance across classes within a school (classroom racial balance), and the proportion of black students per class (level of classroom racial heterogeneity, or \( P_B \)). Preliminary evidence concerning teacher effects on students' racial attitudes has also been analyzed.

**Development of Non-cognitive Measures**

Non-cognitive tests for use in assessing some of the outcomes of school racial balance programs and policies have been developed. In addition to meeting standard requirements for reliability and validity, these tests have been developed to be objectively scorable, relatively free of the dangers of socially compliant responses, acceptable to public school officials and community representatives, administrable to students across the elementary and secondary school age range, and (for some measures, at least) appropriate for first graders.

The development of the tests and their current status have been described in detail elsewhere. Briefly, the tests designed for students in the early elementary grades (grades 1-4) are concerned primarily with assessing interracial attitudes. These tests include: the Pick-A-Class Test, a semi-disguised measure of children's racial preferences for classmates and teachers; The People Test, a theoretically complex but simple-to-administer measure of children's normative beliefs and
personal attitudes\(^5\) regarding the social distance between people who vary by race and sex; and a sociometric choice instrument designed to assess the extent to which students prefer to associate with same-race peers. (The development of these tests for the primary grades was largely supported by the National Institute of Child Health and Human Development.)

Tests designed for students in the upper elementary and secondary grades include: age-appropriate versions of The People Test; a sociometric choice instrument; measures of student sense of fate control and level of aspiration for academic achievement; and a test (based on semantic differential methodology) designed to assess the degree to which students share a common meaning (semantic) space with respect to school-related vocabulary. (The development and field trials of tests designed for use in the upper elementary and secondary grades have been supported by the New York State Education Department.)

**Base-line developmental findings.** RRI has been studying the development of school-age children's beliefs and attitudes concerning the social distance between people who differ by race, by sex, and by race and sex simultaneously (Koslin, Koslin, Pargament and Bird, 1971). It has been learned that normative race distances (beliefs) increase with age, especially around the time of high school entry. Across the age range, blacks attribute greater normative distance to
race than do whites. Personal racial attitudes generally develop in accord with beliefs about normative racial distances, although more blacks than whites appear to have attitudes which depart (either positively or negatively) from their beliefs concerning normative racial distances.

These data suggest that racial integration and desegregation programs should aim to have their greatest impact in the early grades, where the personal and normative social distances between whites and blacks are smallest. The data further suggest that, since the majority of children have personal racial attitudes which are in accord with the norms as they perceive them, the greatest likelihood of positively affecting interracial attitudes lies in structuring a set of mores to govern interpersonal interactions in the school which recognize race and ethnicity, but which minimize the significance attributed to such differences, at least with respect to school related matters.

Identification of Significant Variables in Desegregation Programs

From its inception, RRI's racial balance research has focused on uncovering relationships between manipulable aspects of the school environment and non-cognitive outcomes, (e.g., racial attitudes). Two early studies in the present series\textsuperscript{6} compared the racial attitudes of primary grade
children in segregated and non-segregated schools. In one study, school desegregation was found to be correlated with favorable interracial attitudes (Koslin, Amarel, and Ames, 1969); however, in the second study no such correlation was found (Koslin, Koslin, Cardwell, and Pargament, 1969). These apparently discrepant results were, in fact, consistent with the frequently contradictory reports found in the literature on the effects of desegregation (e.g., see review articles by Carithers, 1970; Light and Smith, 1971; St. John, 1970).

Classroom racial balance. In an attempt to resolve these conflicting findings concerning the effects of desegregation on interracial attitudes, classroom assignment patterns in racially mixed schools were identified as a variable which might significantly affect student attitudes. It seemed reasonable to hypothesize that school policies which produce an even distribution of minority students in the classes of a given grade (e.g., by assigning students to classes at random) would reduce any appearance that school authorities were establishing expectations or cues for students to interact according to racial stereotypes. Therefore it was reasoned that such assignment patterns would improve the likelihood that students could acquire information from interracial interactions which would cause them to alter their stereotypic beliefs concerning opposite-race peers.
In turn, such learning experiences could reduce hostile racial attitudes.

