NATIONAL ACADEMY of EDUCATION
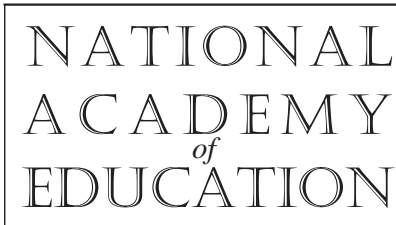
Race-Conscious Policies for Assigning Students to Schools: Social Science Research and the Supreme Court Cases

NATIONAL
ACADEMY
of
EDUCATION

500 Fifth Street, NW #333
Washington, DC 20001
(202) 334-2341
www.naeducation.org

Race-Conscious Policies for Assigning Students to Schools: Social Science Research and the Supreme Court Cases

National Academy of Education

Committee on
Social Science Research Evidence
on Racial Diversity in Schools

Robert L. Linn and Kevin G. Welner, Editors

Committee on Social Science Research Evidence on Racial Diversity in Schools

Robert L. Linn, Chair and Editor
School of Education
University of Colorado at Boulder

Kathryn M. Borman
Department of Anthropology
University of South Florida

Edward H. Haertel
School of Education
Stanford University

Eric A. Hanushek
Hoover Institution
Stanford University

Janet W. Schofield
Department of Psychology
University of Pittsburgh

William T. Trent
College of Education
University of Illinois at Urbana-Champaign

Kevin G. Welner, Editor
School of Education
University of Colorado at Boulder

With Editorial Assistance from

Wendy Chi
School of Education
University of Colorado at Boulder

About the National Academy of Education

The National Academy of Education (NAEd) advances the highest quality education research and its use in policy formulation and practice. Founded in 1965, the Academy is composed of up to 200 U.S. members and up to 25 foreign associates all of whom are elected on the basis of outstanding scholarship or contributions to education. The Academy has a long-standing commitment to foster public understanding of education and education research and to provide analysis of education issues for the government. Since its founding, the National Academy of Education has undertaken work through numerous commissions and study panels, which typically include both NAEd members and other scholars with expertise in the particular area of inquiry. For example, in the 1990s, at the behest of Congress, the Academy undertook a series of studies on the validity of "state NAEP," an extension of the National Assessment of Educational Progress to the 50 states. Similarly in the early 2000s, with great public concern focused on the adequacy of teacher preparation, the Academy created a Committee on Teacher Education, which has since published three volumes synthesizing the professional knowledge base about how people learn and how to teach effectively. Significantly for the present topic, *Prejudice and Pride: The Brown Decision After 25 Years*, was an early report produced by the Academy in 1979 at the request of the Assistant Secretary of Education. It analyzed the *Brown* decision, the extent of its implementation, harmful effects as well as benefits, and policy options under which its spirit might flourish.

In addition to serving on study panels that address pressing issues in education, Academy members are also deeply engaged in NAEd's professional development programs focused on rigorous preparation of the next generation of scholars. The NAEd/Spencer Postdoctoral Fellowship Program supports early scholars working in critical areas of education research across the disciplines. Most recently, the NAEd/Carnegie Adolescent Literacy Predoctoral Fellowship Program has been established to engage Ph.D. candidates in a critical area that has received too little attention from researchers—literacy outcomes for middle- and high-school students.

In the fall of 2006, the education community's attention was drawn to the Louisville, Kentucky, and Seattle, Washington, cases being argued before the Supreme Court. The cases questioned whether school districts could use race as a factor in school assignment policies for the purpose of mitigating racial segregation. Altogether, 64 amicus briefs were filed in the two cases; almost half of these briefs included substantial discussions of social science research. The NAEd Board of Directors authorized me to constitute a committee to

develop a summary and analysis of the social science research referenced in the submitted briefs. A balance was sought between expert methodologists who had not previously done work in this area and researchers who were experts on the academic and social effects of racial diversity. Distinguished Academy member Robert Linn agreed to serve as chair, and I was very pleased that the following committee members agreed to take up this charge within the short time span between January 2007 and the release of the Court's decision in June 2007: Kathryn Borman, Edward Haertel, Eric Hanushek, Janet Schofield, William Trent, and Kevin Welner. Their report secured the approval of all committee members and has been carefully reviewed and approved by the Academy's Board of Directors, acting as a Committee of Readers. We intend two audiences for the report: 1) lay citizens, journalists, and policy makers interested in the research relevant to the Court cases, and 2) educational researchers whose work will continue to build upon and extend the existing corpus of research studies.

Notwithstanding the course that will be set by the Supreme Court's opinions in these cases, the issues analyzed in this report will undoubtedly remain important in the years to come.

Lorrie A. Shepard
President, National Academy of Education
Dean, School of Education
University of Colorado at Boulder

Contents

Executive Summary

O n June 28, 2007, the United States Supreme Court issued a decision on two related cases examining the use of race by K–12 public school districts as a factor in assigning students to schools. At issue was the constitutionality of desegregation policies voluntarily adopted by school districts in Louisville and Seattle. The Court found both districts' policies to be unconstitutional. However, the Justices were divided in their reasoning, and Justice Kennedy's decisive concurrence listed several race-conscious student assignment policies that could survive constitutional scrutiny.

The National Academy of Education (NAEd) Board of Directors recognized the importance of the social science issues framed by the litigation, and accordingly, constituted a committee in January 2007 to review the *amicus curiae* (friend of the court) briefs filed with the Supreme Court in support of petitioners and respondents in the two cases. The committee was asked to provide a summary and analysis of the social science evidence cited in the briefs and to generate a report to inform policy makers and the public.

At least 27 of the 64 amicus briefs filed in the two cases were found by the committee to include substantial discussions of social science research. After critically reviewing these briefs, the committee identified five key questions that were addressed by the research. These questions are informed by the nature of inquiry by courts in equal protection cases and are also central questions for policy makers and scholars.

1. Is racial diversity in a school environment associated with improved academic achievement?
2. Is racial diversity in a school environment associated with improved intergroup relations?
3. Is racial diversity in a school environment associated with improved long-term effects?
4. Is there a "critical mass" (or some counterpart) of racial diversity associated with any benefits of racial diversity?
5. Are there race-neutral alternatives that can yield benefits that are comparable to benefits that we know to be associated with race-conscious policies?

The committee's findings are summarized briefly as follows:

Academic Achievement

Overall, the research evidence supports four primary conclusions regarding the effects of racial diversity on academic achievement. First, there is a relatively common finding that White students are not hurt by desegregation efforts or adjustments in racial composition of schools. Second, although the apparent magnitude of the influence is quite variable, there is a relatively common finding that African American student achievement is enhanced by less segregated schooling. Third, these positive effects for African American students tend to be larger in earlier grades than in later grades and larger in studies using experimental designs or longitudinal data sets than in cross-sectional studies or studies that lack control groups. Fourth, the earliest studies tend to focus on the effects of court-ordered desegregation, and therefore, to combine the impacts of racial composition per se with various policy actions undertaken to bring about desegregation. The results of these earlier estimates appear to be more variable than studies focused solely on variations in racial composition.

Near-Term Intergroup Relations

Although racially diverse schools and classrooms will not guarantee improved intergroup relations, current research generally supports the conclusion that such diverse environments are likely to be constructive in this regard. The research also identifies conditions that need to be present in order for diversity to have a positive effect, as well as the mechanisms through which these improvements might take place. In addition, research findings offer guidance regarding the steps that schools can take to structure contact so that it realizes the inherent potential for positive outcomes.

Long-Term Effects of School Desegregation

The weight of the research evidence supports the conclusion that there are long-term benefits of desegregation in elementary and secondary schools. Under some circumstances and over the long term, experience in desegregated schools increases the likelihood of greater tolerance and better intergroup relations among adults of different racial groups.

The Critical Mass Question

The research presented in the *amicus* briefs convincingly describes the harms caused by racial isolation, addressing problems like tokenism and stereotype threat that are much more likely to arise in racially isolated schools. For the most part, the briefs do not argue for a given percentage of racially diverse enrollment that would avoid these problems. Four studies are cited that offer some numerical guidelines, with a minimum percentage enrollment for avoiding these harms ranging from 15 to 30 percent. Nevertheless, the committee determined that the research does not support the conclusion that any particular percent enrollment is sufficient to avoid the harms associated with racial isolation or that there is a specified relationship between increased diversity and educational benefits as the percent moves from 15 to 30 percent and beyond. The research does support the conclusion that racial diversity, particularly when accompanied by an otherwise beneficial school environment, can avoid or mitigate the harms of racial isolation.

Race-Neutral Alternatives

The *amicus* briefs explore several race-neutral policy options with some potential to drive racial diversity or the potential benefits of that diversity. The most prominent among these alternatives is the use of socioeconomic factors in the enrollment process and the use of school choice policies that tend to decouple students' school assignment from housing segregation. The research cited in the briefs, however, suggests that – although assignments made on the basis of socioeconomic status are likely to marginally reduce racial isolation and may have other benefits – none of the proposed alternatives is as effective as race-conscious policies for achieving racial diversity. School choice generally, and magnet schools in particular, have some potential to reduce racial isolation. But, school choice has the potential to *increase* segregation as well. The key for realizing the potential of these policies to achieve racial diversity to any significant degree is the inclusion of enrollment constraints, such as race-conscious policies, as part of the school choice policy.

Conclusion

In summary, the research evidence supports the conclusion that the overall academic and social effects of increased racial diversity are likely to be positive. Racial diversity per se does not guarantee such positive outcomes, but it provides the necessary conditions under which other educational policies can facilitate improved academic achievement, improved intergroup relations, and positive long-term outcomes. Because race-neutral alternatives – such as school choice and assignments based on socioeconomic status – are quite limited in their ability to increase racial diversity, it is reasonable to conclude that race-conscious policies for assigning students to schools are the most effective means of achieving racial diversity and its attendant positive outcomes. In the wake of the Supreme Court's decision regarding the Seattle and Louisville policies, the research on racial diversity in schools will remain important to educators and policy makers as they work within the Court's legal framework to craft procedures that provide students with the most beneficial educational environments.

1　Introduction

On June 28, 2007, the Supreme Court issued rulings in two related cases (collectively known as the *Meredith* cases) examining the use of race by K–12 public school districts as a factor in assigning students to schools. At issue was the constitutionality of desegregation policies voluntarily adopted by the Jefferson County School District (in Louisville, Kentucky) and the Seattle School District[1] asking whether these race-based student assignment policies violated the Equal Protection Clause of the Fourteenth Amendment to the U.S. Constitution. As described below, the Court found both districts' policies to be unconstitutional. However, the Justices were divided in their reasoning, and Justice Kennedy's decisive concurrence listed several race-conscious student assignment policies that could survive constitutional scrutiny.

This report summarizes and analyzes the existing body of research related to race-conscious student assignment policies, building upon the *amicus curiae* (friend of the court) briefs filed with the Supreme Court in support of petitioners and respondents in these two cases. The National Academy of Education (NAEd) Board of Directors recognized the importance of the social science issues framed by the litigation, and accordingly, constituted a committee in January 2007 to review the 64 *amicus* briefs filed with the Supreme Court, paying special attention to the use of social science research in support of the position taken by each brief.[2] The committee was composed of three categories of researchers: those with no prior research record in this area, but with strong methodological skills in multivariate statistics and measurement (Haertel and Linn); those with some research record in the area (Borman, Hanushek, and Welner); and those with an extensive record in the area (Schofield and Trent). This insider/outsider composition provided a balance of knowledge and fresh inquiry.

The committee reviewed the *amicus* briefs filed in the *Meredith* cases with full awareness that they were written for the purpose of convincing the Court on one or more issues, and not as unbiased summaries of research.[3] The committee was not asked to critique the court decisions in the Seattle or Louisville litigation (or those in any other cases), but to offer its best analysis of the social science evidence presented in the *amicus*

---

[1] The cases are called *Crystal D. Meredith v. Jefferson County Board of Education*, United States Supreme Court, Docket No. 05-915, and *Parents Involved in Community Schools v. Seattle School District*, United States Supreme Court, Docket No. 05-908. Collectively, they are referred to as the *Meredith* cases.

[2] The NAEd did not file an *amicus* brief in the *Meredith* cases.

[3] Consistent with the adversarial nature of the U.S. judicial system, these *amicus* briefs are intended to advocate—even though they were filed by non-parties to the particular cases before the Court.

briefs. It was directed to develop an independent summary and analysis and to generate a report to inform policy makers and the public about the social science research that was brought to bear on the issues contested before the Supreme Court. It is also hoped that the report will be of use to researchers directly or indirectly engaged in the areas addressed by the cases before the Court.

