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ABSTRACT

Dr. David Armor introduced his paper on "busing" of pupils as busing became the political battleground of American race relations. The paper includes brief descriptions of studies of school desegregation programs in the states of Connecticut, New York, Michigan, and California, together with a more extensive coverage of his own research on a voluntary desegregation program in metropolitan Boston called METCO. He reports few positive effects, and concludes that "massive mandatory busing for purposes of improving student achievement and interracial harmony is not effective and should not be adopted at this time." This critique of Armor's paper makes such points as: Unrealistic standards for judging the effects of "busing" were used. The selection of studies was biased and incomplete. The critical distinction between desegregation was ignored. Biased and incomplete descriptions were provided of the few studies discussed. The use of white control groups was inadequate and often misleading. The METCO research had serious weaknesses. The achievement effects of "busing" were more complex and positive than reported. Shifts in aspiration and "academic self-image" during desegregation are positive in meaning. Shifts in racial attitudes during desegregation were exaggerated and interpreted too narrowly. (Author/JM)

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Front Cover: Lois Mailou Jones, *Dahomey*, acrylic, 1971

Another Look at the "Evidence on Busing"

by Thomas F. Pettigrew

"Busing" has become the political battleground of American race relations in the 1970's. A curious historian looking back upon this racial era from the perspective of the next century will have to dig hard to sort out the pieces of this national mania to turn back the clock on racial change. Complicating the task are an array of facts that make school busing a strange target.

Our future historian will note that by 1972, 19 million pupils (43.5% of the total enrollment of public schools) were being regularly transported to school at public expense, a massive effort that requires 256,000 buses traveling 2.3 billion miles at a cost of 1.7 billion dollars annually. Legally authorized in 48 states since 1919, fifteen states today even permit the transportation of students to private schools at public expense. Clearly, then, travel-conscious America has no objection whatsoever to the busing of school children *per se*.

The political issue arises only when the transportation is designed to further the racial desegration of schools. Only *three* per cent of all bused students are transported for desegration; and there is good reason to believe that more public funds are still expended for transportation to racially *segregated* rather than desegrated schools (M.A.R.C., 1972). Likewise, the dangers of bus accidents have been stressed for this three per cent while ignored for the remaining 97% who are transported for "acceptable" reasons. Fortunately, for all bused children, however, the relevant data reveal that the school bus is by far the safest mode of transportation both in terms of accident and fatality rates. In 1968, according to the National Safety Council, the occupant death rate per 100 million passenger miles was 0.06 for school buses as compared to 0.24 for regular buses and 2.40 for automobiles. In 1965 school buses attained an estimated accident rate of less than 19 per million miles. And the Pennsylvania Commission on Human Relations recently announced that over a five-year period the state's school children were over three times safer per mile being bused to school rather than walking to school.

So why the national excitement? The movement ostensibly against busing has been forming over the past five years, and gained momentum once federal judges in a number of key cities ordered busing solutions to correct urban patterns of widespread school segregation by race in situations where other alternatives were not available.

Survey data show, too, that once President Nixon explicitly legitimized the movement, it rose in strength even among so-called "moderate" white Americans. While 41% of a national sample of adult Americans told Harris Survey interviewers in early 1971 that they were unwilling to see school children bused for integration in their communities, 69% were unwilling by March of 1972. Opposition was, not surprisingly, most intense in the deep South and among whites, for blacks *favored* busing for integration in 1972 by 54 to 34%. In sharp contrast, by an overwhelming margin of 83 to 15%, parents whose children are bused to school for largely non-racial reasons are satisfied with the arrangement (Harris, 1972). Despite insistent denials, then, our future historian is likely to conclude that "busing became in our time the polite, culturally sanctioned way to oppose the racial desegregation of the public schools. "It's not the distance," stated a white mother in Richmond, Virginia candidly, "it's the niggers."

Into the midst of this politically charged climate, Dr. David Armor introduced a paper definitively entitled "The Effects of Busing." (Later the title was changed to "The Evidence on Busing.") Armor, a sociologist who is now a visiting member of the faculty of the University of California at Los Angeles, provided brief descriptions of studies of school desegregation programs in New Haven and Hartford, Connecticut, White Plains, New York, Ann Arbor, Michigan, and Riverside, California, together with a more extensive coverage of his own research on a voluntary desegregation program in metropolitan Boston called METCO. He reports few positive effects, and flatly concludes that "massive mandatory busing for purposes of

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improving student achievement and interracial harmony is not effective and should not be adopted at this time" (Armor, 1972b).

Though it usually ignores published social science research even of policy significance, the mass media quickly provided national attention to Armor's unpublished document. Over three months before its July, 1972 publication in the magazine, *The Public Interest*, a preliminary draft leaked to Joseph Alsop, the syndicated newspaper columnist and long-time bitter opponent of racial desegregation. It was not until May, however, that a later, unpublished draft became the object of stories throughout the nation's communications media. *The Washington Post* featured the story on page one of its May 21st Sunday edition, called Armor's work "a major study of school desegregation," and headlined it, "Study casts doubt on busing." *The Boston Globe* the next morning featured its own story in six columns across the full width and top of page one under the headline, "Avowed integrationist probes busing, finds it has backfired." Neither story attempted to evaluate the merit of the unpublished paper nor were other informed opinions sought. *The New York Times* soon gave their own story prominence, as did papers throughout the nation, with *Time*, *Newsweek*, and *The National Observer* later presenting articles of their own.

One is tempted to ask why white America hungers so desperately for news that the racial integration of schools is failing. But that is not the question we shall pursue in this paper. We wish to take another look at the relevant evidence in general and Armor's paper in particular, for we have strong reservations about the paper's assumptions, findings, interpretations, and relevance to policy.

Unrealistic standards for judging the effects of "busing"

The article begins by advancing an "integration policy model" which it claims grew out of social science and guided "the integration movement." The model allegedly maintained that *all* school desegregation would result in improved black achievement, aspirations, self-esteem, racial attitudes, and educational and occupational opportunities (Armor, 1972b, p. 96).

This interpretation of "the integration policy model" is at sharp variance with what specialists in this field have been writing over the past generation.[1] The fundamental premise of social scientists over these years was that racial segregation as it is typically imposed in the United States leads directly to a multitude of negative effects not only for black America but for the nation at large. The evidence for this premise is extensive, and Armor does not contest the premise. However, social scientists have not made the error that because enforced racial segregation has negative effects then *all* racial desegregation will have positive effects. It requires little imagination to think of hostile conditions of school desegregation that would limit its benefits for both races.

At the heart of this misconception is a persistent misreading of Gordon Allport's (1954) theory of intergroup contact. The cited quotation from Allport delineates the crucial conditions that he held to be essential before positive effects could be expected from intergroup contact: equal status, common goals, institutional supports, and a non-competitive atmosphere that is likely to lead to "the perception of common interests and common humanity." Yet, the paper summarizes this quotation by stating: "The clear key to breaking the vicious circle, then, was contact." This is *not* what Allport wrote; the key, Allport argued, is contact *under particular conditions*.

