ABSTRACT
                In 1971, Duval County, Florida, began investigating
the effect of court-ordered desegregation on academic achievement.
The study investigated achievement differences between desegregated
and not-desegregated pupils and variables affecting their
achievement. Several statistical techniques were used to investigate
differences and the effects of sex, race and economic indices on
achievement and achievement gain. Both cross-sectional and
longitudinal studies were done. Race accounted for a greater portion
of variance than any other predictor. Economic indices were also of
major importance. However, only a small portion of variance was
accounted for. Generally, this study supports the literature and
implies that affective, psychological and attitudinal variables may
be better predictors of achievement. (Author)

RAPID DESEGREGATION AND ACADEMIC ACHIEVEMENT

IN A LARGE URBAN SCHOOL DISTRICT

SESSION #27.09

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Problem

The past decade has seen a steadily growing national
commitment to achieving racial balance in America's schools,
and the past five years have seen increasing use of the court
order to implement this commitment. Yet, little is known of
the effects on students when racial mixing of schools is
forced upon a resistant community by order of the court. The
purpose of this research, which was conducted under OEG grant
#4-72-1109 (Project #19-3), was to explore the relationship
between academic achievement and racial mixing in just such a
situation.

The Duval County (Jacksonville, Florida) school system,
is one of the largest in the country, with a total of 105,000
students (34,000 black, 71,000 white). Its seventy eight
elementary schools, sixteen sixth grade centers, five seventh
grade centers, sixteen junior highs, and fifteen senior highs
serve an urban, economically depressed population, whose median
income is $8671. Fourteen percent (14%) of the population is
below poverty level. Blacks, most of whom live in the core
city and proximate rings, make up 22.3% of the county's

population and 32% of the student population. Median income
of blacks is $5122, with 34.8% below poverty level. The
median education level among blacks is 9.5 years of school
completed; among the total county population, 12.0 years.

Desegregation of the Duval County school system was
accomplished, in the face of community resistance and after
five years of delay, under the order and close supervision of
the U. S. District Court, Middle District of Florida. School
desegregation had been mandated by the court as early as 1965,
but it was not until 1970 that a final plan was adopted by the
court and rapid, wide-spread desegregation begun. During this
year (Phase 0), the desegregation of faculty throughout the
system was accomplished, along with the desegregation of every
black elementary school having an attendance zone adjacent to
a predominately white school. During the following year, 1971-
72, Phase I of the final court-ordered plan focused primarily
on the desegregation of the eighteen all-black elementary
schools in the core city. Seven of these schools were closed
(along with one junior high) and some sixth grade centers were
established. To accomplish the transfer of pupils necessitated
by these changes, extensive busing of students was begun, and
was received with hostility and active resistance by the
community. During Phase II (1972-73), twenty three grade
centers for grades 6 and 7 were established, busing was

increased to massive proportions, and a unitary school system,

which is best described by the words of the court, was achieved.

As the court stated,

> The desegregation plan for Duval County is best under-
> stood when examined from a pupil's viewpoint. A black
> student can expect to spend his first five years of school
> attending an elementary school in a white neighborhood.
> His education during the sixth and seventh grades will
> occur in grade centers located in black neighborhoods.
> In all likelihood, he will return to a formerly white
> junior high school for the eighth and ninth grades.
> Finally, he would attend an integregated senior high
> school, which formerly may have been predominately black
> or white. The closing of some of the black elementary
> schools, previously discussed, will enhance quality
> education for all pupils.
>
> A white student can expect to spend his first five years
> of school attending his neighborhood school. His education
> during the sixth and seventh grades will occur in grade
> centers located in black neighborhoods. He will then go
> to the junior high and senior high schools he would have
> attended had desegregation not been ordered.
>
> In Baldwin and at the Beaches, the students can expect to
> attend fully integrated schools there at the elementary,
> junior high and senior high levels.[1]

In effect, within two-and-one-half years, the entire

school district was restructured to achieve a desegregated,

unitary system. Schools were closed, racial and grade groupings

within school buildings were radically altered, faculty and

resources were increased and redistributed, extensive reas-

signment and transportation of pupils was undertaken, new

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[1]Mims, et. al. v. Duval County School Board, U. S. District
 Court, Middle District of Florida, June 23, 1971 pp. 24-25

curricula and administrative programs were implemented, and
federal funding for compensatory education tripled. An
atmosphere of tension and instability was evident in all
sectors of the school system itself, especially during Phases
O and I. Further, large protions of the adult and student
communities reacted with overt and prolonged hostility during
these first one-and-one-half years of the desegregation process.
Students rioted and boycotted, vandalism increased, adults
picketed schools and school board meetings and held frequent
and vocal protest rallies, and private school attendance
increased dramatically. Phase II was comparatively quiet, with
minor protests and isolated incidents.

