The purpose of this study was to design an instrument to measure interpersonal racial attitudes among primary children in segregated and nonsegregated school settings. Subjects were 129 first and second graders enrolled in a lower-middle class all-white school, an all-Negro slum school, and an integrated lower-middle class school. All received test booklets with decals of a target figure (Negro teacher, white teacher, peer, or school) on each page, and a package of stickers on which self-figures were printed. They were directed to paste the self-figures in whatever position and at whatever distance from the target figure they chose. White subjects placed the self-figures farther away from Negro targets than from white targets. Negro subjects placed themselves equally close to white and Negro targets. Integrated Negroes placed themselves significantly closer to white-children targets than did segregated Negro subjects. Figure placement indicated integration accelerated a tendency for white subjects to move closer to Negro children targets as grade increased. Regardless of race, integrated subjects placed themselves closer to school than did segregated subjects. Because this study was preliminary and small, many interpretations exist and cannot be resolved for some findings. Further research is needed to compare the validity of alternative interpretations.
A Distance Measure of Racial Attitudes in Primary Grade Children: An Exploratory Study

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Abstract

This study explored the use of a non-verbal distance measure to assess interpersonal racial attitudes among primary grade children in segregated and non-segregated schools. Subjects pasted decals representing themselves on a series of pages, each of which contained a fixed figure. Figures included Negro and white teachers and peers, and a school. Subjects pasted the decals in whatever position and at whatever distance they chose from the target figure. White subjects placed the figures of themselves further from Negro than from white target figures, whereas Negro subjects placed them equally close to white and Negro target figures. Compared with segregated subjects, integrated subjects placed the figure representing themselves closer to target figures of the opposite race and closer to school.
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The current concern with school desegregation has heightened educators' awareness of the need for suitable measures for monitoring and evaluating the effects of integration on student attitudes. While the relationships between attitudes and achievement have yet to be fully explored, preliminary evidence suggests pervasive, if subtle, interrelationships between the interracial attitudes in integrated schools and the academic achievement of students in those schools, especially minority group students (Coleman, et al., 1966; United States Commission, 1967). Interracial acceptance, as distinguished from mere interracial administrative assignment of students, may be a critical intervening variable in understanding why in certain desegregated schools, but not in others, minority group students evidence higher achievement than similar students in segregated schools (Pettigrew, 1968).

The purpose of this study was to design an instrument which could be used to measure interpersonal racial attitudes among primary grade children in segregated and non-segregated school settings. While attitude measurement may be more difficult with primary grade children than with older children because of limited verbal skills and restricted ability to understand certain concepts, research with this age group is also particularly important since it is during the first years in school that the child's attitudes concerning school are probably most malleable, and it is likely that during these years the foundations
of later attitudes are established.

The theoretical rationale of the present approach is based upon inferring the cognitive-affective distinctions which a subject makes between people (and/or people and things) from how close together a subject clusters drawings of people. The technique extends the logic of the work of Borgadus (1933) with social distance and the work of Kuethe (1962) with social schemata to the measurement of racial attitudes among young school children.

Sample. Subjects were 129 first and second grade children at three elementary schools in a middle sized eastern city. One of the schools had an all white enrollment; the second school had an all Negro student body; and in the third school approximately half the students were white and half were Negro. The all white school and the integrated school served lower middle class neighborhoods, while the all Negro school served a lower class slum area. The sample included both integrated and segregated whites, and integrated and segregated Negroes. It included approximately equal numbers of subjects by race, grade, sex and school.

Materials. Subjects received a test booklet made up of a series of 8½" by 11" pages, each containing a single target figure printed near the right hand edge of the page. Target figures included a mother, a father, a school, Negro and white teachers, and Negro and white peers. Subjects also received a package of pregummed stickers with a self figure printed on each sticker. The self figure came in four versions: white boy, Negro boy, white girl, Negro girl, and were appropriately assigned to subjects.

Procedure. Subjects were instructed to paste the decals representing themselves in whatever position and at whatever distance they chose
from the target figure, as follows: "Turn to page one. On page one there is a picture of a teacher. Paste yourself on the page with the teacher. Paste yourself anyplace you want to on the page. Now turn to page two. On page two there is a picture of a school. Paste yourself on the page with the school. Paste yourself anyplace you want to on the page." and so forth, for the balance of the pages in the test booklet. The tests were group administered in the classroom by white female administrators.

Scoring and Data Analysis. The data were scored by measuring to the nearest centimeter the distance placed by subjects between the center of the target figure and the center of the self figure. The data were analyzed in a four-way analysis of variance -- race x grade x sex x integration (i.e., whether subjects attended one of the racially homogeneous schools or the racially heterogeneous school) -- adjusted for unequal cell sizes.