At least 27 of the 64 *amicus* briefs filed in the two cases were found by the committee to include substantial discussions of social science research.[4] After critically reviewing these briefs, the committee identified five key questions that were addressed by the research. These questions are informed by the nature of inquiry by courts in equal protection cases and are also central questions for policy makers and scholars.

1. Is racial diversity in a school environment associated with improved academic achievement?
2. Is racial diversity in a school environment associated with improved intergroup relations?
3. Is racial diversity in a school environment associated with improved long-term effects?
4. Is there a "critical mass" (or some counterpart) of racial diversity associated with any benefits of racial diversity?
5. Are there race-neutral alternatives that can yield benefits that are comparable to benefits that we know to be associated with race-conscious policies?

Each question was assigned to at least two committee members who reviewed the briefs and drafted analyses; these drafts were then shared with, and critiqued by, others on the committee.

The *Meredith* Cases

The school districts in Louisville and Seattle each designed student-assignment policies that differed substantially from traditional, residence-based, catchment-area policies. Students and their families were given extensive choices among each district's public schools. However, each district placed some constraints on these choices, including limitations designed to prevent *de facto* racial segregation at the school level.[5] Welner (2006, pp. 350-351) describes these race-conscious policies as follows:

[T]he Seattle policy, which applies only to its high schools, sets up a sequential series of four tiebreakers that kick in if a school is oversubscribed [i.e., if more students seek enrollment than there are slots available]. Establishing the [race-conscious student assignment policy] was part of a larger plan to create unique, themed high schools and to make transfers easier. Approximately half of the schools were oversubscribed, thus implicating the tiebreaker system.

---

[4] For a listing of the briefs reviewed by this committee, see the appendix to this report.
[5] The federal courts have drawn a legal distinction between *de facto* and *de jure* segregation. The latter means segregation by law, such as the Jim Crow statutes used to enforce segregation in the South after the Civil War. *De facto* segregation is understood to mean segregation by individual choice, not grounded in a governmental action or rule.

Students with a sibling attending the chosen school receive first priority for admission. Next, the race-based tiebreaker kicks in if the school enrollment differs by more than 15% from the overall racial composition of the school district. In 2001–2002, the race-based tiebreaker was applied to three of the [ten] high schools. … [T]his system can enhance admissions chances for Whites (as happened at one of the three schools) or non-Whites (as happened at two). The Seattle policy also has what it calls a "thermostat," which turns the racial tiebreaker off immediately whenever the school's enrollment comes within . . . 15% [above or below the district percentages]. The third tiebreaker gives priority to students who live closer to the school. And the fourth tiebreaker, which is virtually never used, is a simple lottery.

The Louisville system, which applies at all grade levels after kindergarten, is fairly complex. Various categories of schools each have their own admissions rules. But Louisville's race-conscious elements resemble Seattle's in most important ways. The [race-conscious student assignment policy] was combined with an enhancement in parental choice and a focus on magnet schools. It allows for … student enrollment diversity [from] 15% to 50% African American, reflecting the overall district population…. Local residence (distance) and parental choice are the key criteria [in the student assignment system], accounting for the vast majority of enrollment decisions. The litigation in Louisville concerned mainly some back-to-basics (called "traditional") schools that were oversubscribed.

Applicants to these traditional schools are sorted into four separate lists at each grade level: female White, female African American, male White, and male African American. Each list is randomly ordered. Subject to the school district's final approval, each school's principal generally follows a process whereby he or she starts at the top of each list, drawing candidates and trying to stay within the 15% to 50% racial guidelines, which are applied at the school (not the grade) level. (Welner, 2006, pp. 350-351)

These policies were challenged by parents who alleged that the race-conscious elements of the student assignment policies resulted in their children being denied their first choice of school. When a governmental entity such as a school district places burdens or advantages on people because of their race, ethnicity, or national origin, equal protection jurisprudence demands that the governmental policy be narrowly tailored in pursuit of a compelling state interest. In essence, there must be a tight fit between ends and means. In 2003 litigation challenging the University of Michigan's affirmative action policies, the Supreme Court considered a similar issue and concluded that the law school's race-conscious policy aimed at enrolling a "critical mass" of minority students met this high standard (*Grutter v. Bollinger*, 2003). However, the undergraduate enrollment policy fell short, because it did not give individualized consideration to each student's file (*Gratz v. Bollinger*, 2003).

The Court's application of its Michigan precedent to the *Meredith* litigation raised important legal issues, such as the appropriateness of applying rules to the K–12 context that were derived in the higher education context. The comparison between the two con-

texts raises social science issues as well. This committee's work focused on those social science issues, but it was also necessarily shaped by the underlying legal issues. The *amicus* briefs present those social science issues believed to be most relevant to a court trying to decide such questions as whether racial diversity in a school environment is associated with improved academic effects. Questions one through three above emerged from the social science research used to establish this "compelling state interest." In addition, as noted above, the governmental policy (the race-conscious student assignment policy) must be narrowly tailored in pursuit of a compelling state interest (e.g., obtaining the benefits of racial diversity, or avoiding the harms caused by segregation). The "narrowly tailored" issues prompted the presentation of the research explored in questions four and five.[6]

The Supreme Court Decision in the Seattle and Louisville Cases

In a single opinion deciding both the Seattle and Louisville cases, a divided Supreme Court struck down the specific policies used in those two school districts. However, a five-Justice majority—consisting of a concurrence and four dissenters as explained below—also concluded that educational diversity and combating segregation are compelling governmental interests that governments may pursue under certain circumstances.

The Court's opinions included a four-Justice "plurality" opinion written by Chief Justice Roberts that set forth a broad rule against the use of race in student assignment, a four-Justice dissent that would have found the policies to be constitutional, and a concurrence from Justice Kennedy that agreed with the Chief Justice on the outcome but differed considerably in its reasoning. Because this concurrence provided the crucial vote on a Court divided 4-1-4, it is Justice Kennedy's constitutional interpretation that will primarily be looked to by lawyers and legislators designing future policies. (This situation is very similar to that created by the concurring opinion of Justice Powell in *Regents of the University of California v. Bakke*, 1978, which effectively set forth the law on affirmative action for 25 years.)

The Chief Justice's opinion equated the districts' announced diversity interest to an interest in "racial balancing" and concluded that such balancing could never be a compelling governmental interest. Justice Kennedy did not join this part of the Chief Justice's opinion but he did join in the conclusion that the two plans at issue were not narrowly tailored. These five Justices were very concerned by each district's binary conception of race (White/Non-White in Seattle and Black/"Other" terms in Louisville). They also concluded that the districts had not adequately pursued race-neutral alternatives. Finally, these five Justices concluded a mechanical formula is ultimately used in these districts because race alone becomes determinative once the tiebreaker comes into play.

However, Justice Kennedy, joined by the four dissenting Justices, rejected the plurality's conclusions on a number of important points. Kennedy concluded that educational diversity and overcoming the country's history of segregation can be compelling governmental interests and among our country's highest priorities. And he concluded that these interests can, under some circumstances, be pursued by governments through careful,

---

[6] As part of its inquiry into narrow tailoring, the Court asks if race-neutral alternatives are available that could accomplish the same, compelling governmental interest.

race-conscious efforts. Expanding on this possibility, he identified a range of affirmative measures that remain available to pursue diversity in schools, concluding that race-conscious considerations can be used for making such non-individualized decisions as school site selection, drawing attendance zones, and targeted recruitment of students and faculty. He describes these policies as race-neutral, and therefore, not subject to strict constitutional scrutiny. Finally, he suggested that if these race-neutral policies have been tried but found to be insufficient, then racial classifications of individual students might be used as a last resort, but only as one consideration in a broader diversity plan.

Putting the Review in Context

The main body of this report reviews the social science research discussed in the *amicus* briefs as it relates to the five central questions. The review process revealed several issues regarding the research as well as the evaluation of methodologies used in that research that are important to highlight at the outset. These issues concern limitations in the scope of the review, the meaning of the terms used to describe racial diversity in schools, and the changing context of segregation in the United States.

Regarding the scope of the research itself, the committee focused exclusively on the studies cited in the briefs (as noted before, the committee reviewed 64 briefs and found that at least 27 included substantial discussions of social science research). To some extent, this limits the analyses; however, the briefs were generally very current and included the most recent and important analyses available (some not yet formally published). Additionally, some of the cited references included very comprehensive reviews of the research literature.

The committee found differences in the terms used in the earlier versus the more recent research. Much of the older research directly addresses the effects of "desegregation"; on the other hand, newer research, particularly regarding student test score outcomes, addresses school-level "racial diversity," irrespective of any concerted policy effort to desegregate. An additional distinction can be drawn between the use of the terms desegregation and "integration." Desegregation refers to active steps taken to ameliorate *de jure* or *de facto* racial segregation—often, but not necessarily, with court oversight. Desegregated schools involve racial mixing at the school level, while in integrated schools the deliberate effort focuses on assuring that the four conditions identified by Allport (1954) as critical for reducing intergroup prejudice[7] have been met. Understood this way, integration means more than it does in common usage. Integrated schools are structured such that contact has some meaningful chance to lead to improved outcomes (Trent, 2007); any benefits of racial diversity accrue as a consequence of what educators do with regard to enhancing contact opportunities. Desegregation (or racial diversity) is necessary but not sufficient for integration. For instance, a desegregated school that is resegregated into tracks is not, by this definition, an integrated school. Importantly, much of the research literature concerning the effects of desegregation does not describe schools well enough for readers to know if those schools are, in fact, integrated according to this definition. Given this weakness, as

---

[7] The four conditions are as follows: (1) Equal status of all group members; (2) cooperative interdependence among group members; (3) normative support of positive relations and of equal status; and (4) interactions that disconfirm stereotypes and encourage understandings of other group members as individuals.

well as the nature of the newer research that looks only at diversity (irrespective of cause), we have in this report favored the term "racial diversity" over "integration." We also use the term "desegregated," when appropriate.

Demographic shifts in school populations over the past four decades toward greater numbers of Latino students have produced important changes in the context for examining and understanding the impact of ethnic diversity in schools. Although the trends differ from state to state, as well as within the various segments of the Latino community, many of these Latino students appear to be attending substantially segregated schools with few Whites (as are many African American students). Tables 1 and 2 show 30-year hyper-segregation trends for African American and Latino children in different regions of the country (hyper-segregation is used here to mean enrollment in a school that is 90 percent or more racial minority students). For African American students, the trends show that desegregation efforts yielded considerable success between 1968 and approximately 1990. However, the decade of the 1990s saw a reversal, with attendance of African American students at hyper-segregated schools increasing throughout the United States. Latino students were generally less segregated in 1968 (except in the Northeast), but the level of Latino hyper-segregation has steadily increased to the extent that it is now approaching or surpassing that of African American students in some regions.

Table 1			
Percentage of Black Students in 90-100% Minority Schools			
	1968	1988	1991	2001
South	77.8	24.0	26.1	31.0
Border	60.2	34.5	34.5	41.6
Northeast	42.7	48.0	49.8	51.2
Midwest	58.0	41.8	39.9	46.8
West	50.8	28.6	26.6	30.0

Source: Orfield and Lee (2004), p. 20, Table 8, based on 1991–2002 and 2001–2002 NCES Common Core of Data (reproduced with author's permission).

Table 2			
Percentage of Latino Students in 90-100% Minority Schools			
	1968	1988	1991	2001
South	33.7	37.9	38.6	39.9
Border	*	*	11.0	14.2
Northeast	44.0	44.2	46.8	44.8
Midwest	6.8	24.9	20.9	24.6
West	11.7	27.5	28.6	37.4

*The enrollments were too small in these years to make accurate comparisons.

Source: Orfield and Lee (2004), p. 21, Table 9, based on 1991–2002 and 2001–2002 NCES Common Core of Data (reproduced with author's permission).

Because of these demographic changes, the body of research concerning racial segregation has a major limitation. Despite the fact that Latino students are currently the largest and arguably the most segregated minority in the United States (Orfield & Lee, 2006), most of the research cited in the *amicus* briefs addresses only Black/White segregation.[8] Although the Latino struggle for educational equality has an important place in the nation's history (Donato, 1997), the vast majority of court-ordered desegregation has focused on African Americans—and studies of these efforts constitute the main body of scholarship in this area. Less is known about how well this research generalizes to Latino students.