This rapid and traumatic desegregation of the school
system raised many questions among Duval County parents,
teachers, and school administrators. Foremost among these
was the question of the impact of desegregation on the academic
achievement of pupils of both races. This study attempts to
explore some dimensions of this question. Since the study was
accomplished early in the 1972-73 school year, i.e., Phase II,
only Phases O and I are examined. Six research questions have
been asked. These are:

    1. What are some of the variables affecting the
       academic achievement of the desegregated pupils
       of Phase O?

2. What are some of the variables affecting the academic achievement of the pupils who were not desegregated during Phase 0?

3. Was there any difference in the academic achievement of these two groups of Phase 0 pupils?

4. What are some of the variables affecting the academic achievement of the desegregated pupils of Phase I?

5. What are some of the variables affecting the academic achievement of the pupils who were not desegregated during Phase I?

6. Was there any difference in the academic achievement of these two groups of Phase I pupils?

Review of Literature

Research on the relationship between racial mixing and academic achievement has to date been conducted largely in school systems or individual schools where either voluntary desegregation or integration (racial mixing growing out of changes in housing patterns, etc.) has occurred. Very little research has been done in situations where desegregation has been forced by court order. Further, existing research is confounded by complex methodological problems and lack of comparability of studies. Nevertheless, past studies have produced useful insights into what increasingly seems to be an extraordinarily complex problem area and which are certainly applicable in the court-ordered situation. Generally, the research appears to indicate that academic achievement and racial mixing are positively related. Further, there appear

to be several important variables confounded with racial
mixing, the major one being social class.

Coleman, et. al. (1966) finds that the proportion of
white students in a school is positively related to average
performance of students in the school, and concludes that the
apparent beneficial effect of having a student body with a
high proportion of white students comes not from racial com-
position per se but from the better educational background
and higher educational aspirations that are, on the average,
found among white students. The United States Commission on
Civil Rights (1967) finds that black children who attend
predominately black schools do not achieve as well as other
children, whether black or white, and that blacks show higher
achievement provided they are in classrooms with whites.
Weinberg (1970), in his comprehensive review of the research,
finds that academic achievement rises as the minority child
learns more while the advantaged majority child continues to
learn at his accustomed rate.

Design and Instrumentation

The experimental, i.e., dependent variable in this study
is academic achievement, as measured by the Stanford Achieve-
ment Test (SAT). SAT scores on all subtests were obtained from
Duval County's regular testing program. Table 1* shows the

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*All tables are contained in Appendix A.

subtests used and the dates of administration for all grade
levels studied.

Based on the literature, several experimental, i.e.,
independent variables were selected as potentially important.
These are sex, race, the degree of racial mixing the individual
encounters at school, the social class membership of the indi-
vidual, and the social class make-up of the school itself. It
was hypothesized that a good portion of achievement variance
would be accounted for by these variables, and an effort was
made to include all.

However, obtaining acceptable indices of these variables
presented quite a problem. While sex and race classifications
were readily available, an index of the degree of racial mixing
encountered had to be devised by using the percent black
membership of the appropriate grade level in the individual's
school. No completely acceptable index of individual social
class membership was available and therefore individual social
class per se was dropped as a variable. In its stead, Title I
eligibility status was used to provide some access, however
meager, to the class question. (Title I eligibility is deter-
mined by economic and educational deprivation and probably does
serve as a fairly good index of low socioeconomic class member-
ship, but, since it is dichotomous, it is unsuitable as an
index of social class per se.)

The socioeconomic class makeup of the school attended by the individual presented similar problems, and two indices were finally devised. These are: 1) the percent of Title I eligible students in the school, which is referred to as school Title I status; and 2) the geographic income level of the school, which is the range of average family income (as reported by the 1970 Census) within the surrounding neighborhood, i.e., pre-busing geographic attendance zone. Nieghborhood attendance zones were virtually eradicated by the court order; yet, physical school plant facilities vary considerably in quality according to the neighborhood attendance zone. Thus, both indices were used.

Six independent variables were finally devised. These are sex, race, percent black of grade, student Title I status, school Title I status, and geographic income level of school. Indices of race, sex, percent black of grade and geographic income level of school were available for Phase O. Indices of all variables were available for Phase I.

Sample

A sample of approximately 190 students was drawn for each of the several grade levels investigated. For Phase O, four grades (2, 3, 5 and 6) were selected for study on the basis of availability of achievement data. For Phase I, six grades (2, 3, 5, 6, 9 and 11) were selected on the same basis. Half of

each grade sample was drawn from a random sample of those
schools that had been desegregated during the phase under con-
sideration, and half from a random sample of those that were
not affected during this phase or a previous phase. The non-
desegregated schools matched the desegregated schools on
geographic income level. All grade samples were arbitrarily
balanced on two of the independent variables, race and sex.
Individual pupils within a school were randomly assigned
according to race and sex. Students who did not have a complete
set of subtest scores were excluded.