It should be noted that the results reported for this preliminary study are based on conservative analyses. As part of the research strategy, a decision was made to minimize the likelihood of significant results, so that preliminary data analyses would not readily suggest further development of a method which might later prove insensitive to the phenomena being studied. The procedure was conservative in that it partialled out all overlap between classifications of subjects prior to analysis of variance. Thus the analyses were conducted on the non-overlapping or residual effects between treatments. This procedure corrected for non-orthogonality between factors, for example, that no Negro subjects had an opportunity to be in white segregated schools.

Results. Data are reported for the distances which subjects placed
between the self figure and the school related target figures, i.e., between the self figure and the Negro and white teachers, Negro and white peers, and the school. The results of the analysis of variance are summarized in Table 1.

In the distance between self and Negro teachers and peers, a highly significant main effect (F=30.77, p<.0001) was found for race. White subjects placed the self figure further away from Negro target figures than did Negro subjects. In general, white subjects placed the self figure further away from Negro targets than from white targets, but Negro subjects did not make such differentiations by race, that is, Negro subjects placed themselves equally close to white and to Negro target figures.

The analysis of variance further showed that integrated Negro subjects placed themselves significantly closer to the white children target figures than did segregated Negro subjects (F=3.84; p<.05). At the same time, a significant three-way interaction (race x integration x grade) indicated that integration accelerated a tendency for white subjects to move closer to Negro children target figures as grade increased (F=6.53; p<.01). Finally, regardless of race, integrated subjects placed the self figure closer to the school than did segregated subjects (F=5.49; p<.05).

Discussion. The data obtained in this preliminary study suggest that the distance measure may be sensitive to differences in social settings, such as occur in integrated versus segregated schools. It also appears sensitive to the race of the rater and the target rated, and to the
grade and sex of the rater. Thus the measure appears sensitive to important demographic as well as treatment variables. The measure, moreover, has the advantage of being group administrable with children as young as first graders, can be easily and reliably scored, and does not present a verbal overload for young children with limited language skills.

Because the study was preliminary and small, for some of the findings a number of alternative interpretations exist which cannot be resolved with the present data. For example, since only one school was included, it is not possible to distinguish a school effect from an integration effect in the racially mixed school. Moreover, it is not possible to determine whether subjects were reflecting in their placement of the self figure their perceptions of typical relations or "standard distance" between a child like themselves (that is, of the same age, sex, and race) and the target, or whether they were reflecting their own personal or "affective distance" from the target. Further research is needed to compare the validity of alternative interpretations.

As preliminary findings, however, the data are compelling. Integrated Negro subjects were significantly closer to white children target figures than were segregated Negroes. At the same time, the data suggested that integration accelerated a tendency for white subjects to move closer to Negro target figures as grade increased. Regardless of race, integrated subjects were closer to school than segregated subjects. The finding that white and Negro children move closer to each other and to school if they attend an integrated school would have major educational and social implications if borne out in subsequent studies.
References

Borgadus, E.S., A social distance scale, Sociology and social Research, 1933, 17, 265-271.


Footnotes

1. Based on a paper presented at the meetings of the American Psychological Association, San Francisco, September, 1968. The research reported herein was supported by a grant (HD02227) from the National Institute of Child Health and Human Development.

2. The author was at Educational Testing Service at the time the research was conducted.
### TABLE 1

**Summary of Self - Target Figure Distances**

#### Significant Main Effects

**Distance from White Teacher**

<table>
<thead>
<tr>
<th>Subjects</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>$F$ (race)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negroes</td>
<td>6.58</td>
<td>3.06</td>
<td>3.84*</td>
</tr>
<tr>
<td>Whites</td>
<td>8.41</td>
<td>5.90</td>
<td></td>
</tr>
</tbody>
</table>

**Distance from Negro Teacher**

<table>
<thead>
<tr>
<th>Subjects</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>$F$ (race)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negroes</td>
<td>7.31</td>
<td>3.98</td>
<td>20.07**</td>
</tr>
<tr>
<td>Whites</td>
<td>12.32</td>
<td>7.27</td>
<td></td>
</tr>
</tbody>
</table>

**Distance from School**

<table>
<thead>
<tr>
<th>Subjects</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>$F$ (integration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segregated</td>
<td>10.70</td>
<td>5.37</td>
<td>5.39*</td>
</tr>
<tr>
<td>Integrated</td>
<td>8.21</td>
<td>4.46</td>
<td></td>
</tr>
</tbody>
</table>

#### Significant Interaction Effects

**Distance from Negro Children**

<table>
<thead>
<tr>
<th>Subjects</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>$F$ (race x grade x integration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segregated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Distance from White Children**

<table>
<thead>
<tr>
<th>Subjects</th>
<th>$\bar{X}$</th>
<th>S.D.</th>
<th>$F$ (race x integration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Segregated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $F < .05$

** $F < .01$