It is within this context that we consider the research cited in the *amicus* briefs concerning the effects of segregated and racially diverse schooling. Yet, it is important to keep

---

[8] The school-age population in 2003–2004 was 19 percent Latino and 17 percent Black (Orfield & Lee brief, 2006, p. 6).

in mind that such documented school-level segregation relates only to the degree of racial diversity; in itself, it does not directly inform policy makers and others about the social and educational goals considered in this report.

A Conceptual Framework for Understanding the Research Questions

The research literature cited in the *amicus* briefs reflects the variety and diversity generally seen in the social sciences, drawing on psychology, economics, sociology, and other disciplines. To provide structure to this diverse literature, our analysis of the findings is organized by the five central questions addressed in the briefs. In addition, Figure 1 offers a visual presentation of a conceptual framework that may be helpful to some readers. The model attempts to capture the major factors and relationships that are described in one or more of the *amicus* briefs. However, by including them in the model, we are not attesting to the strength of the underlying social science evidence (the evaluative elements of this report are presented in the following chapters).

The graphic flows from left to right, with the arrows indicating possible influences of earlier factors in the model on later characteristics or outcomes. The boxes on the extreme left of the figure include those that represent pre-enrollment student characteristics and context that are potentially related to later outcomes. The term "race-based policies" refers to race-conscious governmental strategies designed to increase racial diversity.

Figure 1. Conceptual Model
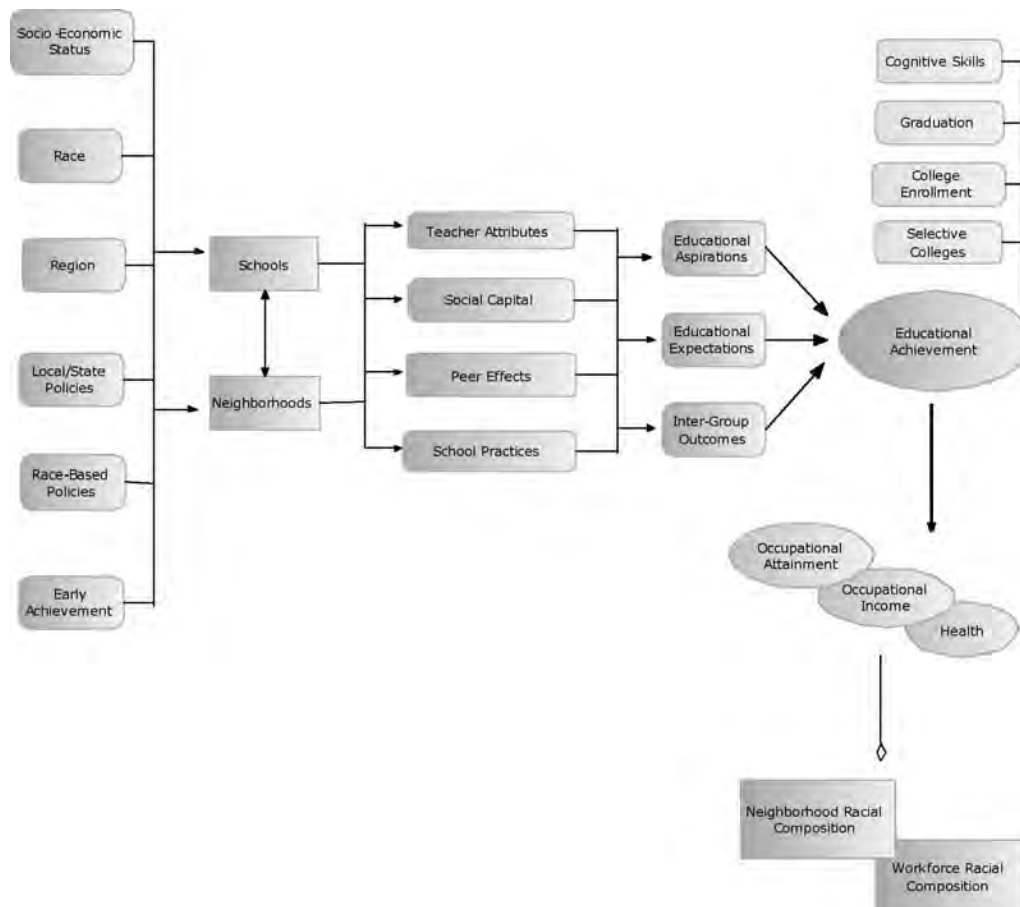
State and district policies are included in the model because they may have important influences on school attendance patterns and school attributes (e.g., resources and requirements). Region of the country is included due to its historical importance for understanding the findings of early desegregation research, which was conducted during the period of forced desegregation resulting from the *Brown v. Board of Education* (1954) decision (region is less relevant for the research conducted during the last two decades).

In the model, the individual characteristics of students are related to neighborhood attributes (such as concentration of poverty) and to school attributes (such as the racial composition of the school and the level of resources available to the school). Those factors, together with the state and district policies and the entering students' characteristics, in turn are related to teacher attributes (such as credentials, experience, and participation in professional development opportunities), student peer attributes, social capital, and school practices (such as tracking and time allotted to different subject areas).

Educational achievement of students, intergroup relations, and student educational expectations and aspirations are, to varying degrees, dependent in this model on all of the factors that precede those outcomes. These relatively short-term (or "near-term") outcomes influence longer-term educational attainment including dropout, high school graduation, college enrollment, and the selectivity of college attended. Educational attainment, in turn, is related to adult outcomes such as occupational attainment, income, and health. Finally, educational attainment and the adult outcomes affect workforce relations and neighborhood residence patterns.

None of the research studies discussed in the *amicus* briefs considers all components of the model. Rather, the questions that are addressed and the research studies cited to support the position of the individual briefs focus on particular aspects and connections in the model. The body of research as a whole, however, does implicate the complete model, making it a useful touchstone for our comprehensive analysis and so we refer back to this model in the subsequent chapters. It is also important to point out that establishing a race-conscious pathway to these outcomes does not preclude other pathways; the possibility remains that the beneficial outcomes set forth in the diagram might also be achievable through race-neutral policies (this question concerning race-neutral alternatives is addressed in Chapter 6).

2 The Impact of Racial Diversity on Academic Achievement

lthough the Supreme Court in *Brown v. Board of Education* focused many of its arguments on affective and democratic concerns such as social cohesion, the Court also addressed academic and related outcomes of schooling. The Justices stated that *de jure* segregation "has a tendency to [retard] the educational and mental development of negro children" (Brown, 1954, p. 494, quoting an earlier case). These academic outcomes potentially include both near-term and longer-term outcomes, as suggested by the model presented in Figure 1. For example, equitable access to academic opportunities can lead to more equitable outcomes beyond K–12 schooling, such as college enrollment, job outcomes, and earnings. This chapter considers the research cited in the *amicus* briefs concerning academic outcomes; the longer-term outcomes are briefly addressed here and then pursued in greater depth in Chapter 4.

Cognitive Outcomes

The cognitive outcomes—students' abilities to think, know, and understand—that are explored here are generally those measured by academic achievement tests. The *amicus* briefs on the two sides largely focus on different studies and evidence to bolster their cases regarding such cognitive outcomes. Only 10 percent of the studies cited on this issue appear in the *amicus* briefs of both sides. Moreover, the studies differ noticeably in the time period of their focus. Table 3 shows a breakdown of the studies cited by briefs supporting petitioners, respondents, and both according to the decade that each was published.[9]

Table 3

Studies cited in *amicus* briefs supporting the petitioner, the respondent, or in the briefs of both, by decade of publication

Study Years	All	Petitioner	Respondent	Both sides
1960s	1	1	0	0
1970s	6	4	2	0
1980s	9	0	6	3
1990s	14	3	10	1
2000s	44	1	39	4
Unknown	3	1	2	0
TOTAL	77	10	59	8

[9] As explained below, briefs filed in support of the petitioner are those arguing against race-conscious policies; those filed in support of the respondent are those arguing for race-conscious policies.

Notwithstanding the pattern shown in Table 3, 19 of 77 cited studies were referenced in more than one brief; of these, the two most frequently cited articles were Hanushek et al. (2006),[10] cited in six briefs, and Crain and Mahard (1983), which was cited in five. Meta-analyses such as the Crain and Mahard article were, along with articles summarizing extensive research, among the most likely to be cited in multiple briefs.[11] These larger reviews tend to present mixed evidence that permit their being cited in the briefs on both sides.

As is evident from Table 3, the briefs opposing race-conscious policies tend to cite studies published earlier than those cited in the briefs supporting those policies. Importantly, the earlier studies tend to focus on the achievement outcomes that relate to specific desegregation events (the most intense period of desegregation occurred during the two decades between approximately 1965 and 1985). The later studies tend not to concentrate on desegregation events as much as on the impacts of racial concentrations, however they occur.[12] Moreover, as will be discussed, the nature, availability, and quality of data differ greatly by time period, with more recent databases allowing for more sophisticated and refined analyses.

Overview of the Research on Cognitive Outcomes

Some of the older studies of desegregation examine near-term outcomes (e.g., Crain and Mahard, 1983, or Cook et al., 1984), while others trace student outcomes over extended periods of time (e.g., Armor, 1995). In contrast, the most methodologically sophisticated and sound of the later studies look more generally at the implications of environments with differing levels of racial concentration. They do not begin with any explicit desegregation order, but instead, attempt to infer how varying racial compositions of schools affect student outcomes (see, e.g., Borman et al., 2004, and Hanushek, Kain, and Rivkin, 2006). These later studies also use statistical models to isolate different aspects of school racial compositions, sometimes considering just the independent effect of racial composition per se, and sometimes incorporating correlated differences in school quality, peers, neighborhoods, and the like.

The strength of the early studies is that they can trace outcomes to a specific change in policy. However, although this characteristic arguably allows clearer identification of the underlying cause of any observed achievement change, its benefits should not be overstated. The direct causal effects of the policy change are necessarily confounded with the effects of associated reactions, such as selective withdrawals of students from schools and disruptions resulting from largely involuntary actions (i.e., court-ordered desegregation).

---

[10] The 2004 version of this article is most often cited in the briefs; we cite the updated 2006 version.

[11] Meta-analysis is a useful tool because it provides a way of statistically testing other important possibilities relevant to deciding how strong and/or pertinent the data are to an issue. For example, it allows one to statistically test the possibility that studies' outcomes were affected by their methodological quality or the time period during which they were conducted (Glass, McGaw, & Smith, 1981). Although meta-analysis is potentially a powerful technique for drawing conclusions from studies with mixed results, the extent to which it is wise to rely on such an analysis depends on how well it was carried out, including such issues as how fully and appropriately the literature was searched to locate studies, and whether the researcher took steps to deal with the fact that studies vary in quality and size (Crano & Brewer, 2002).

[12] Note, nonetheless, that the publication date of the cited studies can be misleading because publications can and often do refer to analyses of school situations occurring years or decades prior to publication. Armor (2002), for example, provides case studies of three cities where he traces the achievement impacts of desegregation orders going back to 1977.

The context and nature of any given race-conscious policy may or may not mirror a particular case study.

The more recent studies also face the challenge of isolating the impacts of racial concentrations on achievement and separating these from other kinds of factors, such as school quality. To address such issues, these studies take advantage of states' detailed, longitudinal, student-level databases (recently created in part to comply with the No Child Left Behind Act), controlling for such factors as student characteristics and different levels of possible effects (e.g., classroom- and school-level effects). (The early studies seldom had available student-level data that would allow the researchers to trace the performance of individual students over time; rather, they had to rely upon "snapshots" of aggregate cohort data. Further, they seldom included any way to convincingly separate other factors—such as school quality or details of peer composition—from the changed level of segregation found in the schools.)

One important implication of the different analytic approaches is that the estimates of the impact of school racial composition on student achievement are likely to be very different across studies. For instance, suppose a researcher conducted a correlational or regression analysis to examine the association between a school's percentage of African American enrollment and its average student achievement. The percent of African American students would likely overlap greatly with, and therefore act as a proxy in the analysis for, differences in family background, neighborhoods and peers, school resources, and other school, community, and individual factors. For this reason and others, it would be difficult to interpret the simple relationship between school-level race and achievement as a predictor of the effects of racial composition that might result from a different school assignment program.[13]

As a correction to these limitations, most researchers will include a set of control variables, minimally including a measure of the socioeconomic status of student families (this measure is often the students' eligibility for free or reduced price lunch[14]). Including these control variables (see, e.g., Armor, 1995) will generally produce a result that better measures the effect of school racial composition on achievement, but its accuracy will depend on how well the controls represent the many factors that influence student achievement.