The article later adds a brief discussion of the one condition of equal status between the two groups. Allport and other contact theorists have maintained that this condition is met by equal status, dignity, and access to resources *within* the contact situation itself (e.g., Pettigrew, 1971). Armor reinterprets this condition to be met only if the two groups bring equal societal status *to* the situation, a rigorous test to meet in a society where racial discrimination has long been endemic. We know of no relevant contact research that supports this reinterpretation of the theory. But armed with his own reinterpretation, Armor (1972b, p. 111) writes: "Therefore, we have to question whether integration programs for black and white children can ever fulfill the equal status condition as long as socio-economic and academic inequalities are not eliminated." Here the misreading of Allport's contact theory is fashioned into not only an explanation of presumed "negative" results from interracial schools, but a not-so-subtle rationale for gradualism at best and at worst, a return to racially segregated education throughout the nation.

The basic weakness, then, in this description of an "integration policy model" is that it assumes positive results for *all* interracial schools rather than for just those meeting the conditions for optimal contact. This erroneous assumption is best illustrated by reference to the chief policy document relied upon by Armor: *Racial Isolation in the Public Schools* issued by the U.S. Commission on Civil Rights (1967). The report's cited quotation emphasizes the harmful effects of racially isolated schooling, and it does not specify all of the five hypotheses which are somehow deduced from it. That the Commission clearly understood that interracial schools in and of themselves were not necessarily effective schools is demonstrated by the following passage which was not quoted:

> Whether school desegregation is effective depends on a number of factors. These include the leadership given by State and local officials; the application of the plan to all schools in the community; the measures taken to minimize the possibility of racial friction in the newly desegregated schools; the maintenance or improvement of educational standards; the desegregation of classes within the schools as well as the schools themselves, and the availability of supportive services for individual students who lag in achievement. (U.S. Commission on Civil Rights, 1967, p. 154).

The Commission Report discusses these factors in detail for over eight pages, factors neither mentioned nor measured by Armor.

"The integration policy model," then, sets up unrealistic standards for judging the effects of "busing" by ignoring the conditions specified by the two principal

sources cited. Its five criteria for success constitute a "straw man," far exceeding the standards applied for the evaluation of other educational programs.

The critical distinction between desegregation and integration is ignored

The racial desegregation of schools is a complex, dynamic process. To evaluate it fairly, the critical conditions under which it takes place should be assessed in the evaluation. For this purpose, it is important to distinguish between desegregation and integration. Desegregation is achieved by simply ending segregation and bringing blacks and whites together; it implies nothing about the quality of the interracial interaction. Integration involves Allport's four conditions for positive intergroup contact, cross-racial acceptance, and equal dignity and access to resources for both racial groups.

The neglect of this distinction besets not only the paper's theoretical contentions but its empirical ones as well. No effort is made to look inside of the schools at the *process* of desegregation. The cursory descriptions of the "busing" investigations tell virtually nothing about the conditions of interracial contact that prevailed. For example, we should have been informed by Armor that transported black children in some Riverside schools arrive and leave earlier than the untransported white children and have separate reading classes—hardly a practice likely to generate interracial contact and lead to integration (Singer, 1972, pp. 25-26). And we might have been told that minority students in Riverside who were most likely to be in interracial classrooms (high ability students) performed far better after desegregation than before (Purl, 1971).

In fact, in his Detroit deposition for school segregation, Armor (1972a, pp. 110-111, 123, 167-168) admitted that he had no measures or knowledge in his own study of the METCO schools of such crucial factors as teacher expectations and preparation, the racial composition of the faculties, ability tracking practices, and curriculum changes. A review of "the evidence on busing" is misleading at best without consideration of these indicators of the desegregation versus integration distinction.

A biased and incomplete selection of studies

Armor's article makes no attempt to review all of the available evidence on "busing," as its title implies. Instead, the reader is told about only a small number of studies with an apparent bias toward those reporting few positive effects. One hint of this selection is found in Armor's footnote 1, where we learn that the entire southern United States is arbitrarily excluded from the paper's purview, though this severe restriction is not indicated in either the title or the conclusions against "mandatory busing." This unexplained exclusion seems unwarranted, for the bulk of court-ordered "mandatory busing" has occurred in the South.

Armor, however, omits at least seven key desegregation investigations, only one of which is from the South, that reach conclusions in conflict with those of the paper. All seven of these desegregation programs involved "busing"; and, all seven of the studies meet the paper's two stated criteria for inclusion—longitudinal data with an adequate control group.

Table 1 summarizes these neglected research reports. Though five of them spanned only one school year, all seven reach *positive* conclusions concerning the effects of school desegregation upon the academic performance of black children. Moreover, none of them found that the process lowered white academic performance. However, five points should be made about these seven studies. First, a number of them share methodological problems with the studies that were chosen by Armor for discussion. Indeed, reviewers of this research literature have uniformly found it methodologically weak (Matthai, 1968; O'Reilly, 1970; St. John, 1970; Weinberg, 1968). Second, these seven by no means exhaust the relevant research literature that meets the paper's dual criteria for inclusion. There are studies on desegregation without busing that reveal positive achievement effects (e.g., Anderson, 1966; Fortenberry, 1959; Frary and Goolsby, 1970). There are a few others that were also left out that found no significant achievement gains associated with desegregation (e.g., Fox, 1966, 1967, 1968). From the perspective of the desegregation versus integration distinction, this mixed picture is precisely what one would expect. Third, these seven studies are not obscure reports; all but the more recent Goldsboro and Sacramento studies are cited in one or more of the standard reviews available on the topic (Matthai, 1968; O'Reilly, 1970; St. John, 1970; Weinberg, 1968).

Fourth, the positive achievement effects revealed by these studies are often not just statistically significant (Armor's criterion) but, more importantly, are educationally significant as well. For example, the study from Buffalo by Banks and DiPasquale (1969) found a two-and-one-half-month achievement advantage for the desegregated children. Over a 12-year school career, were such an advantage to be replicated each year, this would constitute two-and-one-half-extra years of achievement—a critical addition that could mean the difference between functional illiteracy and marketable skills. Finally, these seven studies do not measure the "pure" effects of desegregation any more than those cited by Armor. Probably there are no instances of school desegregation that are not confounded with curriculum changes, school quality, and other educational alterations. But our point is made: the few studies mentioned in the anti-busing article constitute an incomplete list and are selectively negative in results.