With proportion black held constant, relationships between classroom racial balance and the interracial attitudes of third grade students were studied (Koslin, Koslin, Pargament, and Waxman, 1972) using three of the elementary-grade attitude tests. The results of all three measures confirmed that racial attitudes of students were more favorable in schools with balanced than unbalanced classes. Students in schools with balanced classes showed less racial polarization in their preferences for teachers and classmates and nominated a larger proportion of peers from other races than did students in schools with unbalanced classes. The social distances between all stimulus figures in The People Test, especially the distances between figures differing simultaneously by race and sex, were smaller in schools with balanced classes than in schools with unbalanced classes. Since these test results indicate that classroom racial balance is related to a lower level of racial polarization, the study provides an empirical basis for recommending that classes of a given grade be balanced within schools.

The United States Commission on Civil Rights (1967), McPartland (1968), and Cohen, Pettigrew and Riley (1972) have reanalyzed some of the data upon which the Equality of Educational Opportunity (Coleman, et al., 1966) report was based.
Although none of these reanalyses employed classroom racial balance as a variable, their findings with respect to verbal achievement are in accord with what RRI's classroom racial balance findings would predict. Since Cohen, Pettigrew and Riley (1972) have conducted the most rigorous reanalysis of the data, two of their principal conclusions as summarized by Mosteller and Moynihan (1972) are noted here:

"First, the racial composition of schools has only a minimal relationship to the verbal achievement of Negro students, once other factors (school quality, individual student background, and the school's social class composition), were taken into account. This reinforces the conclusion of the original report.

"Second, the racial composition of classrooms within schools relates to Negro students' verbal ability, even after many relevant influences have been accounted for. This second result suggests that if desegregated schools are internally integrated, Negro students' achievement may benefit. Although the effect is not huge, neither is it negligible [p. 41]."

Level of racial heterogeneity. In further research, RRI proposed that the level of racial heterogeneity (i.e., the proportion of black students, or $P_B$) is another variable which may affect student attitudes and achievement in racially mixed schools. Equally balanced classes theoretically can
have very different student compositions since, by definition, classes are considered balanced provided only that the blacks of a grade are evenly assigned to available classrooms. However, the proportion of black students (P_B) in racially heterogeneous schools can vary from 1% to 99%, and it is not certain that classroom racial balance will have the same effect across the entire range of P_B.

For example, social pressure theory (Asch, 1952) led RRI to predict that if P_B is very small (e.g., under 15%), black students should feel isolated because of their racial uniqueness and should experience anxiety and uncertainty about themselves in relation to other members of their class. Therefore, it was hypothesized that the interracial attitudes of most black students in very low P_B classes should be more hostile than the attitudes of blacks in classes where they constitute a minority group of more moderate size.

To investigate the effects of varying P_B in racially balanced classes, racial attitude measures were administered to third through sixth grade students attending schools of varying P_B within a single large school district. Each school in this district has racially balanced classes. Therefore, the variation of P_B from 5% to 50% across schools results in a corresponding variation of P_B across classrooms in the district.
Preliminary analyses of the data suggest that black boys in classes which are 5% to 15% black feel more socially distant from whites than do those in classes where blacks comprise about half the student body. The data also indicate that black students in classes with 15% or fewer blacks would prefer to be in all black classes nearly twice as often as do black students in classes which are approximately 50% black. Moreover, blacks in low \( P_B \) classes are more likely to use race as a criterion for selecting classmates than are blacks in higher \( P_B \) classes. Further analyses are presently underway in which controls for social class heterogeneity (i.e., controls for the socioeconomic disparity between blacks and whites) have been added. These controls are needed to test the assumption that interracial attitudes may be affected by the degree of difference between the social class backgrounds of black and white classmates.