A total sample of 394 students was drawn for Phase 0 (four
grade levels), and a total sample of 1,507 students was drawn
for Phase I (six grade levels). Table 2 shows the sample
distribution for each grade. Table 3 shows the geographic
income levels of Duval County Schools.

Statistical Analyses

Stepwise regression analysis was used to determine the
portion of achievement variance accounted for by the six inde-
pendent variables. Desegregated and non-desegregated pupils
at each grade level within each phase were treated separately.
The six predictors were regressed on each subtest of the SAT.
Biomedical Computer Program BMD02R (Dixon, 1968) was used to
perform the stepwise analysis.

To investigate achievement differences between the desegre-
gated and non-desegregated groups within each phase, a stepwise
discriminant function was performed. All variables, both
predictor and criterion, were entered as potential discrimi-
nators between the two groups. Bio-medical Computer Program
BNDO7M (Dixon, 1968) was used to perform the stepwise discrimi-
nant analysis.

However, results of the regression and discriminant
function analyses indicated the need for further treatment of
the data in order to more thoroughly investigate achievement
differences between desegregated and non-desegregated pupils.
Therefore, analysis of variance with multiple covariate control
(ANACOVA) was performed using desegregated and non-desegregated
status as the independent variable. Racial groups were treated
separately. Student Title I status, school Title I status, and
geographic income level of school were treated as extraneous
variables and covaried out. Biomedical Computer Program
BMDO4V (Dixon, 1968) was used to perform the ANACOVA.

Results

For Phase O, indices of four of the predictor variables
were available. Race, sex, percent black of grade, and geo-
graphic income level of school were regressed on academic
achievement. Table 4 shows the maximum multiple R^2 by subtest
for both groups and all grades for the Phase O analysis. The

R^2's range from 0.0293 to 0.4727, with a median of 0.1761.
In other words, while the maximum amount of variance accounted
for varies from group-to-group, grade-to-grade, and subtest-
to-subtest, the overall range is 2% to 47% with a median of
18%. Table 4 also shows that a greater portion of subtest
variance is accounted for in the grade 2 and 3 not-desegregated
groups than for any other group. For this group of pupils,
the maximum multiple R^2 ranges from 0.1400 to 0.4727 with a
median of about 0.3350. In contrast, the range for grade 2
and 3 desegregated pupils is 0.0308 to 0.3981; for grade 5 and
6 not-desegregated students, 0.0293 to 0.3297; and for grade
5 and 6 desegregated pupils, 0.0386 to 0.2388. Median R^2's
for these groups are 0.1438, 0.1700, and 0.1502 respectively.

The portion of total subtest variance accounted for by
any one of the predictors varies widely from case to case
within Phase O. However, the first variable to enter the
regression equation, which in most cases is race, generally
accounts for most of the total variance accounted for. In-
creases in R^2 for each succeeding variable are generally very
small, and the order of entry of succeeding variables varies
a good bit across subtests and grades. Table 5 shows the
multiple R^2 of the first-entering variable by subtest for all
groups and grades. From a comparison of Tables 4 and 5, it is
evident that the single variable race usually accounts for

most of the variance. Generally, geographic income level
of school and percent black of grade enter either second or
third with approximately equal frequency, and sex enters last.

For Phase I, indices were available for all of the
predictors. Race, sex, percent black of grade, student Title
I status, school Title I status, and geographic income level
of school were regressed on academic achievement. Table 6
shows the maximum multiple R^2 by subtest for both groups and
all grades for the Phase I analysis. The R^2's range from
0.0786 to 0.5048, with a median of 0.3031. In other words,
the overall range of accountable variance is 7% to 50% with
a median of 30%. Table 6 also shows that a greater portion
of subtest variance is accounted for in the grade 2, 3, 5 and
9 desegregated groups than in the not-desegregated groups at
these grade levels. For the desegregated groups, multiple
R^2's range from 0.1994 to 0.4079, 0.2310 to 0.4311, 0.2088 to
0.4305 and 0.2465 to 0.5048, with medians of 0.2826, 0.3662,
0.3285 and 0.4050 respectively. For the not-desegregated
groups, multiple R^2's range from 0.1450 to 0.3385, 0.1580 to
0.2553, 0.0786 to 0.4277 and 0.2084 to 0.3588, with medians
of 0.1973, 0.1923, 0.2872 and 0.3404 respectively. However,
at grades 6 and 11, these predictors account for more of the
subtest variance in the not-desegregated group than in the
desegregated group. For the former, multiple R^2's range from

0.2262 to 0.4388 and 0.1525 to 0.4889 with medians of 0.3670
and 0.3404 respectively. For the latter, multiple R^2's range
from 0.1533 to 0.3467 and 0.1178 to 0.3785, with medians of
0.2529 and 0.3095 respectively.