Biased and incomplete descriptions are provided of the few studies discussed

The cursory reviews of the few studies that Armor did select for attention allow only biased and incomplete descriptions. Since the article never probes the process going on inside the schools, it repeatedly omits mitigating circumstances surrounding black responses to desegregation. For example, no mention is made of the fact that educational services for the transported black students in Ann Arbor, Riverside, and Berkeley were actually *reduced*

Table I: Seven Neglected Desegregation Studies

STUDY		DESIGN					ACHIEVEMENT RESULTS	
Place	Author (s)	Grade Level	Type of Comparison	Control Variables	Longi-tudinal	Time of Desegregation	For Black Children	For White Children (If Tested)
SOUTHERN DESEGREGATION								
Goldsboro, N.C.	King & Mayer (1971)[1] McCullough (1972)	7-11 cohort	White students and trend during segregation	Convergence curves for regression to mean effects and pre-desegregation trends	yes	2 years	Statistically significant gains in reading closing part of black/white differential; gains in math scores do not close racial gap; gains greatest for initially high achievers	Both reading and math gains; gains greatest for high achievers
SUBURBAN BUSING PROGRAMS								
Newark-Verona, N.J.	Zdep & Joyce (1967)	1-2	Comparable non-transfers	— —	yes	1 year	Statistically significantly greater total achievement gains for desegregated in both grades	No negative effects (only difference favors the desegregated)
Rochester-West Irondequoit, N.Y.	Rock *et al.* (1968)	K-2	Comparable non-transfers	Teachers' ratings of ability	yes	3 years	Statistically significantly greater verbal, reading, and math achievement gains on 13 of 27 comparisons for desegregated; no significant differences on remaining 14 comparisons	No negative effects (only differences favor the desegregated)

Table I (cont'd.)

NORTHERN CENTRAL CITY DESEGREGATION		Grade Level	Type of Comparison	Control Variables	Longi-tudinal	Time of Desegregation	For Black Children	For White Children (If Tested)
Buffalo, N.Y.	Banks & DiPasquale (1969)	5-7	Comparable non-transfers	--	yes	1 year	2 ½ months greater achievement gain for the desegregated	No negative effects
New York, N.Y.	Slone (1968)	4	Comparable non-transfers	--	yes	1 year	Statistically significantly greater math achievement gains, and somewhat greater reading gains ($p < .10$), for desegregated	No negative effects
Philadelphia, Pa.	Laird & Weeks (1966)	4-6	Comparable non-transfers	I.Q., grade and sex	yes	1 year	Statistically significantly greater reading, and somewhat greater math, achievement gains for desegregated in fourth and fifth grades	--
Sacramento, Cal.	Morrison & Stivers (1971)	2-6	Comparable non-transfers	--	yes	1 year	Statistically significantly greater gains on three of ten comparisons (5 classes on 2 tests) and greater gains on 6 more, for desegregated	--

[1] Similar results for a cohort of second through fifth grade students have also been obtained in Goldsboro. After two years of desegregated education the *standardized* verbal and mathematical computation achievement scores of both the black and white students had risen. The verbal gains, though not the mathematical computation gains, closed the racial differential slightly. Robert R. Mayer, University of North Carolina at Chapel Hill, Personal communication.

with the onset of desegregation (Carrigan, 1969, p. 361; Frelow, 1971, pp. 107-110; and Purl, 1971, p. 12). Nor is there any indication that Riverside initially placed many of its bused minority children in classrooms together or often with low-achieving white children (Henrick, 1968, p. 210). No "integration model," not even the new one devised by Armor, is tested under such conditions.

Moreover, the positive findings that favor desegregation in these studies are often obscured or simply ignored. In Hartford, for instance, only Wechsler I.Q. data are cited, while extensive results from the Primary Mental Abilities Test and measures of school achievement go undiscussed. When all three types of tests are considered together, a clear pattern of larger gains for the transported children emerges for all four grades from kindergarten through the third grade (Mahan, 1968). Likewise, black pupils in Ann Arbor attained a substantially larger mean I.Q. after one year of desegregation, but this fact is lost from sight by the use of a white comparison. A range of interesting results from Riverside is also omitted. Purl (1971) found that: (a) Bused students who were more dispersed in the classes of their receiving schools outperformed those who through ability grouping or other means were clustered in near-segregation style. (b) While the mean achievement of minority pupils with low initial ability scores declined relative to grade level, the achievement of minority pupils with high initial ability scores rose in the desegregated schools. (c) Minority children transported to schools characterized by higher achievement of the receiving white students gain significantly more than comparable minority children transported to schools characterized by low achievement, an effect not linked to the social class levels of the receiving students. (d) The one group of bused minority students who began their schooling in interracial schools achieved better than those who had first experienced segregated education.

The incomplete descriptions also fail to reveal major methodological weaknesses in these cited studies. The Berkeley (1971a) investigation, as a case in point, utilized different tests for comparison overtime, precisely the same defect for which an investigation in Rochester (1971) showing a number of positive results is rejected without discussion. The White Plains (1967) investigation employs inadequate control groups drawn from earlier time periods, a faulty procedure that confounds over time the effects of events with those of desegregation.[2] Indeed, the negative conclusions of a follow-up study in Ann Arbor are given without recording the fact that it failed to meet either of the criteria purportedly used for inclusion, for it had no control group whatsoever nor did it gather longitudinal data on the same test (Aberdeen, 1969; Carrigan, 1969, pp. 367-368).

Finally, several newer reports on these same cities that present results favorable to desegregation are not utilized. Mahan and Mahan (1971) provide more refined analyses on the Hartford achievement data; they show that the desegregated children in Project Concern do significantly better after two years than their comparable segregated controls on the Wechsler I.Q. and on both the verbal and quantitative scores of the Primary Mental Abilities Test. Samuels (1971) studied 138 black students who had all attended inner city kindergartens in 1969 and then were assigned *randomly* to one of three conditions: bused into suburban schools, received intensive compensatory education in New Haven schools, or attended regular New Haven schools. After two years, Samuels found that the bused children possessed significantly higher reading scores than the two contol groups as well as higher word knowledge scores that approach statistical significance ($p. < 07$).[3]

In Berkeley, Frelow (1971) studied the third and fourth grade achievement of poor children, most of them black, over a six-year period that witnessed rapid changes in the city's schools. Though this design, like that used in White Plains, lacks contemporaneous controls, he found that achievement scores rose significantly after the introduction of compensatory programs and went slightly higher still after desegregation despite a reduction in services. Frelow (1971, p. 104) concludes that "...when gains are measured against level of instructional service, desegregation produces the most prominent achievement results."

The use of white control groups is inadequate and often misleading

The contention that black children will learn more in integrated than in segregated schools is not tested when black data are compared with those of white control groups. Moreover, the use of a desegregated white control group ignores the possibility that *both* whites and blacks could benefit significantly from integration without "the racial gap" in achievement closing at all. As a matter of fact, precisely this possibility occurs in Riverside, Berkeley, and Ann Arbor—though this is not mentioned by Armor and is allowed to mask black gains in desegregated schools.

For Riverside, Armor reports that even for the fourth grade that had been desegregated since kindergarten "the minority/white gap had not diminished..." But actually the white test scores being used for a comparison had improved after desegregation relative to national norms (Purl, 1971). Thus, the fact that the minority students held the "gap" constant represents improvement; this is indicated, too, by these minority students' relative gains in grade equivalents.

For Berkeley, Armor reports in a footnote "...that black achievement is as far behind (or *further* behind) white achievement after two years of integration as before integration." But *both* white and black grade equivalents in grades one, two, and three went up across age cohorts after two years of desegregation; yet since they rose in virtually equal amounts, the "black/white gap" was not narrowed (Berkeley, 1971a, 1971b). The measure here is grade equivalents, not percentiles. Thus, keeping "the racial gap" from expanding is an accomplishment in itself for desegregation, since the typical result of segregated schools is an ever-widening "racial gap" in grade equivalents (Coleman *et al.*, 1966; Mosteller and Moynihan, 1972).