The preliminary data on the attitudinal effects of level of racial heterogeneity suggest that the beneficial attitude effects of balancing classes within grades are probably reduced when there are fewer than approximately 15% black students in the school. Thus, in assigning students to schools, educational authorities should attempt to assign enough blacks to any school so that classroom balancing at greater than 15% black is possible. In districts where there are simply too few blacks, so that balancing would necessarily result in very small classroom proportions of blacks of either
sex, it may be preferable not to fully balance the classrooms.

In other analyses of the data on the effects of various levels of racial heterogeneity, there is no indication that increasing the level of $P_B$ (up to 50% black, which is the limit of $P_B$ in the study) adversely affects the interracial attitudes of whites. Neither is there any indication that the interracial attitudes of blacks become more favorable as $P_B$ increases, apart from the above-noted effect for black students in classes which are under 15% black. In short, varying $P_B$ between 15% and 50% appears to have no systematic effect on black or white students' racial attitudes under conditions where classroom racial balance is held constant.

There is strong evidence in the data that, although $P_B$ does not systematically affect racial attitudes, $P_B$ does have a clear effect on the degree to which blacks and whites share meanings and perspectives on school-related topics. On the basis of the social psychology of norm formation (e.g., Sherif and Sherif, 1956) it was hypothesized that the greater the $P_B$ in a particular class, the more important it would become for a teacher to establish some common linguistic frame of reference on school-related topics (shared by both blacks and whites) in order to prevent a schism in the class and the consequent need to teach two separate groups. Moreover, it was assumed that all students have a basic desire to learn and that the larger the size of the minority group in a class, the more important it would be for blacks and
whites to standardize the meanings of school-related words so that they could communicate with one another and benefit from instruction. In short, it was assumed that both teachers and students should be increasingly motivated to establish common meanings between blacks and whites as $P_B$ becomes larger.

Black and white fifth- and sixth-graders received a test which employed semantic differential techniques (Osgood, Suci, and Tannenbaum, 1957) to measure the connotative meanings attributed to words. It was found that as $P_B$ increases (with average black and white ability level, SES level, and SES heterogeneity constant across levels of $P_B$), there is greater black-white agreement or convergence on the connotative meanings attached to school-related words.

Analysis of scores on several norm-referenced reading and mathematics achievement tests for these fifth and sixth grade students shows no relationship between $P_B$ and achievement. In other words, achievement scores neither increase nor decrease among white or black students as $P_B$ gets larger. Thus (controlling for IQ and for SES level and heterogeneity), increasing $P_B$ up to 50% does not appear to have any systematic effect on either white or black achievement scores. These results may be due to the fact that a shared meaning space was standardized in proportion to the need to overcome semantic differences among students.
These findings are important because they contrast with previously reported results in the literature (e.g., Coleman, et al. 1966) which indicate that black achievement declines as $P_B$ increases. These findings are also important in view of the fear of many parents that white achievement will decline if $P_B$ increases. The RRI data indicate that the level of racial heterogeneity can be increased above a token number of blacks without necessarily incurring any decline in the achievement scores of either blacks or whites. It is thus important to discover that the student assignment policy suggested by the attitude data described above (i.e., the recommendation against assigning only one or two blacks to a class because of the dangers of negative attitudinal outcomes) need not result in any negative consequences for academic achievement.

The findings also suggest that the extent to which the academic vocabulary has common meanings for blacks and whites may be an important intervening variable in governing the cognitive outcomes of desegregation. If common meanings are not standardized as $P_B$ increases, achievement may suffer.

**Teacher effects on student attitudes.** Just as teachers differ in effectiveness with respect to the teaching of reading and mathematics, teachers may also differ in terms of the interracial attitudes which they transmit to students. A preliminary study of teacher effects on students' racial
attitudes in the early elementary grades has been carried out by RRI. The school district in which this study was conducted was selected for its racially balanced classes, racially balanced schools, and for its procedure of deliberately assigning students to classes so that every class on a grade level has a similar student body with respect to race, social class background, ability, and prior academic achievement. Because of this stratified random assignment pattern, it could be assumed that racial attitudes should not differ in any significant way among classes. However, there were significant differences in third-grade classes' normative social distance beliefs and in their personal social distance attitudes toward peers of the opposite race on tests administered at the end of the school year.