As in Phase 0, the portion of total subtest variance
accounted for by any one of the predictors varies widely from
case to case. Yet, race is again the first variable to enter
the regression equation in most cases, and accounts for most
of the total variance accounted for. Table 7 shows the multi-
ple R^2 of the first-entering variable. From a comparison
of Tables 6 and 7, it is evident that the single variable
race accounts for most of variance in most cases. Generally,
for desegregated subjects, student Title I status and percent
black of grade enter either second or third. For not-desegre-
gated subjects, sex, student Title I status and geographic
income level of school enter second with approximately equal
frequency, while percent black of grade enters third.

The results of the stepwise discriminant function analysis
were disappointing for both Phase 0 and I. No clear pattern
of discriminators emerged; therefore, the data is not included.

The results of the ANACOVA generally revealed no signifi-
cant differences between desegregated and not-desegregated
groups. (Only elementary grades were treated in this analysis.)
However, there are some notable exceptions to this generali-
zation. As indicated by Table 8, which shows the adjusted

means from the ANACOVA, there are statistically significant
achievement differences between desegregated and not-desegre-
gated blacks in grade 2 during Phase O, and between desegre-
gated and not-desegregated whites in grade 2 during Phase I.
In every case, these differences are in favor of the desegre-
gated students, i.e., mean achievement for this group is
higher. In addition, a few isolated achievement differences
are statistically significant, e.g., grade 2 whites differ in
social studies achievement.

Summary and Discussion of Results

In summary, stepwise regression analysis reveals race to
be the single most powerful predictor of academic achievement
in both Phase O and Phase I. The socioeconomic-related
variables generally are the second most powerful predictors.
Little total variance was accounted for however. The four
predictors of Phase O accounted for a median 18% of the
variance across all groups and the six Phase I predictors
accounted for a median 30% of the variance across all groups.
When the socioeconomic-related variables are covaried out and
desegregated subjects compared with not-desegregated subjects
within races, generally no significant differences in academic
achievement emerge.

These results seem to be generally consistent with the
literature concerning the importance of socioeconomic status

as an important variable affecting achievement. Further
support is lent to this contention by the fact that, in Duval
County, race is very strongly related to socioeconomic status.
On the other hand, these results do not appear to be generally
consistent with the literature concerning academic achievement.
With only two notable exceptions (grade 2 blacks during Phase
0 and grade 2 whites during Phase I), there were no differences
in academic achievement between desegregated and not-desegre-
gated groups. In other words, the initial desegregation of
Duval County schools does not appear to have had any immediate
affect on achievement within either race. The questions
raised by this study are many, but foremost is the question of
the relationship of changes in academic achievement and court-
ordered desegregation. This relationship is perhaps best
investigated by longitudinal studies, which are currently
underway.

The experience gained in conducting this research has
been extremely valuable and has led to considerable rethinking
concerning approaches to the question of desegregation effects.
At this time two points seem especially cogent. First, careful
attention should be given to the selection of independent
variables. This study explored those variables that were
traditional to the literature and fairly accessible. Yet,

little score variance was accounted for. Further, it became
evident during the course of this study that these traditional
variables are of little practical interest to school adminis-
trators or faculty. It may be that the less accessible
affective and attitudinal variables (e.g., motivation; atti-
tudes toward races, school; social behavior, classroom process)
would be better predictors, i.e., account for more of the
total score variance. However, even if this were not the case,
these variables would still likely hold more practical interest
for school personnel. Curricula can be designed to possibly
improve such things as motivation for academic achievement and
social behavior and attitude toward school, but curricula
cannot be designed to alter race or socioeconomic status.
Second, even more careful attention should be given to the
selection and development of variable indices. For example,
this study would have been strengthened had a better, single
index of school socioeconomic makeup been developed. The
literature is replete with such examples. Such efforts do
require a good deal of time and thought, yet would be well
worth the effort.