The most extreme case of this misleading use of white controls, however, occurs for Ann Arbor (Carrigan, 1969).

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Here the bused black students were "a multi-problem group" with a greater incidence of "general health problems," such as visual acuity, and behavioral "problems requiring special professional help." Yet they gained an average of 3.86 I.Q. points during their first year of desegregation. They were compared with generally high-status white children, many of whom came from academic families, who gained an average of 4.28 I.Q. points. "Busing" failed in Armor's terms, because "the racial gap" did not close. But can a program utilizing fewer services with a multi-problem group of youngsters that is associated with a nearly four-point average increase in I.Q. during one school year be unquestionably ruled a failure? We think not, even if these "bused" pupils did not gain more than high achieving white youngsters in a university community.

This point represents a crucial difference between our perspective and Armor's. We believe it to be unrealistic to expect any type of educational innovation to close most of the racial differential in achievement while gross racial disparities, especially economic, remain in American society. Furthermore, we know of no social scientists who ever claimed school desegregation alone could close most of the differential. We are pleased to note the many instances where effective desegregation has apparently benefited the achievement of both black and white children, and where over a period of years it appears to close approximately a fourth of the differential.

But to insist that "mandatory busing" must close most of the achievement differential by itself in a short time or be abolished is an extreme position. Indeed, Armor has wavered on this point. Earlier he wrote that: "The ideal control group, of course, would consist of black students who are identical to the integrated students in every way except for the integrated experience" (Armor, 1972b, p. 97), though white students in the same school constituted an "adequate" control. Later, however, while testifying in support of anti-busing legislation before the Senate Subcommittee on Education, he used white pupils as the critical comparison.

This stern criterion leads to some strange conclusions. A desegregation program that dramatically raises the achievement levels of both racial groups might be judged a failure when it does not close most of the racial disparity. But another desegregation program that entirely closes the gap by raising the blacks' scores and *lowering* the whites' scores would have to be deemed a success!

Serious weaknesses with the METCO research

The anti-busing article relies most heavily upon Armor's own research on Boston's suburban program known as METCO. Far greater space is devoted to the METCO research, including a dozen graphs, than to all of the other research combined; and the METCO work is the only investigation that is relied upon for support of all five of the conclusions concerning the effects of "busing." Yet a careful reanalysis of these METCO data reveals a host of serious weaknesses that center on five concerns: (a) the unrepresentativeness of the METCO program, and problems regarding (b) the control group, (c) the sample, (d) test administration, and (e) the analysis.

a. Unrepresentativeness of METCO program. Not only is "busing" not "mandatory" in METCO, but the program is highly atypical of desegregation efforts with "busing" around the nation. METCO is a voluntary program, and it had disproportionately attracted middle-class black students. This class bias may help explain why METCO children in the first year of the program attained a higher average I.Q. than the white national average (Archibald, 1967, p. 20) and why in Figures 1 and 2 of the article all four grade levels show relatively high achievement scores. Moreover, METCO children comprise only a minute fraction of their student bodies, with less than four per cent in any one school in 1969. Black faculty are rare in virtually all of the METCO schools. Indeed, some METCO schools have had all-white staffs, and until recently even all of the bus drivers were white. Thus, on grounds of METCO's tokenism in students and staff as well as its social class bias, direct generalizations from this program to "busing" throughout the United States appear dubious at best.

b. Control group problems. The most serious weakness of the METCO research involves the students who were employed as "controls." The study's design obviously requires that none of these control students were either desegregated or "bused." But a careful review of the available records reveals that this essential condition is not met.[4] Among the 41 "control" youngsters at the elementary level, records on 17 were obtained. Only seven of these 17 pupils were actually attending segregated schools during 1968-69, while 10 (59%) were attending desegregated schools. Likewise, among the 41 "control" youngsters at the junior and senior high levels, records on 38 were obtained. Only 14 of these 38 pupils were in segregated schools during the tested year, while 24 (63%) were attending desegregated schools.

All told then, of the 55 students whose records were secured, 34 (62%) actually went to desegregated schools and many of them used buses and other means of transportation.[5] Even if we assume that all 27 students whose records were unavailable went to segregated schools (an unlikely possibility), these data still mean that at least 41% (34/82) of the "control" students were in fact experiencing a racially desegregated education. Indeed, these desegregated "controls" were generally in interracial schools far less token than the METCO children.

This failure of the METCO study to have an adequate control group cannot be overemphasized. It means that *all* of the METCO comparisons between the METCO and "control" children in Armor's article are invalid indications of any differences attributable to "busing" or school desegregation. Such comparisons also involve the effects of suburban versus inner-city desegregation and token versus substantial desegregation. In short, we believe this weakness alone eliminates the METCO study as being relevant to "the evidence on busing," and makes our further criticisms of the study almost superfluous.

Other problems involve the use of siblings of METCO students as "controls." "This design feature by no means guarantees the equating of the groups," wrote Herbert Walberg (1969, p. 2.) in the initial write-up of this

investigation, "since there may be bias in the family's choice of the child to be bussed..." Indeed, there is potential bias in the selection by families, but the direction is not clear. The academically superior child might be chosen more often by his parents; or, as METCO officials suspect, the child having difficulties in Boston's schools might be chosen more often. Moreover, the use of siblings for controls makes it difficult to match precisely the two groups on sex, grade level, and age. Except for twins of like sex, these variables potentially become confounded with family climate and social class.

c. *Sample problems.* The METCO research suffers, too, from both small numbers and a severe loss of eligible subjects. Limited sample size makes finding statistically significant differences in achievement between the experimental and "control" groups less likely. Put differently, small sample sizes aid in supporting the anti-desegregation thesis of the article.

The extremity of this problem is shown in Table II, which provides the sample sizes by grade level. The question arises as to how large the METCO group differences in achievement would have had to be before the sample sizes employed could have detected a statistically significant difference even at the .05 level of confidence. By our calculation, the answer at the junior high level, for example. is that the METCO students would have had to gain at least 0.4 of a grade *more* in average achievement on the test norms than the "control" group.[7] This is an unrealistic expectation over a duration of only *seven* months, especially for comparisons among children who are close to grade level. An educationally meaningful gain difference over such a short period would have been 0.2 of a grade more average achievement gain for the METCO students. But this would have required sample sizes of roughly 200 in each group to have reached statistical significance for a two-tailed test. Instead only 125 METCO and 27 "control" junior high students were tested. The same point can be made about the other grade levels. We conclude, therefore, that the criterion of statistical significance was inappropriate for evaluating the METCO program when the sample sizes were so small.

The loss of subjects occurred in two stages. Among the elementary students, in the first test administration in October 1968, there was a 23% loss of eligible METCO students and a 35% loss of eligible "control" students.[7] In the second test administration in May 1969, 34% of the METCO and 56% of the "control" students who had taken the tests seven months earlier did not re-take them. Combined, then, the achievement results on these students included only *51%* of the eligible METCO and 28% of the eligible "control" participants. The situation was even worse for the junior and senior high students, whose achievement results were based on only *44%* of the eligible METCO and only *20%* of the eligible "control" participants. Furthermore, only *8%* of the "controls" took part in all three test administrations.