Since these end-of-year differences between classes might possibly have been due to particular social interaction patterns between children, and thus might not actually have been related to the behavior or attitudes of the teacher, verification was required to establish the teachers as the source of the attitudinal differences. For this purpose, identical attitude tests were administered near the end of the following school year to the new classes of third grade students randomly assigned to the same teachers whose classes had been tested the previous year. In short, data were collected from two successive sets of third-graders who were randomly assigned to the same group of teachers.
The results showed that teachers tended to have reproducible effects on students' attitudes. Those teachers whose classes had more favorable interracial attitudes during the first year of the study also had classes with significantly more favorable racial attitudes during the second year of the study. These data strongly suggest that the behavior of teachers affects students' racial attitudes.

Because of the relatively small number of teachers in the sample, this study is regarded as preliminary. A larger and more rigorous research design has been formulated for addressing the question of differential teacher effects on racial attitudes, and for extending the research to include analyses of the consequences of such differences between teachers on academic achievement. It is hypothesized that those black students who are objects of teacher and student prejudice will not achieve as well as black students who are not objects of such prejudice.

The practical importance of this line of research is that it leads to a rationale for allocating teachers to students on the basis of measured effectiveness. If students are assigned at random to class units (possibly with constraints, e.g., that not less than 15% of students are black), then it should be possible to use student performance to calibrate teachers. Desirable outcomes in reading, arithmetic, etc., can then (at least in theory) be optimized by assigning teachers to teach
those subject areas in which their performance is best. Furthermore, the finding that some teachers transmit more negative interracial attitudes than others suggests that in addition to making teacher assignments to maximize desired academic outcomes, teachers can also be assigned to minimize the likelihood of the transmission of unwanted racial attitudes.

**Racial Balance Indicators**

In order to facilitate objective comparisons among the racial balance characteristics of schools or districts of unequal size or of dissimilar racial composition, a set of standard indicators has been developed. These indicators can be used to calculate the racial balance of classes within grades, of grades within schools, and of schools within districts. The racial balance indicators are based on concepts derived from distributional probability theory. They provide a statistical measure of the degree to which the assignment of minority students to classes or schools (or both) departs from randomness.

Using these indicators school districts can describe the racial characteristics of educational units in a more useful way than is possible with simple head-counts of black students. The indicators permit unbiased comparisons among units which are unequal in size, in the proportion of black students, or in both. Thus, the racial balance indicators
can help school authorities to identify those districts, schools, or grades within districts and schools which have the greatest degree of racial imbalance. The indicators can also be recomputed periodically to gather objective information on changes which have occurred in the racial balance characteristics of a grade, school, or district. In this way, the indicators may be used to assess the effectiveness of programs designed to reduce racial imbalance. It is important to note that since some of the environmental factors measured by the indicators (e.g., classroom racial balance) have been found to influence students' racial attitudes, a relatively simple and direct method has been developed for monitoring school policies which are likely to have adverse effects on the education of children.
References


Footnotes


2Institute address: 80 West End Avenue, New York, N.Y. 10023.

3Grant # HD03961 to Riverside Research Institute, S. Koslin and B.L. Koslin, co-principal investigators.

4Theoretical and technical information concerning the tests have been provided in a series of technical reports to NICHD and to the New York State Education Department. These materials are currently being revised for general distribution and for publication.

5Beliefs are distinguished from personal attitudes in that the former concern the subject's concept of the socially standardized distances between people who differ in significant dimensions (such as race or sex), whereas the latter refer to the subject's own affective distances from people who differ from himself in those dimensions.

6Data collection for these studies was completed while the senior author was at Educational Testing Service.

7This represents up to two minority boys and two minority girls in a "typical" class of 25 students with approximately equal numbers of males and females.

8Due to teacher turnover, about half the original sample was lost.