APPENDIX A

Tables

Table 1 Stanford Achievement Test:
Form Used, Date Administered, Subtests Administered

	Phase 0				Phase I						
Gr.	Test Form	Date Admin.	Subtest	Gr.	Test Form	Date Admin.	Subtest	Gr.	Test Form	Date Admin.	Subtest
2 and	Pri II, Form W	April, 1971 (random sample)	Word Meaning	2	Pri II, Form W	April, 1972 (random sample)	As in Phase 0	9	Adv., Form X	March 1972 (all students)	Paragraph Meaning
			Paragraph Meaning Science & Social Science & Social Stud.								Spelling
											Language
3	Pri II, Form W	April, 1971 (all students)	Spelling	3	Pri II, Form W	April, 1972 (all students)					Arithmetic Computation
			Word Study Skills								Arithmetic Concepts
			Language								Arithmetic Application
			Arithmetic Computation								Social Studies
			Arithmetic Concepts								Science
5 and	Int II, Form W	April, 1971 (random sample)	Word Meaning	5	Int II, Form W	April, 1972 (random sample)		11	High School Batt., Form W	Feb, 1972 (all students)	English
			Paragraph Meaning								Numerical Competence
			Spelling								Math
			Language								Reading
6	Int II, Form Y	March, 1971 (all students)	Arithmetic Computation	6	Int.II Form Y	Feb-Mar. 1972 (all students)	As in Phase 0				Science
			Arithmetic Concepts								Social Studies
			Arithmetic Application								Spelling
			Social Studies								
			Science								

Table 2 Sample Distribution By Grade, Phases O and I

Grade	Group	Phase O Whites Females	Phase O Whites Males	Phase O Blacks Females	Phase O Blacks Males	Phase I Whites Females	Phase I Whites Males	Phase I Blacks Females	Phase I Blacks Males
2	Deseg.	30	30	25	25	28	33	20	18
2	Not-deseg.	30	30	30	30	29	34	27	28
3	Deseg.	30	32	30	31	30	30	29	31
3	Not-deseg.	33	33	33	30	33	33	33	33
5	Deseg.	22	29	30	30	32	32	21	21
5	Not-deseg.	22	21	27	27	32	32	30	28
6	Deseg.	32	30	30	29	30	30	30	29
6	Not-deseg.	30	33	30	30	30	30	30	30
9	Deseg.					47	46	46	46
9	Not-deseg.					60	60	27	21
11	Deseg.					28	28	28	28
11	Not-Deseg.					30	33	17	26

Table 3a Geographic Income Level of Duval County Schools, 1970 Census

Elementary

Average Family Income Range

$0 - $3599
154
247

$3600 - $5999
6 *
10 *
14
15
102
104
105
106 *
124 *
128
135 *
148 *
149 *
157 *
162 *
164

$6000 - $8599
2
8
9 *
11 *
18 *
21 *
23 *
24 *
45
48 *
51 *
57
65
73
79
83 *
89 *
91 *
93 *
95 *
98
143 *
144
158 *
159 *
163
169 *
205 *
206 *
225
227
236 *
242

$8600 - $9999
12 *
13 *
30 *
37 *
59
61 *
70 *
72
76 *
77
78 *
80 *
84 *
94 *
99 *
116 *
202 *
218 *
221
229 *
243 *
250

$10,000 - $12,599
16
20 *
46
64
68
71 *
74
82
85
87
97
120
204
209 *
210 *
214 *
215
220 *
222
228
230 *
234 *
240

$12,600 - $15,599
203
208
235

$15,600 +
88

* Schools sampled

Table 3b Geographic Income Level of Duval County Schools, 1970 Census

Secondary

Average Family Income Range

$0 - $3599	$3600 - $5999	$6000 - $8599	$8600 - $9999	$10,000 - $12,599	$12,600 - $15,599	$15,600+
	67	22	33 *	31	86	66
	101	25 *	35 *	90	213	
	145	38	62	211	224	
	146	96	63	216	238	
	152	207	69	219		
	153	212	75	248		
	155	237	92			
	158		107			
	168		165			
			223			
			241			
			244			

*Schools sampled

Table 4. Maximum Multiple R^2 By Subtest, Phase 0

Subtest	Grade 2 Deseg	Not Deseg	Grade 5 Deseg	Not Deseg
Word Mean	0.1367	0.2206	0.1845	0.5678
Para Mean	0.1423	0.3505	0.1916	0.4287
Sci & Soc. Stu.	0.0308	0.1820	0.1844	0.4727
Sp	0.0864	0.1400	0.1529	0.2845
Word Stu	0.1438	0.3239	0.1274	0.3711
Lang	0.0505	0.3103	0.1525	0.4128
Arith Comp	0.3981	0.2343	0.1582	0.2885
Arith Conc	0.1761	0.4027	0.2968	0.5988