Table II. METCO Sample Sizes by Grade Level and Type of School

GRADE LEVEL	METCO[1]	"CONTROL"	TYPE OF SCHOOL ATTENDED BY "CONTROLS"		
			SEGRE-GATED	DESEGRE-GATED	UNAVAIL-ABLE
3rd & 4th	88	14	2	3	9
5th & 6th	59	27	5	7	15
Elementary School Totals	147	41	7	10	24
7th	47	11	6	5	0
8th	31	10	4	5	1
9th	47	6	1	4	1
Junior High School Totals	125	27	11	14	2
10th	53	4	0	3	1
11th	18	8	3	5	0
12th	1	2	0	2	0
Senior High School Totals	72	14	3	10	1

[1] These data are taken from our reconstructed data tapes. Armor lists 123 junior high METCO students in his Figure 2, but he inadvertently dropped two cases

Contrast these percentages with the accepted survey research standard of at least 70% to 80% response rate, and one can appreciate the high level of potential bias introduced by this loss of subjects from Armor's study. An attempt to compensate for these impaired data by utilizing cross-sectional results is not an adequate remedy for many reasons, some of which are provided by Armor when he condemns cross-sectional investigations. Besides, there was a considerable loss of eligible subjects, and thus potential bias, in the cross-sectional data as well.

d. Test administration problems. "The control group," Armor (1972a, p. 148) argued in his Detroit deposition for school segregation, "has to be measured in the same way that the treated group is." We agree, but his METCO research failed on this count. The third testing in May, 1970, that involved attitudes but not achievement, took place under markedly contrasting conditions for the experimental and "control" groups. While the METCO children answered the questions in school, the "control" children answered them at home through a mailed questionnaire that explicitly requested the parents to serve as proctors. This procedure risks two related sources of bias. A wealth of research has demonstrated how different situations can lead to sharply different responses; and the home administration of the controls' testing opens the possibility for family members to influence the answers directly.

Armor expresses amazement that the METCO children revealed as a group more militant and ideological responses than the "control" children, but the differential testing administrations provide a possible explanation. Repeated surveys indicate that young black peers at school are far more likely to be militant and ideological than older parents at home (Campbell and Schuman, 1968; Goldman, 1970); and research in social psychology has shown that such different situational influences can have a sharp effect on group-linked attitudes (Charters and Newcomb, 1952).

Moreover, studies utilizing achievement tests require motivated students who are trying to do their best. We learn from those in attendance at both the first and second test administrations, however, that motivation was apparently not high. And no wonder. The students, METCO and control, had no special incentive for taking the lengthy tests on a holiday in a Boston technical school described by Walberg (1969, p. 7) as "...an old, run-down, ill-cared-for building." This low level of motivation probably accounts for the small turnout for the second test.

f. Analysis problems. Even if there were no serious control group and sample problems, numerous data errors place Armor's analysis of the METCO results in serious question. One child was included who apparently did not take the verbal test initially at all; his post-test scores were then treated as a total gain from a base of zero. A sixth (25 of 151) of the junior high students initially scored as high as the achievement test scoring allowed. Thus, this "ceiling effect" made it impossible for their post-test scores to advance, and their performance was treated as showing "no gain."

Inadequate discussion of the METCO research

The reader is not told enough in the article to evaluate the METCO research adequately. Most of our critical comments are based on information gleaned from a reanalysis of the raw data, the examination of unpublished papers on the research (Archibald, 1967; Walberg, 1969; and Armor and Genova, 1970), and a review of Armor's court testimony (Armor, 1972a). The discussion of the METCO work also suffers from the use of differential statistical standards, and misleading claims of consistency with other research findings are advanced.

Rigid standards of statistical significance are uniformly applied to findings that favor school desegregation. Findings of positive effects in other studies that approach statistical significance are summarily dismissed as "not significant." But these standards are relaxed considerably when findings interpreted as negative to school desegregation are discussed. For instance, Figure 3 is provided to show how the grades of METCO's junior and senior high school pupils declined slightly, and this finding is emphasized in the conclusions (Armor, 1972b, p. 109). Yet there is no significant difference between the METCO and the control groups on changes in grades. Similarly, a slightly greater increase among METCO students in wanting a school with no more than half white student bodies is emphasized (Armor, 1972b, pp. 102-103). Though "...the differential change is not statistically significant," Figure 7 is devoted to it. And later in the conclusions, this finding is utilized without qualification as part of the evidence that "bused" black students have become more supportive of "black separatism."

Two studies are cited as providing supporting evidence for the METCO results; but their descriptions are so incomplete as to be highly misleading. Useem's (1971, 1972) METCO investigation is given in evidence for how interracial contact in METCO schools leads to worse race relations. Her complete findings, however point to a different conclusion, and we shall return to these findings shortly.

The other citation refers to Armor's earlier reanalysis of the Coleman Report data:

> An extensive reanalysis of the Coleman data showed that even without controlling for social class factors, "naturally" integrated (i.e., non-bused) black sixth-grade groups were still one and one-half standard deviations behind white groups in the same schools, compared to a national gap of two standard deviations. This means that, assuming the Coleman data to be correct, the *best* that integration could do would be to move the average black group from the 2nd percentile to the 7th percentile (on the *white* scale, where the average white group is at the 50th percentile). (Armor, 1972b, p. 100).

Such a statement is extremely misleading, and it requires clarification. It appears to assert that there is some upper limit on the possible achievement gains through "busing" of blacks relative to whites. No such assertion is possible. Moreover, the evidence for this claim is based on data from *groups* of children who are in general not bused and for whom there is only Coleman's cross-sectional data. The statement, then implies a causal relation from cross-sectional data, a practice condemned

earlier by Armor. The statement further implies that there is some intrinsic, if unspecified, connection between the gains possible from "busing" and the inferred gains estimated from cross-sectional data.

More misleading yet is the use of *group* percentiles. Technically, it may be correct that the average black *group* mean in desegregated sixth grades is only at the 7th percentile when compared with the means of white *groups*. But the obvious mininterpretation that can easily arise is that "the average individual black in a desegregated school is only at the 7th percentile compared with the individual white student norms." Such an interpretation is patently *wrong*. Though Armor can argue that his statement is technically accurate, we feel that he has an obligation to inform the lay reader fully so that such a misinterpretation could not occur.

The misleading statement utilizes standard deviations based on group means rather than on individual scores. Group standard deviations are invariably smaller than standard deviations based on the individuals within the groups. Instead of the average black *group* in desegregated sixth grades being at the *7th* percentile of white *group* norms, then, we estimate that the average black *individual* in desegregated sixth grades ranks between the *25th* and *30th* percentiles of white *individual* norms.[8] Indeed, Figure 2 of Armor's article shows that the black senior high students in the METCO research average in individual reading achievement between the 25th and 43rd percentiles.