It is particularly important to consider the role of school factors when estimating the effects of racial composition on student achievement. Presume for the moment that more highly segregated schools in fact also have inferior school resources. A statistical analysis that ignores differences in school resources could be interpreted as characterizing the aggregate impact of racial composition on achievement, where that aggregate impact

---

[13] The recent social science data on race, including the data found in the state accountability databases used in recent analyses discussed in this report, are generally self-reported. The definition of race should, for this reason and others, be understood as fluid and as a social construct. This should not be read as minimizing the importance of racial considerations; as a matter of social science as well as law, race remains salient. For instance, Title VI of the Civil Rights Act of 1964 provides, "No person in the United States shall, on the ground of *race*, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance" (emphasis added).

[14] Free and reduced price lunch is commonly used as a measure of a student's socioeconomic status, primarily because it is a readily available measure. It should be noted, however, that free and reduced price lunch is a relatively weak measure of socioeconomic status. It would be preferable to use better measures such as parental income or mother's education, but such measures are seldom available in the data sets used to investigate the effects of racial diversity.

includes both the direct effects of racial composition and the indirect effects through differences in school resources. Such a model should not be used to predict what would happen if a policy changed only the racial composition of schools in a district because the effect on achievement would also depend on the nature of any concomitant changes in school resources that may or may not occur.

The analytic framework presented in the model (Figure 1) set forth in Chapter 1 illustrates further the potentially complex relationships among factors that affect individual outcomes. One example of this, addressed in some of the *amicus* briefs, concerns the possibility that a student's academic achievement may be influenced by placement in an academic track or instructional grouping in school. At a given school, some students may be "tracked" into advanced classes such as Advanced Placement (AP) physics where they are more likely to engage in learning complex mathematics and science concepts and have teachers who hold higher expectations for their achievement (Heubert & Hauser, 1999). Other students attending the same school may be placed in a general science course where they are unlikely to encounter sophisticated concepts and as a result will be less likely to enroll in challenging coursework subsequently (Hedges, Laine, & Greenwald, 1994). Noting that access to advanced curriculum is a key school resource, the briefs supporting race-conscious policies cite some of the extensive research on curricular differentiation between and within schools (e.g., Gamoran, 1987; Oakes, Gamoran, & Page, 1992), pointing out that this resource can be disproportionately denied to racial minorities in segregated settings.

These straightforward examples help to illustrate that the various estimates of the impacts of racial composition or desegregation efforts on achievement involve varying combinations of other factors that are generally imperfectly analyzed. As such, it is not surprising that the estimates of the impact of racial composition reported in the cited studies vary quite broadly. Moreover, many of the studies—particularly recent longitudinal analyses—have a variety of unique features and approaches that have not been replicated in different settings and with different databases. As a result, it is very difficult to sort out whether the variations result primarily from truly different impacts of segregation in various circumstances, or if they are mainly driven by methodological differences and by differences in precisely which effects are being estimated.

Studies on Cognitive Outcomes Cited in the Briefs

The literature cited in the briefs includes studies with different types of research designs that vary in their capacity to be both rigorous and informative. In particular, those studies undertaken during earlier periods of time are likely to employ less sophisticated data analysis strategies. The types of studies cited in the briefs include school district case studies (Gerard & Miller, 1975; Mickelson, 2003), analyses of state databases (Bankston & Caldas, 1996; Borman et al., 2004; Hanushek et al., 2006), and meta-analyses (Crain & Mahard, 1983).

The case studies of single school districts include studies undertaken as early as the mid-1970s, such as the six-year assessment of the Riverside, California, school district conducted by Gerard and Miller (1975), which is cited in the *amicus* brief filed by David Armor and others (hereinafter referred to as the "Armor brief"). The researchers conclud-

ed that, based on standardized reading achievement data, desegregation had failed to reduce achievement gaps among the Latino, White, and African American students studied. Briefs supporting race-conscious policies, on the other hand, cited a more recent study of students in Charlotte, North Carolina, by Mickelson (2003) that compared segregation levels before and after court-ordered desegregation and found that students' standardized test scores were higher when they spent more time in desegregated elementary schools.

The brief opposing race-conscious policies filed by Murphy and his associates (hereinafter referred to as the "Murphy brief") begins with a discussion of a case study of St. Louis (Lissitz, 1994) that compared the achievement of students attending different types of St. Louis schools: desegregated, suburban, racially isolated, or magnet schools. This report (which appears not to have been peer-reviewed) was provided to the court in the St. Louis desegregation cases. According to the Murphy brief, the report concluded that "racial composition . . . proves to be an insignificant determinant of student achievement" (Murphy brief, p. 8). The Murphy brief argues that the justification for the inclusion of this study is that St. Louis schools are comparable to Seattle school district schools despite differences in regional location and the fact that the St. Louis study predates the Seattle case by more than 10 years.

The briefs supporting race-conscious policies also cite three recent studies that have yet to be published in peer-reviewed journals. The most heavily cited of these three is a study by Hanushek and his colleagues (2006) that was based on a Texas longitudinal database of standardized test scores that included variables for socioeconomic status, school quality, and peer achievement. The study suggests that the proportion of African American students in a school negatively affects their mathematics achievement growth (particularly higher-achieving African American students). The researchers found no significant effects of African American concentration on the achievement of White students. Borman and Dowling (2006) reanalyzed the national Coleman database[15] and found an achievement effect associated with school segregation. Harris' (2006) analysis of the National Longitudinal School-Level State Assessment Score Database looked at learning gains in 22 states and found that African Americans and Latinos learn more in racially diverse schools (and that minorities attending racially diverse schools perform better in terms of college attendance and employment). We consider all three of these studies to have potentially substantial importance, but our reliance on them for purposes of this report is limited by the early stage of their introduction into the scholarly discourse.

Of note here are two other state-level studies (both of which were peer reviewed) that present analyses comparable to those of Harris and of Hanushek and his colleagues. Borman and her colleagues analyzed students' scores on the standardized Florida Comprehensive Assessment Test (Borman et al., 2004) and found that passing rates were strongly associated with school-level racial composition and whether a school was Black-segregated (relative to the school district's racial composition); this was independent of

---

[15] In connection with the 1964 Civil Rights Act, James S. Coleman was commissioned to lead a study to determine the degree to which equal educational opportunities were available to students across boundaries of race, religion, and national origin. The data set includes a national sampling of schools, including student test scores and questionnaire responses obtained from first-, third-, sixth-, ninth-, and twelfth-grade students, as well as questionnaire responses from teachers and principals. The study, entitled "Equality of Educational Opportunity," was published in 1966.

other predictors such as average class size and instructional quality. African American students' graduation exam passing rates were higher when they attended less segregated schools, with no negative impact on the test scores of White students.

Bankston and Caldas (1996) reported slightly different results in their analysis of the Louisiana test score database. Focusing on the scores of tenth graders, they found that the proportion of African American students in a school was powerfully and negatively related to the achievement of both African American and White students after controlling for socioeconomic status.

In sum, these studies suggest that the states' new standards-based accountability system databases are more powerful for detecting the effects of racial segregation than were the older data available to researchers such as Gerard and Miller (1975). These researchers find that, after controlling for factors such as socioeconomic status, peer effects, and teacher characteristics, the school-level percentage of African American students substantially and negatively affects student achievement, particularly the achievement of other African American students. Importantly, this finding is associational, not causal. The effect may be due to unmeasured school resource differences or due to some of the other factors such as teacher turnover (discussed below).

In addition to the district-level and state-level studies, the *amicus* briefs discuss studies that compile and analyze existing research. The earliest research literature review reported in the briefs is that of St. John (1975), which is included in the Armor brief. This review included 37 quasi-experimental studies examining the effects of desegregation on subsequent achievement outcomes for African American students. St. John concluded that although the achievement of African American students is "rarely harmed," there is no clear evidence that desegregation significantly boosts their achievement (quoted by Armor brief, p. 14). Another early study, mentioned in a large number of briefs, is the meta-analysis of 19 studies carried out by Cook and his colleagues (1984). This study reported that student achievement outcomes in reading for students attending desegregated schools showed effect sizes amounting to the equivalent of median gains totaling 2 to 6 weeks (of a school year); outcomes in mathematics were less impressive.

The most frequently cited meta-analysis (cited five times) is that by Crain and Mahard (1983). The Armor brief cites this meta-analysis to argue that the effect size of .08 reported by Crain and Mahard for all grade levels is quite small.[16] Others cite the study to point to the overall positive (85 percent of all studies included in the meta-analysis) and statistically significant benefit for African Americans of desegregation, particularly the effect of desegregation on younger African American children. Twenty-three (of the 93) studies reviewed examined the impact on desegregated African American students in the earliest grades (kindergarten and first grade), and these studies showed significant effects approaching one-third of a grade level (American Educational Research Association [AERA] brief, p. 11).

The issue of effect size was raised in several of the briefs. Armor's brief states that an effect size of 0.1 is "equivalent to an increase in one-tenth of a standard deviation or about one month of a school year" (Armor brief, p. 15), and argues that this is fairly

---

[16] The Armor brief cites an earlier (1978) version of the paper as well as the later version.

small.[17] In contrast, the statement from 553 Social Scientists reasons, "Most school reforms have little or no effect on improving students' outcomes [citations omitted]. Thus, the modest impact that desegregation has had on student achievement relative to these other reforms is substantial" (553 Social Scientists brief, Appendix, pp. 13-14). We find some truth in both of these perspectives. Furthermore, as Harris (2006) pointed out, small effects for a given year and grade level can amount to substantially larger effects across several years and grade levels. Ultimately, it falls on policy makers to consider whether the benefits of a given policy are worth the costs.

Non-Cognitive Outcomes

Beyond established cumulative and indirect effects on short-term academic achievement, does segregation have other long-term impacts on related outcomes? For example, it would be useful to know if individuals who experience segregated school settings from an early point in their educational careers and persistently throughout their educational experiences are more likely to experience negative health outcomes, after adjusting for any direct achievement effects. After all, the motivation to conduct most analyses of student achievement is its relationship with other future, non-cognitive outcomes—health, college performance, earnings and occupational outcomes, and the like. For the most part, the studies cited in the *amicus* briefs do not directly link school desegregation or school racial composition to these outcomes (one exception is Boozer, Krueger, and Wolkon, 1992, which documents a positive association between desegregation and later wages). Instead, the briefs supporting race-conscious policies cite studies pointing to large gains from further schooling, based on studies that relate schooling to earnings or other outcomes. And, by implication, higher achievement leads to more schooling and better related outcomes. For instance, the brief from the AERA cites research showing an association between K–12 racial diversity and college graduation after controlling for test scores and socioeconomic status (AERA brief, p. 14). The brief filed by Brann and his law enforcement colleagues cites research linking segregation levels to dropout rates, and then linking dropout rates to crime. Other briefs, in turn, cite research linking increased educational levels to better health outcomes, higher earnings, and lesser unemployment (see Caucus for Structural Equality brief, pp. 24-25).

The strengths and weaknesses of much of this research will be addressed in Chapter 4. Here, we note only that promising avenues for examining these outcomes include both national and state-level databases. At the state level, both Texas and Florida maintain large-scale databases that allow researchers to connect individual-level student data—such as coursework taken during high school and college—with occupational data, including three-digit industry codes and salary information in the case of the Data Warehouse in Florida. In addition, a variety of school-level factors are included in these data sets. Thus, it is possible to follow a student's career over time and to understand over the life course the effects of racial composition (as it may vary over time) on individual student outcomes.

[17] The equating of one-tenth of a standard deviation to roughly one month of a school year may be approximately correct for a particular publisher's test at a given grade level and content area; however, it may be misleading as a general statement because the expected increase per month in standard deviation units varies from publisher to publisher, from grade to grade, and from one content area to another.

Unfortunately, to our knowledge, the analyses that are in progress with both these state data sets remain in press, under review, or unpublished at this juncture.

Related Analysis Concerning Teacher Experience and Stability

The *amicus* briefs cite considerable research that relates school racial composition to teacher experience and stability (see, e.g., the brief filed by the 19 Former Chancellors of the University of California). Pursuant to this research, the rate of teacher turnover is associated with the racial make-up of a school's student body (Carroll, Reichardt, Guarino, & Mejia, 2000; Hanushek, Kain, & Rivkin, 2004; Loeb, Darling-Hammond, & Luczak, 2005; Rivkin et al., 2005). The briefs also cite research suggesting that important educational consequences follow from the greater teacher turnover in high-minority schools, as well as from the related fact that teachers at these schools are less experienced (see the Chancellors' brief, p. 25). Higher teacher mobility most impacts heavily disadvantaged schools and leads to the concentration of more novice and inexperienced teachers in those schools (see, e.g., Boyd, Lankford, Loeb, & Wyckoff, 2005). Other analyses that are cited (e.g., Rivkin, Hanushek, & Kain, 2005) confirm that inexperienced teachers are in fact detrimental to student achievement. Accordingly, the research evidence cited in the briefs indicates that inexperienced teachers are detrimental to student achievement, even if it does not demonstrate that there is a detrimental effect of turnover per se.