Subtest	Grade 5 Deseg	Not Deseg	Grade 6 Deseg	Not Deseg
Word Mean	0.1907	0.1150	0.1362	0.1576
Para Mean	0.1565	0.1464	0.1455	0.1943
Sp	0.1502	0.0295	0.0386	0.1917
Lang	0.2388	0.1289	0.1084	0.2142
Arith Comp	0.1030	0.0550	0.1345	0.2841
Arith Conc	0.1357	0.2384	0.2040	0.2760
Arith App	0.1649	0.1130	0.1683	0.3072
Soc Stu	0.2256	0.0889	0.1623	0.3297
Sci	0.1516	0.1188	0.1711	0.2369

Table 5a. Multiple R^2 Of First-Entering Variable,
Phase O, Grades 2 And 3

SUBTEST	GRADE 2				GRADE 3			
	DESEG		NOT DESEG		DESEG		NOT DESEG	
	VARIABLE	R^2	VARIABLE	R^2	VARIABLE	R^2	VARIABLE	R^2
Word Mean	Geo.Inc Level	0.1218	Geo.Inc Level	0.1886	Race	0.1680	Race	0.2852
Para Mean	Geo.Inc Level	0.0646	Geo.Inc Level	0.3142	Race	0.1719	Race	0.2914
Sci. & Soc. Stu.	Sex	0.0156	Race	0.1239	Race	0.1686	Race	0.3979
Sp	Sex	0.0479	Geo.Inc Level	0.1170	Race	0.1108	Race	0.1214
Word Stu.	%Black	0.0767	Geo.Inc Level	0.2878	Race	0.1043	Race	0.2014
Lang	Sex	0.0391	Geo.Inc Level	0.2904	Race	0.1312	Race	0.2891
Arith Comp	%Black	0.3798	Geo.Inc Level	0.2006	Race	0.1493	Race	0.1567
Arith Conc	Geo.Inc Level	0.0615	Race	0.3355	Race	0.2626	Race	0.3173

TABLE 5b. Multiple R^2 of First-Entering Variable, Phase 0, Grades 5 and 6

| | GRADE 5 | | | | GRADE 6 | | | |
| | DESEG | | NOT DESEG | | DESEG | | NOT DESEG | |
SUBTEST	VARIABLE	R^2	VARIABLE	R^2	VARIABLE	R^2	VARIABLE	R^2
Word Mean	Race	0.1453	Race	0.0944	Race	0.1162	Race	0.0997
Para Mean	Race	0.1251	Race	0.0999	Race	0.1045	Race	0.1466
Sp	Sex	0.0615	Race	0.0231	Race	0.0285	Sex	0.1133
Lang	Race	0.1977	Race	0.0969	Race	0.1065	Race	0.1161
Arith Comp	Race	0.0696	Geo.Inc. Level	0.0302	Race	0.0949	Race	0.2465
Arith Conc	Race	0.0906	Race	0.2050	Race	0.1540	Race	0.2514
Arith App	Race	0.1486	Race	0.0927	Race	0.1557	Race	0.2619
Soc Stu	Race	0.1847	Race	0.0745	Race	0.1158	Race	0.2795
Sci	Race	0.1180	Race	0.0362	Race	0.1483	Race	0.2156

Table 6a. Maximum Multiple R^2 by Subtest, Phase I, Grades 2,3, and 5

SUBTEST	Grade 2 DESEG	Grade 2 NOT DESEG	Grade 3 DESEG	Grade 3 NOT DESEG	SUBTEST	Grade 5 DESEG	Grade 5 NOT DESEG
Word Mean	0.2970	0.1974	0.3671	0.1980	Word Mean	0.3488	0.3215
Para Mean	0.3774	0.2317	0.3857	0.2553	Para Mean	0.3285	0.2804
Sci & Soc Stu	0.3975	0.1832	0.3969	0.1923	Sp	0.2734	0.2872
Sp	0.2785	0.1770	0.2310	0.1580	Lang	0.4305	0.4277
Word Stu	0.4079	0.1450	0.3591	0.1595	Arith Comp	0.2170	0.0786
Lang	0.1994	0.2408	0.3662	0.2526	Arith Conc	0.2088	0.2079
Arith Comp	0.2774	0.1973	0.2711	0.1757	Arith App	0.3060	0.3206
Arith Conc	0.2826	0.3385	0.4311	0.2267	Soc Stu	0.3429	0.3474
					Sci	0.3847	0.2858