The achievement effects of "busing" are more complex and postivie than reported

Armor concludes that "busing" fails on four of the five standards he uniquely sets for it. One of these alleged failures concerns the academic achievement of black students. From the selected findings of selected studies, the article concludes that desegregation research throughout the nation has typically found no statistically significant enhancement of black achievement. But we have noted how this conclusion was reached through the omission of at least seven busing investigations with positive black achievement results and through serious weaknesses in the METCO research.

This is not the place for a complete review of the relevant research literature. But our evaluation of the available evidence points to a more encouraging, even if more tentative and complex, set of conclusions. First, the academic achievement of both white and black children is not lowered by the types of racial desegregation so far studied. Second, the achievement of white and especially of black children in desegregated schools is generally higher when some of the following critical conditions are met. These conditions include: equal racial access to the school's resources; *classroom*—not just school—desegregation (McPartland, 1968); the initiation of desegregation in the early grades; interracial staffs;[9] substantial rather than token student desegregation (Jencks and Brown, 1972); the maintenance of or increase in school services and remedial training; and the avoidance of strict ability grouping.

Grading changes before and after desegregation are meaningless if differential grading practices are not considered

"Busing" also fails, according to Armor, because the grade average of the METCO students in junior and senior high schools declined. The average METCO grade decline is slight (-0.12 on a four-point scale), but it is described as "considerable" in the article (Armor, 1972b, p. 109). Nor is the difference in grade changes between the METCO and control groups statistically significant. Moreover, the greater drop in METCO than in control grades may be an artifact of the enormous non-response rate discussed earlier, for the full cross-sectional data show the controls' grades falling as much as those of the METCO children (-0.14 to -0.13).

Black grades also fell after desegregation in Evanston, we are informed in Armor's footnote 4. But we are not informed that the same study shows that white grades also fell and that there were no significant differences "...in the frequencies of earned grades within each group..." (Hsia, 1971, p. 46). By contrast, when black pupils left a segregated junior high school in Sacramento in 1964, they soon received higher grades in the desegregated schools and maintained this improvement throughout their junior high years (Morrison and Stivers, 1971). However, none of these results are convincing, since differential grading practices both across schools and over time within schools are not controlled.

Shifts in apsirations and "academic self-image" during desegregation are positive in meaning

The article further contends that "busing" fails because it lowers both the aspirations and academic self-concepts of black children. Several qualifications are briefly discussed initially (Armor, 1972b, pp. 101-102); but, when the conclusions are drawn, this METCO "finding" has become with certainty one of the four failures of "busing" (Armor, 1972b, p. 109).

Actually, the METCO data on the subject are not clear. Two of the three relevant figures (5 and 6), concerned with occupational aspirations and "feeling more intelligent than classmates," show no significant change differences between the METCO and "control" groups. Again the non-response bias may be producing the one significant change difference concerning the desire to obtain a bachelor's degree (Figure 4), since the full cross-sectional samples reveal a similar decline for both groups (-11% to -12%).

Two careful desegregation investigations from Pittsburgh and Evanston, however, *have* found lower black aspirations combined with *better* academic performance. Black ninth-graders in Pittsburgh had significantly higher arithmetic achievement and lower educational aspirations in desegregated, as compared with segregated, schools (St. John and Smith, 1969). Similarly, *both black and white pupils* in Evanston's third, fourth, and fifth grades who had been in predominantly black schools reported somewhat lower academic self-concept scores after two years in predominantly white schools (Weber, Cook, and Campbell, 1971; Hsia, 1971, pp. 93-94). And we have noted that Evanston's black and white children made achievement gains during desegregation, though they were

not statistically significant (Hsia, 1971). Since this effect occurred for *both* racial groups, these investigators inferred that this "social comparison effect" reflected adaptation to new norms and more realistic conceptions of academic performance.

The key to understanding the apparent paradox of reduced aspirations combined with increased achievement is the well-known psychological principle that achievement motivation and aspiration level are by no means identical. Researchers have repeatedly found that moderate motivational levels are best for learning and achievement (Atkinson, 1964). Some of this motivational research directly concerns black children. Katz (1967), for example, has demonstrated experimentally how unduly high aspirations can doom black students to serious learning difficulties. In his view, desegregation benefits learning among black children by lowering their aspirations to more effective and realistic levels. Veroff and Peele (1969) supported Katz's position in a study of desegregation in a small Michigan city. They found that achievement motivation, as measured by the choice of moderately difficult tasks, significantly increased for black boys after one year in a desegregated elementary school; black girls, however, did not evince the change.

If METCO had drastically curtailed black ambitions to low levels, it would have been a negative result. But METCO reduced these ambitions only slightly, for they remained as high or higher than the amibitions of white students in METCO schools.[10] In short, when desegregation lowers rigidly high aspirations to moderate, effective levels, it should be considered a positive, not a negative, effect.

Shifts in racial attitudes during desegregation are exaggerated and interpreted too narrowly.

"Busing" fails again, in Armor's view, because he regards his METCO data as indicating that desegregation leads to negative effects for race relations. Once again, these METCO data are tenuous at best. Though much is made of it, the increase among METCO children in their desire to attend schools with at least half-black student bodies proves not to be significantly different from a similar increase among the "control" students (Figure 7). No control data are shown for black students' relations with white students (Figure 10), even though data without control comparisons are otherwise condemned by Armor, and a large segment of the "control" group also attended interracial schools and had contact with white students. And, as noted, the differential administration of the third attitude questionnaire in 1970 is a critical factor, the effect of which we cannot assess fully. At any rate, the METCO administration among militant youth, compared with the "control" administration with more conservative parents serving as proctors, probably explains at least part of the difference between the two groups.

But if these supporting data are suspect, the interpretations of them are even more suspect. "Militancy" and heightened "black consciousness and solidarity" are viewed as indicating "bad" race relations, though the paper adds, "It would be a mistake, of course, to view the increased racial solidarity of black students as a *completely* negative finding" (Armor, 1972, p.113, italics added). Similarly, a preference for a school with a student body that is evenly divided between the races and support for "black power" are believed necessarily to involve "black separatism." Even sympathy for the Black Panthers is regarded as indicative of "anti-integration sentiments", despite the fact that the Panthers do not support racial segregation and removed Stokley Carmichael as a member because of his insistence on racial separatism.

These interpretations involve a logical contradiction in the paper's argument. Armor begins his article with the famous "hearts and minds" quotation of the 1954 Supreme Court ruling against *de jure* racial segregation of the public schools; and he employs it as evidence of the powerful influence of social science upon "the integration policy model." Yet the Supreme Court was maintaining that segregation led to black self-hatred. But when he interprets his data as showing that METCO "busing" leads to racial pride, militancy, and a desire to be among blacks as well as whites, Armor concludes that "the integration policy model" is proven wrong and that "busing" causes bad race relations.

The article admits that the METCO children are still supportive of the program, but emphasizes the trend toward "militancy." No consideration is given to the effects of the differential administration of the third-wave questionnaires; nor is any given to possible effects of having begun the study just after the 1968 assassination of Dr. Martin Luther King, Jr., a tragic event with wide repercussions for black-white interaction. Finally, the attitude results, like the achievement results, must be reinterpreted in the light of our discovery that much of the "control" group attends substantially desegregated schools. It could be, then, that the extreme tokenism of the METCO programs influenced these attitude results. But they cannot be related to "busing" and desegregation given the composition of the "control" group.