What Conclusions Can Be Drawn from the Cited Research?

Regarding near-term academic outcomes, the evidence is sufficiently strong to support four primary conclusions. First, there is a relatively common finding that White students are not hurt by desegregation efforts or adjustments in racial composition of the schools. Second, although the apparent magnitude of the influence is quite variable, there is a relatively common finding that African American student achievement is enhanced by less segregated schooling. Third, these positive effects for African American students tend to be larger in earlier grades than in later grades and larger in studies using experimental designs or longitudinal data sets than in cross-sectional studies or studies that lack control groups. Fourth, the earliest studies tend to focus on the effects of court-ordered desegregation and therefore, combine the impacts of racial composition per se with various policy actions undertaken to bring about desegregation. The results of these earlier estimates appear to be more variable than studies focused solely on variations in racial composition.

3   The Impact of Racial Diversity on Near-Term Intergroup Relations

Although the plaintiff's primary concern in the *Brown v. Board of Education* (1954) case was to gain access to equal educational opportunities for African American children, many social scientists also believed that school desegregation held the potential to improve intergroup relations. Given pervasive residential segregation in our society, children often have their first relatively extended opportunity for contact with those from different racial or ethnic backgrounds in school (Farley, 1996). This fact has intensified interest in the potential impact of such school experiences. Accordingly, a brief submitted in connection with the *Brown* case signed by over 30 prominent social scientists discussed the probable impact of segregated schools on intergroup relations and concluded that such schools are likely to foster negative outcomes such as intergroup hostility and stereotyping (Allport et al., 1953). This 1953 brief also concluded that desegregation conducted under specific conditions has the potential to produce near-term improvements in intergroup relations, such as reduced prejudice or stereotyping among students.

In the years since that brief was issued, a large body of work—generally referred to as contact theory research—has accumulated regarding the conditions under which intergroup contact is likely to lead to improved intergroup relations (Pettigrew, 1998; Stephan & Stephan, 2001). This work addresses the near-term outcomes explored in the *Brown* social science brief as well as other near- and long-term outcomes, such as students' willingness to seriously consider the viewpoints of members of other groups or their willingness to live and work in racially-diverse settings as adults. Although research has linked a wide variety of conditions to positive intergroup outcomes, four conditions (Allport, 1954) are most commonly emphasized: (1) cooperation toward mutually valued goals, (2) equal status within the contact situation, (3) the opportunity for individuals to get to know each other as individuals, and (4) the support of relevant authorities for positive intergroup relations (Schofield, 1991; Stephan, 2002). Each of these conditions is likely to be shaped in large part by school and teacher practices. It follows, then, that the way in which integration is implemented, and more generally the environment created in diverse schools, has important consequences for intergroup outcomes.

Authorities Cited by the Briefs

The *amicus* briefs, both those supporting and opposing race-conscious student assignment policies, refer to the literature on the near-term impact of desegregation on intergroup relations, arguing for their respective positions. Interestingly, the work cited by those

on both sides of the issue overlaps substantially, although the briefs supporting race-conscious policies cite many more studies and cover a much wider range of issues. Specifically, whereas the briefs opposing race-conscious policies cite an average of roughly five studies, each concerning intergroup relations, the briefs supporting race-conscious policies cite an average of more than 13 studies related to this issue (with one citing almost 50)—covering topics ranging from the development of prejudice and stereotyping to how various aspects of school social structure influence the development of intergroup relations.[18]

The Armor brief, which provides the most extended coverage of this research on behalf of the petitioners (opposing race-conscious policies), relies very heavily on four reviews of this literature (St. John, 1975; Schofield, 1991, 1995; Stephan, 1986), with by far the greatest treatment being given to the earliest of these. (The Murphy brief, also on behalf of the petitioners, similarly depends heavily on work from Stephan and Schofield.) A more recent meta-analysis from Pettigrew and Tropp (2006) is cited by the Louisville petitioners in their reply brief, as well as in many of the briefs supporting race-conscious policies.

In some cases, the briefs supporting the petitioners and respondents make somewhat contrary claims about the implications of these reviews for the issue at hand. For example, the petitioner's (Louisville) reply brief (p. 10) arguing against race-conscious school assignment procedures cites the Pettigrew and Tropp meta-analysis only to claim that it is "marginally relevant" because it includes many studies from contact situations other than desegregated schools. In contrast, briefs supporting race-conscious policies, such as those filed by the American Psychological Association (APA) and AERA, emphasize the recency of this meta-analysis, the large number of studies it includes, and its overall conclusion—that contact, especially well-structured contact in schools, reduces prejudice.

Similarly, Armor highlights Schofield's (1995) conclusion that the evidence on the impact of desegregation on near-term intergroup relations is "inconsistent" as support for the conclusion that desegregation does not improve intergroup relations. But the brief of Howard Law School supporting race-conscious policies cites the same review and highlights a different point; it references Schofield's discussion of the positive impact of desegregation on intergroup outcomes—although it acknowledges that studies suggesting both positive and negative outcomes are discussed.

Methodological Limitations of the Research on Near-Term Intergroup Relations

Because briefs supporting both positions rely on reviews of the literature on this topic, our own assessment of the knowledge base on this issue must be grounded in an initial examination of the quality of the research available to the authors of those reviews, as well as an examination of the quality of the reviews themselves. Turning to the first issue, it is important to recognize a number of weaknesses in the literature, some of which are inherent in the work itself and others that relate to the application of such work to the cases at hand.

The reviews of the literature cited in these *amicus* briefs point out a number of potential methodological problems. The most extensive consideration of this issue in the reviews

---

[18] Only the briefs that specifically discuss intergroup relations were included when computing these averages.

cited is found in Schofield (1991), who notes the frequent use of cross-sectional designs—an approach with relatively weak ability to support causal conclusions. In addition, many of the longitudinal studies on this topic, from which it is generally more feasible to draw causal conclusions, cover relatively short periods of time at the beginning of students' desegregated schooling experiences. This timing may be conducive to finding negative or nonsignificant outcomes, as controversy and conflict were common in the early years of many desegregation programs. In addition, longitudinal studies of this topic sometimes have no control group, which makes it difficult to know if documented changes resulted from desegregation or from other factors such as broader societal changes or the simple maturation of the students.

Studies of desegregation and intergroup relations also face measurement challenges, which are also reviewed in Schofield (1991). For example, there are serious questions regarding the accuracy of self-reports regarding prejudice and stereotyping, given that social norms relating to the expression of prejudice and stereotypes are often quite strong. Furthermore, some commonly used measures of intergroup relations, specifically certain kinds of sociometric measures, are structured so that more positive ratings of the out-group can only come at the expense of measured relations with the in-group, which does not necessarily reflect the reality of students' social experiences.[19]

Importantly, even if such design and measurement issues did not exist, there are other obstacles to drawing definitive conclusions regarding what the outcomes are likely to be of desegregated or racially diverse schooling. First, many of the studies on this topic are several decades old. Today's students may not have similar experiences or may react to their experiences differently than students of their parents' or even their grandparents' generations. Second, students from different backgrounds may well be influenced differently by their experiences in desegregated schools. Just as White and African American students may be influenced differently by such experiences, Latino students and students from different social class backgrounds may also have different experiences or different reactions to similar experiences. Third, the range of social situations and school structures considered to be desegregated in these studies is huge; there is no reason to assume that the outcomes of all of these situations will be the same.

Since the briefs, especially those arguing against race-conscious policies, draw quite heavily from existing literature reviews, some discussion of the nature of these reviews is also pertinent to examining the strengths and weaknesses of the research base available regarding desegregation and intergroup relations. As previously mentioned, the section of the Armor brief on near-term intergroup relations depends heavily on the 1975 St. John review, devoting roughly twice as much space to it as to any other authority cited on this topic. Although St. John's review is quite detailed, it is also severely dated, with one of the cited studies having been published in the 1930s, and only 21 percent of all the studies cited on this topic having been published after 1970. Furthermore, this review does not use more powerful meta-analytic techniques; rather, it uses a simple "tally" method, merely counting and reporting the number of studies that found positive, negative, or mixed findings.

---

[19] An out-group is a social group that does not include the individual as a member; an in-group is one that does include the individual as a member.

The Murphy brief, opposing race-conscious policies, cites a relatively recent work (Stephan, 2002) as a review of the literature in this area, but that chapter actually contains only one page reviewing this particular literature, relying on earlier detailed reviews conducted by the same author between 1978 and 1991 as the basis for its conclusions. Although the other reviews cited in these briefs (Schofield, 1991, 1995) do include some more recent studies concerning the impact of desegregation on various aspects of intergroup relations, a great many of the studies cited in those reviews are also quite old.

The Stephan reviews, as well as the Schofield ones, are carefully researched narrative reviews that describe and explain the research, but they also do not use meta-analytic techniques. Moreover, as noted earlier, one of the briefs supporting race-conscious policies argued that the Pettigrew and Tropp (2006) meta-analysis is irrelevant because it addresses a question much broader than whether contact in desegregated schools influences race relations. And in fact, Pettigrew and Tropp do include in their meta-analysis studies of contact between individuals of a wide range of ages (children, adolescents, adults), in a wide range of settings (residential, recreational, educational, etc.), and from a wide variety of groups (those with and without mental and physical disabilities, those from different racial and ethnic backgrounds, etc.). However, the *amicus* brief fails to note that Pettigrew and Tropp group their results according to the setting in which the studies were conducted. That is, the meta-analysis does present data on the impact of contact between different groups in educational settings. Accordingly, we conclude that this review is relevant to the issues at hand, as will be discussed in more detail shortly.

What Conclusions Can Be Drawn from the Cited Research?

Setting aside for a moment the Pettigrew and Tropp (2006) meta-analysis, the reviews of the literature on desegregation and near-term intergroup relations cited in the briefs all conclude that the results are, in St. John's (1975, p. 71) words, "inconclusive and mixed." Some individual studies suggest positive outcomes, some suggest negative outcomes, and some find no measurable impact. This conclusion is roughly consistent with those drawn by Schofield (1991), and by Stephan (2002), who adds that the impact of desegregation on the attitudes of African American students toward White students is somewhat more positive than its impact on White students' attitudes toward African American students.

The recent meta-analytic work by Pettigrew and Tropp (2006) potentially provides stronger evidence of the impact of desegregation on near-term intergroup relations. The first conclusion that this carefully executed meta-analysis draws, based on over 500 studies including more than 250,000 people, is that contact between those from different groups reduces prejudice. However, as discussed above, one might legitimately question the relevance of this overall finding as applied to the specific issue of race-conscious policies, since this meta-analysis includes studies of a broad range of groups and contact situations. The argument can sensibly be made that intergroup relations in schools may be affected by contact differently than other kinds of intergroup relations in other settings.

However, this argument is not convincing because Pettigrew and Tropp disaggregate their analysis, comparing the strength of the relationship between contact and positive intergroup relations in a wide variety of settings and concluding that such effects are indeed found in school settings (r = .213).[20] To provide some idea of the degree of linkage

this represents, it may be useful to note that the strength of the overall relationship documented in this meta-analysis is roughly comparable to the association between tests used for personnel selection and measures of job performance (Hartigan & Wigdor, 1989). The authors also disaggregated their findings by separating out just the studies examining racial and ethnic relations. The meta-analysis concludes that studies looking at the impact of contact on prejudice between members of different racial or ethnic groups show an average effect size virtually identical to the size of the contact-prejudice link in studies of other types of groups (r = −.218 and −.220, respectively).

In addition, Pettigrew and Tropp conclude that contact studies conducted after 1979 find stronger links between contact and reductions in prejudice than do older ones (r = −.236 and −.186, respectively). Furthermore, they conclude that methodologically stronger studies produce larger effects than weaker studies, findings consistent with Schofield's (1995) observation that many of the methodological problems found in studies of desegregation and near-term intergroup relations are likely to result in underestimation rather than overestimation of its positive impact.