Table 6b. Maximum Multiple R^2 by Subtest Phase I, Grades 6, 9 and 11

Subtest (Grade 6)	Grade 6 Deseg	Grade 6 Not-Deseg	Subtest (Grade 9)	Grade 9 Deseg	Grade 9 Not-Deseg	Subtest (Grade 11)	Grade 11 Deseg	Grade 11 Not-Deseg
Word Mean	0.3000	0.3749	Para Mean	0.4050	0.3420	Eng	0.2693	0.3477
Para Mean	0.2958	0.3844	Sp	0.2465	0.2370	Num Comp	0.3777	0.3404
Sp	0.1852	0.3604	Lang	0.4498	0.3507	Math	0.2532	0.3209
Lang	0.3467	0.4388	Arith Comp	0.3078	0.2618	Read	0.3265	0.3320
Arith Comp	0.1533	0.2927	Arith Conc	0.3266	0.2425	Sci	0.3785	0.4889
Arith Conc	0.2490	0.2262	Arith App	0.3970	0.2084	Soc Stu	0.3095	0.4276
Arith App	0.3031	0.3223	Soc Stu	0.4658	0.3404	Sp	0.1178	0.1525
Soc Stu	0.2529	0.3670	Sci	0.5048	0.3588			
Sci	0.1574	0.4153						

TABLE 7a. Multiple R^2 of First-Entering Variable, Phase I, Grades 2 and 3

SUBTEST	GRADE 2 DESEG VARIABLE	R^2	GRADE 2 NOT DESEG VARIABLE	R^2	GRADE 3 DESEG VARIABLE	R^2	GRADE 3 NOT DESEG VARIABLE	R^2
Word Mean	Race	0.2377	Stu. Title I Status	0.0452	Stu. Title I Status	0.2935	Race	0.1177
Para Mean	Race	0.3311	Stu. Title I Status	0.1585	Race	0.2682	Race	0.1351
Sci. & Soc. Stu.	Race	0.2512	Geo Inc. Lev.	0.0744	Stu. Title I Status	0.2300	Race	0.1293
Sp	Race	0.2176	Stu. Title I Status	0.0476	Stu. Title I Status	0.1626	Sex	0.0586
Word Stu.	Race	0.3522	Stu. Title I Status	0.1041	Race	0.2714	Race	0.1256
Lang	Race	0.1305	Sch. Title I Status	0.0744	Race	0.2473	Race	0.1518
Arith Comp	Race	0.2367	Race	0.0782	Race	0.1906	Race	0.0904
Arith Conc	Race	0.1975	Sch. Title Status	0.1723	Race	0.3123	Race	0.1676

TABLE 7b. Multiple R^2 of First-Entering Variable, Phase I, Grades 5 and 6

| | GRADE 5 | | | | GRADE 6 | | | |
| | DESEG | | NOT DESEG | | DESEG | | NOT DESEG | |
SUBTEST	VARIABLE	R^2	VARIABLE	R^2	VARIABLE	R^2	VARIABLE	R^2
Word mean	Race	0.2595	Race	0.1987	Race	0.2683	Race	0.3321
Para Mean	Race	0.2303	Sch. Title I Status	0.1693	Race	0.2478	Race	0.3427
Sp	Race	0.1871	Race	0.1966	Race	0.1527	Race	0.1899
Lang	Race	0.3129	Race	0.3062	Race	0.3091	Race	0.3480
Arith Comp	Race	0.1369	Race	0.0597	Race	0.1203	Race	0.1537
Arith Conc	Race	0.1768	Race	0.1564	Race	0.2265	Race	0.2045
Arith App	Race	0.2565	Race	0.2152	Race	0.2439	Race	0.2944
Soc Stu	Race	0.3064	Sch. Title I Status	0.2476	Race	0.2271	Race	0.3323
Sci	Race	0.3346	Sch. Title I Status	0.1820	Race	0.0964	Race	0.3890

Table 7c. Multiple R^2 Of First-Entering Variable,
Phase I. Grades 9 And 11

GRADE 9

SUBTEST	DESEG		NOT DESEG	
	VARIABLE	R^2	VARIABLE	R^2
Para Mean	Race	0.3936	Stu. Title I Status	0.2129
Sp	Race	0.1770	Sex	0.1202
Lang	Race	0.4043	Race	0.2360
Arith Comp	Race	0.2900	Race	0.1790
Arith Conc	Race	0.3101	Race	0.1793
Arith App	Race	0.3893	Race	0.1823
Soc Stu	Race	0.4592	Race	0.2422
Sci	Race	0.4857	Race	0.2900

GRADE 11

SUBTEST	DESEG		NOT DESEG	
	VARIABLE	R^2	VARIABLE	R^2
Eng	Race	0.2279	Race	0.2778
Num Comp	Race	0.2981	Race	0.2943
Math	Race	0.1724	Race	0.1759
Read	Race	0.2152	Race	0.2380
Sci	Race	0.2677	Race	0.3480
Soc Stu	Race	0.2331	Race	0.2548
Sp	Race	0.0448	Race	0.0772