Nonetheless, Armor views these findings as a challenge to contact theory. To buttress this contention, he selectively cites a lone finding out of context from Useem's (1971, 1972) 1969 study of white racial attitudes in METCO schools.

> Nonetheless, although the evidence is not complete, what we have indicates that the white students themselves were negatively affected by the contact...those students who had direct classroom contact with bused black students showed *less* support for the busing program than those without direct contact. In fact, the kind of students who were generally the most supportive—the middle-class, high achieving students—showed the largest decline in support as a result of contact with bused black students. This finding is based on cross-sectional data and does not indicate a change over time, but it is suggestive of the possibility that a general polarization has occured for both racial groups (Armor, 1972b, pp. 103-104).

When drawing conclusions, however, he forgets his own caution against drawing casual inferences and flatly states that "...white student attitudes in the receiving schools also tended *to become* less favorable to black students..." (Armor, 1972b, p. 112, italics added).

The simple correlation between increased classroom contact and more negative feelings toward METCO among white students is statistically significant; but Armor fails to report that the relationship is no longer significant once such variables as sex, socio-economic status, and academic standing are taken into account. There is also a failure to report other relevant findings from Useem's work. For example, she found a statistically significant positive relationship between favorable white attitudes toward METCO and earlier equal status interracial contact in elementary school, summer camp, etc.; and this strong relationship remained significant after full controls were applied. Useem also found a relationship (p. .08) between support for METCO and interracial contact in extra-curricular activities. Moreover, she found that having a METCO friend is strongly linked to support of METCO, and is best predicted by equal status contact with blacks as a child and with METCO students in class and school activities.[11]

The evidence that school desegregation "channels" blacks into greater future opportunities is stronger than presented.

The one "success" of "busing," Armor admits, is that METCO appears to "channel" its products into colleges at higher rates than control students from presumably the same families. But he understates METCO's success in this regard and fails to cite recent research that indicates that it may well be an important effect of interracial education in general. The article shows in its Figure 11 that 79% of the METCO graduating class of 1970 entered four-year colleges compared to only 44% of the controls. By the fall of 1971, the percentages were 66% and 44%; and by the spring of 1971, 56% and 38%. (For universities, the spring 1971 figures were even more impressive, with 43% of the METCO graduates and only 12% of the controls enrolled.) Similarly, positive results are cited from another special program (Perry, 1972).

But the article also implies that the METCO drop-out rate from college is excessively high, suggesting that the program pushes students into college who do not belong. This point is answered as soon as one compares the METCO figures with other data on college attendance. For 1969 and 1970, the percentages of the *total* graduating classes of the METCO high schools going on to four-year colleges were 61% and 62%—all well below the 1969 and 1970 METCO figures of 77% and 78% (Useem, 1971).[12] Moreover, the 84% (66%/78%) college *retention* rate of the 1970 METCO graduates who entered the second year of the four-year colleges is *not* abnormally low. In fact, it is slightly above the 78% national retention rate for white students in four-year colleges (Astin, 1972).

Nor was the 1970 METCO graduating class unusual. Robert Hayden, the director of METCO, kindly supplied us with data on the 32 METCO graduates of 1969. Twenty-eight (88%) entered college in the fall of 1969, while four began full-time employment. Three years later, attempts were made to contact the entire group, and 22 of the 28 college-attendees were reached. One was now in the Army, and five had left college. Sixteen (73%), however, were still enrolled in college, including such universities as Princeton, Brown, Nebraska, Massachusetts, and Northeastern.

Yet Armor belittles such concrete results. He emphasizes that such findings are tentative, based on small samples and may indicate that the future benefits of biracial schooling are limited to the college-bound. The importance of all three of these cautions is reduced, however, by a major research effort that goes unmentioned. Robert Crain (1970), using a 1966 survey of 1,624 adult blacks in the urban North, focused upon the occupational and income outcomes of desegregated education for high school graduates.[13] He concludes:

> American Negroes who attend integrated public schools have better jobs and higher incomes throughout at least the next three decades of their life. The differences in income cannot be accounted for by the higher educational attainment of alumni of integrated schools, or by the higher differences in social background. The most significant effect of integrated schools is probably not "educational." It is probably more important that Negroes who attend integrated schools will have more contact with whites as adults, and tend to have more trust in whites than do Negroes from segregated schools. This in turn partially overcomes a crucial barrier to equal opportunity—the fact that information about employment opportunities is spread through types of informal social contacts to which few Negroes have access. (Crain, 1970, p. 593).

The firm policy conclusion against "mandatory busing" is not substantiated by the evidence presented

For these many reasons, the evidence does not justify the unqualified conclusion: "The available evidence on busing, then, seems to lead to two clear policy conclusions. One is that mandatory busing for purposes of improving student achievement and interracial harmony is not effective and should not be adopted at this time" (Armor, 1972b, p. 116). Interestingly, this conclusion was added to the final version after considerable publicity concerning the paper had been generated by its repeated leaks to the mass media. An earlier draft had only concluded that "...the data may fail to support mandatory busing as it is currently justified..."

The paper also concludes that "voluntary busing" should continue for those who still believe in it and for social scientists to study. Yet Armor never demonstrated, nor do we detect it when reviewing the evidence, that "mandatory" and "voluntary" desegregation lead to different effects. "Mandatory busing" is condemned out of hand even though the article rests most heavily on a voluntary program's effects; and rests entirely, except for Berkeley, upon token programs with small numbers and percentages of black children, while most "mandatory" programs involve larger numbers and percentages of black

children in southern cities that were excluded from consideration.

In a real sense, Armor's paper does not concern itself with "busing" at all, save for its title and its conclusions. It does not provide us with direct evidence on the "busing" of school children for racial desegregation, for it never treats "busing" as an independent variable. Rather, the article is an attack upon the racial desegregation of public schools that often, but not always, involves "busing." Large numbers of the children in the few studies cited by Armor attend desegregated schools without "busing." And we have noted that in his own METCO study many of his so-called "controls," who were supposed to be "unbused" and segregated, were in fact "bused" and desegregated. Furthermore, a check on his METCO sample finds that a substantial number were *not* bused. Armor was apparently aware of these problems, for he admitted in his court testimony for segregation in Detroit that "a more accurate title would be 'The Effects of Induced School Integration' " (Armor, 1972a, p. 18).

The article's basic assumptions about racial change are unjustified

To this point, our critique has answered Armor's argument within the narrow confines of his view of the process of racial desegregation of the public schools. But here we wish to break out of these confines, to challenge the basic assumptions about racial change that undergird his entire paper.