Perhaps most relevant for our purposes is a more recent paper based on the same meta-analytic research project—a paper cited in the APA brief—that provides more extended meta-analytic exploration of the subset of 57 studies specifically dealing with racial/ethnic contact in schools. That paper concludes that school contact between youth from different racial and ethnic backgrounds is related (r = −.231) to reductions in prejudice and in negative intergroup attitudes (Tropp & Prenovost, in press).

Of course, the causal issue of whether contact reduces prejudice or whether initially low levels of prejudice lead to more contact is crucial for interpreting the link between contact and prejudice in education settings. Pettigrew and Tropp (2006) dub this issue "the causal sequence problem" in their meta-analysis, concluding that contact does in fact lead to reduced prejudice. Specifically, they show that studies in which the participants had no choice regarding contact (and in which logically, then, initial attitudes could not affect the level of contact) actually produce a stronger link between contact and reduced prejudice than do studies in which participants had choice regarding contact (r = −.280 and −.190, respectively). The authors also point out that the "no-choice" studies were methodologically superior. Taking the lower quality of the "choice" studies into account, they conclude that the effect sizes produced by the two groups of studies do not differ significantly from each other.

The results of these two related meta-analytic reviews provide clear support for the conclusion that, overall, contact is likely to lead to improvement in intergroup relations. The work of Pettigrew and Tropp differs from earlier non-meta-analytic reviews that tend to stress the varying results of different studies. However, like virtually all of the earlier reviews (St. John, 1975; Schofield, 1991, 1995; Stephan, 1986, 2002), these meta-

---

[20] The numbers following the letter "r" represent the correlation, or the degree of relationship, between contact and lack of prejudice. The correlation between two variables can range from a high of +1, when an increase in one perfectly predicts a corresponding increase in the other, to −1, when an increase in one perfectly predicts a corresponding decrease in the other. A correlation of zero means that there is no relationship between the two variables. Correlations between 0 and + or −1, such as .2, .5, or .7 represent an increasingly strong positive relationship between two variables if the number is preceded by a + sign and an increasingly strong negative relationship if the number is preceded by a − sign. Note that the original paper presents the correlation coefficients to three significant figures (digits); we do the same here.

analyses also highlight the finding that the impact of racially mixed schooling on inter-group relations is likely to be influenced by specific aspects of the school or classroom situation or both. Most pertinent to this issue is Tropp and Prenovost's (in press) finding with regard to studies conducted in school settings. They single out those studies of settings that contact theory suggests were structured in a way likely to improve relations among students from different racial/ethnic groups (N = 12). This subgroup shows significantly stronger contact-prejudice effects (r = −.374) than do those for the remaining 45 school samples in which contact did not occur under such conditions (r = −.204).

Looking beyond the meta-analytic findings at the more than 150 studies concerning near-term intergroup relations cited in the briefs, we find a great deal of background information pertinent to understanding the mechanisms through which desegregation may have a positive impact on intergroup relations among children from different groups. The importance of the nature of the contact situation, for instance, is illustrated in a study cited in the APA brief (Schofield & Sagar, 1977). Consistent with contact theory, these researchers found that friendships between African American and White students increased among seventh graders in a school in which seventh-grade classes were structured in ways to emphasize equal status, cooperation, and opportunities for individualized contact. In sharp contrast, friendships decreased among African American and White eighth graders in the same school, consistent with the fact that classes in their grade were structured in ways that highlighted status differentials between members of different groups, inhibited individualized intergroup contact, and suggested that school authorities did not strongly value intergroup contact for those eighth graders.

Another section of the APA brief discusses a substantial body of literature that suggests that racial stereotypes and in-group preference develop early in childhood (Aboud & Amato, 2001; Baron & Banaji, 2006; Katz, 1982). The APA brief then points out that contact provides opportunities to reduce negative images of and feelings toward the out-group, or even to disrupt the formation of stereotypes (Gaertner, Rust, Dovidio, Bachman, & Anastasio, 1996; Johnson & Johnson, 2000). For example, given that housing and other aspects of our society are heavily segregated, racially mixed schools provide one of the few opportunities many students have to get to know those from other groups. Such exposure provides a good opportunity for (but does not guarantee) stereotype change because students can come to know many different individuals belonging to any given out-group and thus to observe personally the variation within that group (Dovidio, Kawakami, & Gaertner, 2000; Johnson & Johnson, 2000). Racially mixed schools also provide students with the opportunity to develop intergroup friendships, an opportunity that would not be reasonably available to many of them otherwise. Importantly, research suggests that such friendships reduce prejudice toward the group to which the friend belongs (Aboud & Levy, 2000; Pettigrew & Tropp, 2006), which has potentially far-reaching implications.

One aspect of the intergroup-relations discussion involves the issue of civic engagement, which can be understood as activities intended to beneficially affect one's community and society. Although a half-dozen of the briefs supporting race-conscious policies mention the ostensible civic engagement benefits of those policies and of school diversity, they point the Court to very little in the way of empirical evidence (see, e.g., Latino Organizations brief). Briefs filed by 19 Former Chancellors of the University of California

and by 553 Social Scientists cite research linking classroom diversity to civic engagement in the higher education context (e.g., Gurin, Dey, Hurtado, & Gurin, 2002), but the high-quality K–12 research available is minimal and far from definitive. Eaton (2001), in her study of adults who had attended school in Boston, found that minority students who had attended predominantly White suburban schools felt that their experience with both White and non-White communities prepared them well for leadership roles in the city. More recently, Kurlaender and Yun (2005) surveyed students in the Miami-Dade County Public Schools and found that those who attended more diverse schools were more likely to report an increased sense of civic engagement compared to their more segregated peers (the questions concerned working to improve relations among people of different backgrounds and having comfort in debating political and social issues in class). We view this research as providing an appropriate foundation for further studies regarding civic engagement, but we conclude that the research regarding other aspects of intergroup relations is currently much stronger.

In sum, racially diverse schools and classrooms will not guarantee improved intergroup relations. However, current research supports the conclusion that, generally speaking, such diverse environments are likely to be constructive in this regard. The research also identifies conditions that need to be present in order for diversity to have a positive effect, as well as the mechanisms through which these improvements might take place, and it offers guidance regarding the steps that schools can take to structure contact so that it realizes the inherent potential for positive outcomes.

4   The Impact of Racial Diversity on Long-Term Outcomes

Research and scholarship regarding expectations for the outcomes of school desegregation generally fall into two broad categories: 1) the near-term benefits of desegregated schooling, and 2) the long-term benefits. One of the more immediate outcomes expected is improvement in race relations and the fostering of shared information networks. As discussed below, scholars of psychology and sociology have argued that this has the potential benefit of breaking down varying sources and forms of resistance to intergroup associations in schools and may carry over into other arenas, both in the near-term and long-term. Although the near-term improvements in race relations result from more positive intergroup relations, the long-term benefits can be explained by perpetuation theory, which draws on two main bodies of sociological and social psychological theory and research: "network theory" and "contact theory" (McPartland & Braddock, 1981; Wells & Crain, 1994).

Research on perpetuation theory focuses largely on the implications of early and sustained desegregated schooling experience for long-term educational attainment, as well as for outcomes in the labor market and in race relations. The theory posits that continued segregation will occur "across the stages of the life cycle and across institutions when individuals have not had sustained experiences in desegregated settings earlier in life" (McPartland & Braddock, 1981, p. 149). It reasons that segregated groups will tend to overestimate the degree of hostility they will encounter in racially diverse settings or underestimate their skill at coping with interracial tensions (Braddock, 1980). Contact theory has several variants but the central thrust of the theory is that increased contact—particularly well-structured, positive contact between previously segregated groups—will help to eradicate myths about differences, reduce out-group fears and hostilities, reduce prejudice, and increase awareness and understanding of likenesses and shared customs, beliefs, and values (see Chapter 3 for a discussion of intergroup relations).

Network theory rests on the logic that social networks are an important source of information for students and their families and that, due to both racial and class segregation, social networks and the information they carry often differ in content (Braddock & Eitle, 2004; see also Granovetter, 1973; Knox, Savage, & Harvey, 2006). As such, the social networks potentially available in desegregated schools carry different informational content and can offer students of all races access to more similar information and opportunities. Researchers using network theory contend that this increased access to the same information networks can impact a variety of important outcomes in the near-term, and

especially in the long-term. They further contend that access to, and use of, these similar networks leads to more similar life chances across a rich set of outcomes.

In explaining social networks, the *amicus* briefs from the 553 Social Scientists and from the Caucus for Structural Equity present evidence that residential segregation strongly determines the composition of social networks and limits opportunities for those growing up in economically distressed inner city areas. Citing housing studies that demonstrate the negative impact of land use and suburban growth, studies of housing and lending discrimination, and the placement of subsidized housing in inner-city neighborhoods, these briefs argue that racial differences in access limit opportunities for poor and minority families (see also the brief filed by the Asian American Justice Center). These briefs also cite studies documenting the disproportionate numbers of minority youth who attend concentrated poverty schools. In particular, the schools attended by African American and Latino students are far more likely to have a majority of students who also come from economically strapped families. The social capital differences between these schools and wealthier schools (which tend to be suburban and enroll more White students) potentially play out in important ways, such as the availability of better college counseling (Braddock, Crain, McPartland, & Dawkins, 1986; Kaufman & Rosenbaum, 1992; Orfield, 1997; Wells & Crain, 1997); information leading to realistic and diverse occupational aspirations (Wells & Crain, 1994); access to professional jobs (Braddock et al., 1986); greater levels of parental volunteering (Bernard, 1990); and a school climate more favorable to achievement (Crain, 1971). These and other issues are discussed below as they relate to perpetuation theory.

Authorities Cited by the Briefs

A half-dozen of the *amicus* briefs supporting race-conscious student assignment policies include substantial discussions of the long-term effects of desegregated schools (see the briefs filed on behalf of AERA, APA, the American Council on Education, the 553 Social Scientists, the 19 Former Chancellors of the University of California, and Wells and her colleagues). However, long-term effects are not generally addressed by the briefs opposing race-conscious policies, the sole exception being the Armor brief. We found considerable overlap in the studies and reviews cited in the various briefs. In this regard, we note that although fewer studies and reviews were cited in the Armor brief than in the briefs supporting race-conscious policies, the ones cited by Armor were among those cited by the others.

These studies of perpetuation theory and related issues cover the period 1978 to the present. However, as explained in the Wells brief, earlier studies were based on data that were very proximate to the onset of any significant school desegregation (i.e., during the initial years when schools were adjusting to changes in racial composition). Such studies are least likely to show robust, positive results. These earlier studies were those more frequently relied upon in the Armor brief.

The back and forth in the *amicus* briefs can be summarized as follows. Those arguing in favor of race-conscious policies point to research documenting long-term benefits of racially diverse schooling in the workplace, in housing, and in higher education. Income benefits and improved critical thinking skills are also cited. In response, although the

Armor brief tends to acknowledge the results of these studies, it points out the problem of self-selection: Because families that participate in (or do not opt out of) student assignment policies intended to desegregate may be different in their attitudes than those that do opt out, any causal claims about the outcomes of racially diverse schooling are suspect. That is, parental attitudes could be driving both the enrollment in desegregated schools and the later participation in racially diverse institutions.

To illustrate, consider the research that concludes that African American students who attended desegregated elementary and secondary schools are more likely to attend predominately White colleges (Braddock, 1980, 1986; Braddock & McPartland, 1989). The Armor brief acknowledges differences in the likelihood that African American students will attend a predominately White college if they had attended a desegregated high school, but it asserts that this is not necessarily a benefit of desegregation. The brief argues that the available research does not justify a conclusion "that the long-term benefits of desegregation are greater than the short-term benefits such as test scores" (Armor brief, p. 21) because the small effect sizes do not support the conclusion and because most of the studies do not use more rigorous experimental research designs. Following from this latter point, the Armor brief argues that the perpetuation studies lack important controls, which weakens their findings. It further highlights the problem of selection bias, noting that students attending desegregated schools are probably children of parents who "prefer desegregation" and hence have nurtured in their children a preference for desegregated contexts (including, but not limited to, school contexts).