Table 8a. Adjusted Means of Desegregated and Not-Desegregated Groups, Phase 0

SUBTEST

Grade	Race	Deseg. Status	WM	PM	SS	SP	WS	LG	AC	AN
2	White	Deseg.	17.2545	24.9972	19.4147*	14.9144*	30.8139	31.3405	21.2295	19.3549
		Not-Deseg.	15.5455	22.7694	16.6020	9.7856	31.0360	31.1095	19.2038	18.8117
	Black	Deseg.	18.7512*	24.2586*	20.1553*	15.7620*	26.4561*	29.9611*	23.3586*	17.0181
		Not-Deseg.	9.7240	11.1345	13.2872	6.5984	22.7866	23.7990	9.1179	9.8682
3	White	Deseg.	20.7993	34.2875	20.5040*	16.5793	37.7781	39.9621	30.9002	24.8233
		Not-Deseg.	21.4915	35.6695	23.1022	16.6982	40.0266	41.5658	30.8967	24.0901
	Black	Deseg.	14.1950	21.1021	14.8679	10.5225	29.4596	32.0350	21.3979	14.7651
		Not-Deseg.	13.9382	20.9646	15.7152	10.8275	28.1740	30.5534	21.5988	14.0846

SUBTEST

Grade	Race	Deseg. Status	WM	PM	SP	LG	AC	AN	AP	SO	SC
5	White	Deseg.	18.8430	25.9383	22.8962	67.2924	10.9455	10.5298	12.8128	29.3805	23.4762
		Not-Deseg	15.1630	23.5383	20.2161	62.9323	9.7855	9.9298	11.0128	28.0603	20.1561
	Black	Deseg.	11.5862	18.2669	17.4915	50.8215	7.8769*	7.8318	8.0654	20.6085*	17.0085
		Not-Deseg.	12.9227	18.7589	18.4354	54.8858	9.5997	7.5017	8.7977	24.8794	18.0646
6	White	Deseg.	20.9144	28.2979	25.3344	70.9421	14.2313	13.3296	13.9304	32.0989	26.5020
		Not-Deseg.	22.3699	31.7544	26.7979	74.2792	15.7882	13.9931	15.9573	37.5058	29.3631
	Black	Deseg.	13.5936	19.9905	19.5477	58.8027	10.3418	9.0406	8.6651	23.7053	18.3494
		Not-Deseg.	16.3163	23.1260	21.0948	60.6106	9.8305	8.3434	8.8960	25.7564	19.4893

* These groups were significantly different at the .05 level.

Table 8b. Adjusted Means of Desegregated and Not-Desegregated Groups, Phase I

Grade	Race	Deseg. Status	WM	PM	SS	SP	WS	LG	AC	AN
2	White	Deseg.	17.9743*	27.8635*	18.7347*	13.1392*	39.0260*	36.1371	22.8783*	17.8551
		Not-Deseg.	15.8503	22.7676	16.3362	9.6747	33.5780	34.4228	17.7687	15.5847
	Black	Deseg.	11.4756	11.1764	13.0852	6.0771	22.4351	27.1770	13.0992	8.7282
		Not-Deseg.	11.1441	17.9691	15.5775	7.8558	28.9903	31.1140	15.5497	13.1878
3	White	Deseg.	**	34.4484	21.6676	16.3543	40.6113	39.9571	29.6888	23.4056
		Not-Deseg.		32.9257	20.9537	14.9657	38.6412	41.3269	31.9193	22.7525
	Black	Deseg.	14.8613	21.4788	16.5562	10.5681	26.7184	29.3201	21.2534	13.7946
		Not-Deseg.	14.7018	21.8828	16.2973	10.6350	29.7560	32.5605	23.8302	14.7625

SUBTEST

Grade	Race	Deseg. Status	WM	PM	SP	LG	AC	AN	AP	SO	SC
5	White**	Deseg.									
		Not-Deseg.									
	Black	Deseg.	11.9049	17.4775	14.8555	50.6118	9.9502	8.2023	9.3581	24.9252	14.4439*
		Not-Deseg.	11.7241	19.2921	16.6564	51.8328	8.5360	8.5087	8.3959	23.9068	18.0751
6	White	Deseg.	24.4291	34.4052	28.9351	80.8276	14.9594	14.4104	17.5556	36.1523	29.2947
		Not-Deseg.	22.3209	31.5114	27.8815	78.9390	13.6073	13.0896	16.0111	35.8143	28.5886
	Black	Deseg.	13.5160	21.4708	19.6538	58.5011	10.5135	8.6824	9.4333	20.6802	20.2097
		Not-Deseg.	11.8092	18.9371	17.0571	56.3072	9.7117	8.5956	8.7572	23.2488	16.7604

*   These groups were significantly different at the .05 level.

** Not available due to an error in analysis.

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