The article's thesis is predicated on viewing school desegregation as a technical matter, as an inconvenient intervention whose merit must be judged solely on how well *black* children manage to adapt to it. Blacks are once again the "object" whose reactions should determine "what is good for them." The conditions faced by black children go unmeasured and ignored. The whole context of American race relations is conveniently forgotten. All interracial contact is assumed to constitute "integration." No mention whatsoever is made of white racism, individual and institutional, which the Kerner Commission maintained was at the root of the problem (National Advisory Commission on Civil Disorders, 1968). Nor is there any discussion of the strong argument that genuine integration is necessary primarily for its potential effects on *white* Americans and *their* racial attitudes.

Instead, the whole issue is portrayed as the creation of "liberal educators" who are "...so intent on selling integration to reluctant white communities that they risk the danger of ignoring the opinion of the black community" (Armor, 1972b, p. 115). Forgotten is the fact that the issue was the creation of black America, from Charles Hamilton Houston to Roy Wilkins, and has been continuously opposed by white America with every conceivable means.

Data from the limited METCO sample are generalized to the whole black community (Armor, 1972b, p. 113). The anti-busing resolution of the National Black Political Convention held in Gary, Indiana, in March of 1972 is emphasized, but the paradoxical fact that the same Convention also passed a strong "pro-busing" resolution is not cited. While it is acknowledged that "...many black leaders favor school integration..." and that "... the *majority* of blacks *may still* endorse the *concept* of integration..." (Armor, 1972b, pp. 112, 115, italics added), the full range of support for school integration (not desegregation) in the black community is never revealed. "Would you like to see the children in your family go to school with white children or not?" When asked this question at the time of the METCO research in 1969, 78% of a national sample of black Americans (*up* from 70% three years before) chose "go with whites" as opposed to 9% "not with whites" and 14% unsure (Goldman, 1970, p. 267).[14] Thus, not just a majority but an overwhelming portion of black America still opts for school integration. If any further evidence was needed, the immediate and hostile public reactions of many blacks to the initial newspaper stories concerning Armor's paper should have supplied it. This is not to deny that there are strong doubts among blacks, especially the young, as to whether white America will ever allow genuine integration to become the national norm.

Armor asserts that the burden must fall upon those who support school integration to prove that it works. Given America's unhappy racial history, we believe that the burden of proof rests with those who wish to maintain racial segregation. But actually such contentions miss the point. The Court's interpretation of the 14th Amendment of the United States Constitution, not social scientists' opinions about black responses, ultimately governs the racial desegregation of the public schools and court-ordered transportation when needed to achieve it. This fundamental fact was dramatically demonstrated by the judicial reaction to Armor's deposition in the Detroit school case, a deposition based on an earlier draft of "The Evidence on Busing." On June 12, 1972, U.S. District Court Judge Stephen H. Roth ruled the deposition inadmissible as evidence on the grounds of irrelevancy. The deposition, in Judge Roth's view, represented "...a new rationale for a return to the discredited 'separate but equal' policy..." (Roth, 1972, p. 3).

* * * *

FOOTNOTES

*This paper is based in large part upon a longer article co-authored with Elizabeth Useem, Clarence Normand, and Marshall Smith and published in the 1972-3 Winter issue of *The Public Interest*.

[1]This is true from the early statements on the desegregation process by Clark (1953), Williams and Ryan (1954), Johnson (1954), and others (summarized in Coleman, 1960) to more recent statements by Katz (1964) and Pettigrew (1969, 1971).

[2]Matthai (1968, p. 45) describes the White Plains (1967) research as follows: "The small numbers of Negro students tested (33 desegregated students, 36 from previous year); the lack of explicitness about comparability of the groups under study and the rationale of sample selection; the occasionally contradictory figures and tables; the lack of significance tests; the selection of only one grade level for study (plus a truncated comparison of another grade level); and the almost impenetrable prose of the research report make this study utterly equivocal."

[3]More recently, a study has been released by the Center for Urban Education concerning 25 black first, second, and third graders bused under Project Concern from Bridgeport to Westport, Connecticut. Though the sample size renders its findings tentative, it found marked academic improvement for the "bused" children during one-and-a-half years when compared with similar unbused children remaining in the segregated sending school in Bridgeport. The study also found no ill effects among the desegregated white children (Heller *et al.*, 1972).

[4]We wish to thank Mr. Robert Hayden of METCO, the Boston School System, and Michael Olneck, the families of the children contacted for their helpful cooperation in securing these data.

[5]We are here following the standard practice of defining a segregated school as one with a predominantly black student body. Had we employed a majority-white definition for a desegregated school, the "control" percentage attending desegregated would be 53% (29/55) instead of 62% (34/55). Small numbers of Chinese-American and Spanish-speaking students in a few of the schools explain the minor difference.

[6]Our projected sample sizes conservatively assume a standard deviation of the junior high gain scores of one grade level.

[7]Unfortunately, for the discerning reader, Dr. Armor failed to mention these losses of elementary subjects in the one footnote he devotes to the subject. We obtained them from Walberg, (1969).

[8]Using the Coleman Report data, the standard deviation for groups of white students in desegregated schools in the metropolitan North is only about 40% as large as the standard deviation of the white individual scores; or, on Coleman's verbal test, roughly four points where the standard deviation of the individual whites is ten points (Coleman *et al.*, 1966). Since Dr. Armor finds that the mean for white groups in desegregated schools is roughly one-and-a-half group mean standard deviations larger than that for black groups in desegregated schools, we estimate that the average black child is roughly six points (1 1/2 x 4 points) behind the average white child. Translating this into individual percentiles and assuming that the average white in desegregated schools is at the 50th percentile, we arrive at our estimate that the average black pupil in desegregated schools is between the 25th and 30th percentiles.

[9]Bailey (1970) has also shown that high school "disruptions" and racial tensions are far less likely to occur when the black staff percentage is equal to or greater than the black student percentage.

[10]Useem (1971) studied white tenth graders' aspirations and attitudes in eight out of the nine secondary schools participating in the METCO program during 1968-69. She found white aspirations just equal to or below those reported for blacks in the same schools. Thus, 74% of the white students wanted to be above the middle of the class academically compared to about 80% of the black students; and 26% of the whites aspired to a professional or graduate school compared to 35% of the blacks.

[11]In his Detroit segregation testimony, Armor (1972a, pp. 118-122) stated that he omitted these positive findings of contact because they were voluntary and therefore could have been caused by self-selection. But classrooms at the high school level often involve selection, too. Besides, 72% of Useem's white students who had contact with METCO students in school activities had it in athletics. Armor's argument requires us to believe that tolerant white students would go out for football primarily to have contact with the few black players on the team.

[12]Data from one METCO high school was unobtainable for 1970, but the similarity of the percentages for the two years suggests that this does not introduce a serious bias.

[13] From these same data, Crain (1971, p. 1) also finds "...that those who attended integrated schools are more likely to have graduated from high school, are more likely to have attended college, and score higher on a verbal test than those who attended northern segregated schools. It seems likely that the higher achievement of Negroes in integrated schools can be attributed partly to differences in the character of their classmates, irrespective of race. In addition, however, there is evidence that attending integrated schools has an important impact in establishing social and psychological preconditions for achievement."

[14]Armor's data on black attitudes toward "busing" in his footnote 11 are outdated. By March 1972, blacks favored "busing" for integration by 54% to 34% (Harris, 1972).

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