Some of these concerns addressed in the Armor brief have merit. Indeed, much of the research supporting the perpetuation idea can be questioned on this basis. However, the body of research taken as a whole stands up to scrutiny. For instance, the greater propensity to attend predominately White colleges by students who attended desegregated elementary and secondary schools is found even after controlling for differences in socioeconomic background, high school grades, test scores, and residential proximity to other colleges (Braddock & Eitle, 2004). Although such controls do not rule out the possibility that differences are due to self-selection since there may still be differences (other than those controlled for in the studies) between students who attend desegregated versus those at more segregated schools, the continued existence of the differences supports the conclusion that the experience of attending a desegregated school does indeed affect the choice of what college to attend. Moreover, the *amicus* briefs supporting race-conscious policies also cite a study of Hartford (Connecticut) students by Crain and Strauss (1985). Using an experimental research design, the researchers examined students who had been randomly selected to participate in a desegregation plan and compared their outcomes to those who were not selected, an approach that controls for self-selection bias. The results were consistent with the cross-sectional modeling studies: African American participants in the program were more likely to go to college and to have white-collar jobs.

We also note the qualitative research cited in the *amicus* brief filed by Wells and her colleagues (pp. 16-29) that describes how the experience of attending desegregated schools can affect later life choices and perspectives. In particular, the brief describes a study (Wells, Holme, Revilla, & Atanda, 2004) where the researchers carried out in-depth case studies of six high schools across the country that had undergone desegregation by the late

1970s, conducting interviews of 242 graduates between 1999 and 2004. The Wells brief also presents data from interviews she conducted of 42 adults who graduated from integrated public schools in Seattle and Louisville in the mid-1980s (Wells, Duran, White, James-Szanton, & Holme, 2006). Together, these case studies describe racial diversity benefits regarding open-mindedness, reduced prejudice, and reduced fearfulness of other races.

What Conclusions Can Be Drawn from the Cited Research?

Research in this area has consistently supported perpetuation theory. Early experience in desegregated schools tends to reduce expectations of hostility, improve skills and comfort with interracial settings, and create a tolerance for—if not a preference for—subsequent desegregated educational settings. Research also consistently finds an association between early desegregated schooling experience and later working in desegregated work places, living in desegregated neighborhoods, and expressing a sense of having acquired increased skills in being effective in interracial contexts. These findings are set forth in research that extends over a 25-year period (see summaries in Dawkins & Braddock, 1994; Kurlaender & Yun, 2001; Wells & Crain, 1994). Further, more recent studies by Wells and her colleagues (2004, 2006) offer support for the acquisition of skills in interracial settings, based on interviews with African American and White graduates of desegregated schools and with administrators, parents, and educators in those desegregated schools.

These apparent benefits remain even after controlling for characteristics such as socioeconomic status and academic achievement of students. However, the vast majority of the studies documenting benefits must be tempered by a recognition that differences due to self-selection are not adequately accounted for by the controls (see the Armor brief). Self-selection may explain part or all of the remaining differences between students who attended desegregated schools and their counterparts who attended segregated schools.[21]

Given this self-selection issue, our overall conclusion is heavily influenced by the fact that the Crain and Strauss (1985) study, which avoids the self-selection problem, reaches similar conclusions about the positive effects of a racially diverse school environment. The weight of studies using cross-sectional data, combined with this experimental study, leads us to conclude that there are long-term benefits of desegregation in elementary and secondary schools. Under some circumstances, and over the long term, experience in desegregated schools increases the likelihood of greater tolerance and better intergroup relations among adults of different racial groups.

---

[21] It should be noted that this self-selection argument is not as strong with regard to non-affective outcomes such as long-term critical thinking skills; however, the research documenting benefits is also not as strong in those areas.

5 *The Critical Mass Question*

T he Supreme Court, in its *Grutter* (2003) opinion, rejected a constitutional challenge to the University of Michigan Law School's affirmative action policy, reasoning as follows: "The Law School has determined, based on its experience and expertise, that a 'critical mass' of underrepresented minorities is necessary to further its compelling interest in securing the educational benefits of a diverse student body" (p. 333). For the University of Michigan, achieving a critical mass meant admitting underrepresented minority students in sufficient numbers to ensure that they would not feel isolated or like spokespersons for their race. Pursuant to this concept, the degree of diversity also should be sufficient to allow for the reexamination of stereotypes, for critical thinking, and for educationally beneficial interactions (*Grutter*, 2003).

As a legal matter, this critical mass issue only arises once there is an initial court determination that the university has a compelling interest in diversity. Equal protection jurisprudence demands that a governmental policy that uses racial categorization be narrowly tailored in pursuit of a compelling interest. If diversity is the interest, then the critical mass policy must be narrowly tailored to further that interest—there must be a tight fit between ends and means. Defining the ends (the nature of the diversity interest) helps shape the debate over the means.

The diversity interest regarding K–12 public schools is not necessarily the same as the diversity interest as defined by the University of Michigan Law School. The *amicus* briefs filed in support of the race-conscious student assignment policies in Seattle and Louisville describe an interest that is linked to the various outcomes discussed earlier in this report: academic effects (near-term and long-term), improved intergroup relations, and social capital benefits. One can see overlap, but not a perfect match, with the diversity goals discussed in *Grutter* (2003). Because the *ends* are different, the means are also likely to differ; indeed, the briefs set forth a slightly different (but comparable) concept of critical mass for K–12 race-conscious policies.

Authorities Cited by the Briefs

The *amicus* briefs opposing the use of race-conscious school assignment policies do not address the question of critical mass in any detail, and most briefs supporting race-conscious policies also neglect the question. The exceptions are the briefs filed by AERA, APA, and Massachusetts Superintendents. Covering a diverse body of literature extending roughly from 1977 through 2003, these briefs cite research from the fields of psychology,

social psychology, and sociology. The studies include experimental designs, survey-based and observational studies, and reviews. There are a total of 16 referenced works cited in these three briefs, with little citation overlap among the three.

Collectively, the briefs make the argument that token representation invites self-segregation because token numbers expose the outnumbered students to harassment from their peers; constrict the possibility of equal status between members of different groups as articulated by Allport (1954) as a necessary component for reducing racial prejudice; can contribute to stereotype threat; and limit the amount of available interracial contact opportunity and thereby limit the benefits of learning in a diverse classroom context. The most salient among these address three issues: (1) the opportunities for the type of cross-race contact that can reduce prejudice; (2) the benefits of diversity for learning outcomes; and (3) the closely related equal status condition that, if not present, would lessen the likelihood of prejudice reduction. In this way, the research support regarding critical mass is closely related to the intergroup relations research discussed in Chapter 3.

What Conclusions Can Be Drawn from the Cited Research?

Our critique here of the quality of evidence presented in support of the critical mass argument does not build on critiques offered in briefs opposing race-conscious policies, simply because none of those briefs offers any substantial discussion on the critical mass thesis. The research cited in the briefs supporting race-conscious policies is focused primarily on the problems of racial isolation (e.g., Hallinan & Smith, 1985; Schofield & Sagar, 1977, 1983). It addresses problems like tokenism (Taylor, Fiske, Etcoff, & Ruderman, 1978) and "stereotype threat" (Steele & Aronson, 1995) that are much more likely to arise in schools with racial isolation.[22] For the most part, the briefs do not argue for a given percentage of racially diverse enrollment that would avoid these problems. However, several studies are cited that provide some guidance. For instance, the AERA brief cites McConahay's (1981) conclusion that "approximately equal proportions are best for maximizing contact and friendship between in-group and out-group members. If one or the other groups in a school has a large percentage (over 70 percent), it has the power to determine the signs and behaviors by which in-school status is ascribed or achieved" (McConahay, 1981, p. 39; cited in AERA brief, p. 21). The AERA brief also cites the appellate court opinion in the *Lynn* case, which concluded, based on expert testimony, that the social science literature approximates critical mass at 20 percent and that, "while critical mass is the point at which educational benefits begin to accrue, those benefits increase as a school nears an even balance between white and nonwhite students" (*Comfort v. Lynn*, 418 F.3d 1, 20-21, 2005; cited in AERA brief, p. 22).

The brief from the APA cites Schofield and Sagar (1983) for the self-segregation proposition that "when African Americans represent less than 15 percent of a student body, they are significantly more likely to choose friends on the basis of racial group membership" (APA brief, p. 20). Kanter (1977), cited in the AERA brief, also sets forth this 15 percent figure as the threshold to avoid tokenism.

---

[22] African American students were found by Steele and Aronson to experience anxiety about confirming the negative stereotype regarding African American intelligence.

The available research cited in these briefs does lend support to concerns about the harms of tokenism and insufficient numbers of minority students. Although we think that these authorities, read together, are insufficiently strong to support any firm percentage for creating a critical mass, this research (and the research cited elsewhere in this report) convincingly makes the case for the harms of racial isolation. We cannot say, based on existing research, whether 15 percent is sufficient to avoid the harms associated with racial isolation; nor can we say whether a linear (or some other) relationship exists between increased diversity and educational benefits as the percent moves from 15 to 30 percent and beyond. Further research is necessary in this regard. Perhaps the most important point to keep in mind is that any benefits are only indirectly associated with racial diversity. Striving for such diversity should be understood as an attempt to avoid the harms of racial isolation and to create an environment that allows for positive intergroup relations (Schofield & Sagar, 1977, 1983). It should not be understood as a guarantee of positive relations, which are likely to come about only in an otherwise beneficial school environment (Pettigrew & Tropp, 2006) as described previously in the discussion about intergroup relations.

6 Race-Neutral Alternatives

The diagram (Figure 1) at the outset of this report sets forth a variety of desirable goals for schooling. Most legal analyses surrounding challenges to race-conscious student assignment policies focus on the link between ends and means—on how well race-conscious policies accomplish those desirable goals. But another important legal question (even if one accepts that race-conscious policies do help to achieve those goals) is whether the school district considered other ways—so-called race-neutral alternatives—designed to achieve the same goals but that do not include governmental categorization of students by their race. The legal question is, essentially: Has the school district seriously considered race-neutral means of achieving racially diverse schools? In this chapter, we consider the social science behind that question and behind a related question: Has the school district seriously considered race-neutral means of achieving the ultimate social and educational goals that it hopes to gain from promoting racially diverse schools?

The race-neutral alternatives discussed in the *amicus* briefs fall into four general categories. Falling into the first category, most race-neutral alternatives appear to be, at least in part, attempts to find a proxy or a set of proxies intended to create racial diversity. Second, promoting economic diversity, the most prominent race-neutral alternative, has this proxy characteristic, but is also generally advocated as directly achieving educational and societal goals comparable to racial diversity. That is, policies designed to increase economic diversity, although they may also increase racial diversity, are sometimes supported as beneficial in their own right. A third category of race-neutral alternatives looks directly to certain outcomes. The U.S. Department of Education Office for Civil Rights (2004), for example, suggests programs (such as partnerships with nearby universities) that are designed to enhance the experiences of students in racially isolated schools (cited in the Pacific Legal Foundation's Louisville brief). Finally, the *amicus* briefs discuss school choice policies which at least partially decouple school assignment from segregated housing patterns.

School Choice and Magnet Schools

Examining this last point first, we found the most compelling evidence to be a recent peer-reviewed study cited in the brief filed on behalf of 553 Social Scientists. Saporito and Sohoni (2006) studied the 22 largest U.S. school districts, comparing the racial composition of schools with that of the populations within their attendance boundaries. They found that, on average, schools were more segregated than the neighborhoods they served. Moreover, with some important exceptions, the availability of private, charter, magnet, or

other specialty schools was associated with greater, not less, segregation (this effect was strongest for private schools, weaker for charter, magnet, and other public-school alternatives).

Importantly, they found four exceptions to this general pattern—four districts that "operate[d] widespread racial desegregation programs (in the form of magnet school programs and other controlled-choice options)" (Saporito & Sohoni, 2006, p. 98). This finding is consistent with another recent study (Betts, Rice, Zau, Tang, & Koedel, 2006), which was also cited in both the 553 Social Scientists and APA briefs. Julian Betts and his colleagues, as part of their research concerning San Diego's choice patterns, compared the district's open-enrollment program to its two programs that combined choice with voluntary race-conscious mechanisms to encourage racial diversity. They found that the race-conscious programs did more to desegregate schools than did the pure open-enrollment program, which had no race-conscious aspect.

Two other studies cited in these *amicus* briefs lend additional support to these conclusions. An early and still influential study looking at Arizona charter school enrollment (Cobb & Glass, 1999) compared racial patterns of enrollment in charter schools with the enrollment in their neighboring public schools. In Arizona, the charter schools had a significantly higher proportion of White students, indicating that increased neighborhood-level segregation was taking place. Hastings, Kane, and Staiger (2005) examined choice patterns in Charlotte, North Carolina. Their study focused mainly on student achievement levels, finding choice patterns whereby high achievers are substantially more likely to choose schools with high achievement scores than are low scorers. The racial element to this is not a focus of the paper, but the authors note a correlation coefficient (r) of −.65 between student test score and percent African American at a school. In terms of the *de facto* segregating effects of choice, this suggests a dynamic where African American students are relatively likely to remain in their neighborhood schools, while White students are relatively likely to actively choose a school—and that school is relatively likely to already have a high concentration of White students.

To explain these choice patterns, the APA brief references research from the field of psychology, describing how prejudicial attitudes can lead to avoidance behavior:

> Negative thoughts about other racial groups often contribute unconsciously to prejudiced attitudes. This type of implicit prejudice, in turn, often manifests itself in discriminatory behavior, anxiety when dealing with members of other groups, and in avoidance of substantial interaction with members of other groups. (p. 7)

The 553 Social Scientists' brief also includes some discussion of causal mechanisms, looking to sociological research to explain why choice might lead to racial segregation:

> The concept of choice is based on the theory that everyone will be equally informed and effective in taking the steps needed to exercise choice. However, not all parents have access to the same kind or quality of information about new schools or existing schools. Because information on the comparative value of different educational options is unequally distributed, unrestricted choice plans tend

to advantage parents with high educational attainment or more networks and contacts. These parents are more likely than other parents who do not possess this informational advantage to know about the range of choices that are available and to exercise their options. Other socioeconomic factors can limit the actual choices families have when selecting schools, such as lack of transportation for students to attend the schools of their choice or working parents who are unable to leave work to visit schools. Because White parents, on average, have more education and connection to higher-status networks, the difference between those who can choose and those who cannot is likely to further stratify schools on the basis of race. (App. pp. 42-43, internal citations omitted)

The intergroup relations and social capital research discussed earlier in this report lend some support to these causal theories; future researchers and policy makers may look to this research in designing choice policies that address these psychological and sociological barriers to integrative choice programs.

As noted above (see Saporito & Sohoni, 2006), controlled choice plans do appear to have small but measurable effects in reducing Black/White (but not Latino/White) segregation. Accordingly, we note some evidence that in large urban districts, magnet programs and controlled student choice can reduce school segregation, but we do not see this study as offering any assurance that they will do so (the study's authors similarly are careful to make no such claims). The study does, however, strongly support the conclusion that an unconstrained school choice policy is more likely to lead to increased segregation than it is to alleviate residential segregation.

The briefs opposing race conscious policies focus primarily on magnet schools as a race-neutral alternative (see Pacific Legal Foundation brief in the Seattle case; brief of the U.S. in the Seattle case; brief of the U.S. in the Louisville case). However, these briefs focus on magnet school plans that are race-neutral, with no controlled-choice component (unlike the schools examined in Saporito and Sohoni, 2006). Magnet schools serve students from a geographic region encompassing the regular attendance boundaries of more than one school, and they feature one or more specialized programs to attract students with particular interests. For example, magnet schools might offer a focus on academics, a focus on the arts, or some particular kind of vocational training. Because students elect to attend these magnet schools voluntarily, if such programs are successful in enhancing racial balance they would appear to offer an excellent remedy; racial balance and student choice could be promoted at the same time.

Among the key documents cited in the briefs opposing race-conscious policies is a 2004 U.S. Department of Education Office for Civil Rights (OCR) report entitled, *Achieving Diversity: Race-Neutral Alternatives in American Education* (U.S. Department of Education Office for Civil Rights, 2004). The report is cited for the following proposition: "Of the potential race-neutral alternatives available to school districts, Congress has determined that the use of magnet schools is a particularly effective means of addressing minority group isolation and has funded magnet school programs" (brief of the U.S. in the Louisville case, p. 22).

The briefs opposing race-conscious policies, however, do not demonstrate that race-neutral magnet policies have been able to reduce racial isolation. In contrast, the brief supporting race-conscious policies filed by the American Civil Liberties Union of Kentucky cites a 2003 federal evaluation of the federal Magnet Schools Assistance Program (MSAP), which shows race-neutral magnet policies—whatever their other strengths—to be ineffective at reducing racial isolation. In addition, this brief presents a *de novo* analysis of segregation data in districts that have received funding under the MSAP, again showing the program's desegregative effects to be minimal (although positive).

Our overall conclusion—based on the *amicus* briefs and the research cited in those briefs—is that school choice generally, and magnet schools in particular, do have some potential to reduce racial isolation. However, that potential is only likely to be realized to any significant degree if enrollment constraints (race-neutral or race-conscious, as discussed below) are part of the school choice policy. Without such constraints, school choice plans appear to contribute to segregation more often than they ameliorate segregation.

Focusing on the Ultimate Outcomes

Before exploring the primary arguments concerning race-neutral policies (e.g., using proxies and/or income-based criteria) we briefly address the contention noted above that some ultimate goals of race-conscious policies can be achieved by addressing issues of educational quality. In reading through the *amicus* briefs, we noticed that some briefs opposing race-conscious policies tend to describe the legal question in terms of these ultimate goals (or, at least, a subset of those goals). For instance, the Pacific Legal Foundation (2006) brief in the Seattle case, filed on behalf of the petitioners, states: "Public schools also should be required to prove that race-neutral alternatives for achieving educational benefits have failed before resorting to racial discrimination" (p. 4). Other briefs, including the briefs filed by the U.S. Solicitor General (also opposing race-conscious policies), characterize the goal as achieving "racially integrated schools" rather than the ultimate educational benefits of that integration.

The Pacific Legal Foundation, in its Louisville brief, cites the above-referenced 2004 OCR report on race-neutral alternatives. School districts, according to this report, can create "skills development programs" and partnerships with universities to improve achievement and college preparation in low-performing schools (Pacific Legal Foundation's Louisville brief, p. 25). We did not consider, nor do we question, the wisdom or efficacy of those programs, but we think it apparent that they are not designed to address many of the outcomes discussed here. They cannot, for instance, be considered to be race-neutral alternatives for accomplishing the intergroup relations goals discussed in Chapter 3.

Economic Desegregation and Proxies for Race

The main race-neutral alternatives under contention focus straightforwardly on student assignment. A growing body of literature explores the experiences of districts like San Francisco, California; La Crosse, Wisconsin; and Wake County, North Carolina, all of which have used race-neutral criteria—primarily income-focused—as part of controlled choice plans.

Since 2003, the San Francisco Unified School District (SFUSD) has employed a race-neutral "diversity index." Under that plan, parents may apply to have their children attend any school in the district. If a school is oversubscribed, then a "diversity index lottery" is employed to select from among applicants in such a way as to promote diversity, primarily with respect to socioeconomic status and academic achievement. Details of the assignment process have been modified from time to time. Presently, the index relies on five factors: extreme poverty (whether the student is living in public housing, is in foster care, or is from a family participating in a homeless program); socioeconomic status (whether the student participates in free/reduced price lunch, CalWORKS, and/or public housing programs); home language (whether other than English); the academic performance rank of the student's prior school; and the student's most recent prior standardized test score (whether below the 30th percentile). The goal of the SFUSD assignment process is to maximize within-school variation in students' profiles across these five factors. As discussed below, this plan has almost surely contributed to greater racial diversity, and it likely brings benefits notwithstanding race, but it has resulted in greater racial segregation than did the district's prior race-conscious student assignment plan (Reardon, Yun, & Kurlaender, 2006, p. 53).

In 1992, La Crosse, Wisconsin, redrew school assignment boundaries to promote diversity with respect to socioeconomic status. Because the city is relatively homogeneous with respect to race, it is difficult to evaluate the success of its program with regard to mitigating racial segregation. However, from 2002 to 2003, the district had a substantial population of immigrants from Southeast Asia. Looking at the percent of Asians across the district's 11 elementary schools, Reardon and his colleagues (2006) found a range from 5 percent to over 40 percent (p. 52), suggesting that this approach is unlikely to mitigate racial segregation.

Wake County, North Carolina, also incorporates socioeconomic status as a school-choice assignment factor. This assignment plan for the district's magnet schools showed some initial success in promoting racial balance, although school segregation appears to be increasing in recent years. The demographics of Wake County may be atypical, however, in that there is an unusually strong correlation between race and income, with African American students being about 10 times more likely than White students to be in poverty (Brief of 553 Social Scientists, Appendix, p. 49).

The strongest social-science evidence concerning the likely effectiveness of socioeconomic status-based student assignment as a means to promoting racial balance comes from the above-cited study by Reardon, Yun, and Kurlaender (2006). These researchers conclude that, although promoting diversity with respect to socioeconomic status may result in worthy and educationally beneficial ends, it is not likely to substantially reduce school segregation.

Reardon and his colleagues focus primarily on the likely effects that student assignment based on family income would have on racial segregation in large, diverse urban school districts. They first show that, under broad and realistic assumptions, students could in principle be assigned to schools in ways that are balanced with respect to family income and also balanced by race, but they could alternatively be balanced with respect to family income but highly segregated by race. This is simply a mathematical consequence

of the fact that African American and White income distributions overlap substantially. The correlation between income (or socioeconomic status) and race is not nearly high enough that one can simply serve as a proxy for the other. The authors then discuss the effect of residential segregation. If school balance according to family income were achieved under a plan that minimized the average distance children were required to travel to school, then the effect on racial segregation would depend upon whether poor and nonpoor families of the same race tended to live close to one another and far from poor and nonpoor families of other races. Although no formal analysis of spatial segregation is included in the article, they conclude that data from the 2000 census "suggests that a race-neutral income-desegregation policy would be able to achieve income balance across schools without substantially reducing racial segregation" (Reardon et al., 2006, p. 64).

Reardon and his colleagues then present the results of statistical simulations based on data from 89 of the 100 largest school districts in the United States in 2001 to 2002 (some districts were dropped due to missing data). They conclude that "even under the most stringent form of income-based integration—school assignment based on exact family income levels—and assuming that income balance is achieved completely, income integration does not guarantee even a modest level of racial desegregation" (Reardon et al., 2006, p. 67). They go on to observe that if (as has occurred in practice and is likely in the future) school districts use only a binary indicator of poverty like free and reduced price meal eligibility rather than detailed family income data, desegregation effects would be even smaller.

The SFUSD, La Crosse, and Wake County examples illustrate that the proxy approach is an unsatisfactory way of achieving racially diverse schools even though these policies likely increase racial diversity (albeit less so than would a direct approach) and have their own educational and social value. These race-neutral alternatives may have benefits, but they will tend to come up short if intended as proxies for race-conscious efforts to achieve racially diverse schools.

What Conclusions Can Be Drawn from the Cited Research?

The *amicus* briefs explore several race-neutral policy options with some potential to drive racial diversity or the potential benefits of that diversity. The most prominent among these alternatives are the use of socioeconomic factors in the enrollment process and the use of school choice policies that tend to decouple students' school assignment from housing segregation. The research cited in the briefs, however, suggests that—although assignments made on the basis of socioeconomic status are likely to marginally reduce racial isolation and may have other benefits—none of the proposed alternatives is as effective as race-conscious policies for achieving racial diversity. School choice generally, and magnet schools in particular, also have some potential to reduce racial isolation. However, school choice has the potential to *increase* segregation as well. The key for realizing the potential of these policies to achieve racial diversity to any significant degree is the inclusion of enrollment constraints, such as race-conscious policies, as part of the school choice policy.

7   Summary and Conclusion

The committee found a wealth of information in the social science research presented in support of, and in opposition to, the race-conscious student assignment policies implemented in Seattle and Louisville. Pursuant to equal-protection jurisprudence, the *amicus* briefs filed in these cases advocate different readings of extant research concerning whether the policies serve a compelling interest and are narrowly tailored to pursue that interest. At least 27 of the 64 amicus briefs that were filed in the two cases include substantial discussions of social science research in their arguments favoring or opposing the policies.

The committee reviewed and analyzed the social science arguments in these *amicus* briefs, ultimately framing these arguments around five separate questions:

1. Is racial diversity in a school environment associated with improved academic achievement?
2. Is racial diversity in a school environment associated with improved intergroup relations?
3. Is racial diversity in a school environment associated with improved long-term effects?
4. Is there a "critical mass" (or some counterpart) of racial diversity associated with any benefits of racial diversity?
5. Are there race-neutral alternatives that can yield benefits that are comparable to benefits that we know to be associated with race-conscious policies?

The findings reached with regard to each question are briefly summarized below.

Academic Achievement

Overall, the research evidence supports four primary conclusions regarding the effects of racial diversity on academic achievement. First, there is a relatively common finding that White students are not hurt by desegregation efforts or adjustments in racial composition of schools. Second, although the apparent magnitude of the influence is quite variable, there is a relatively common finding that African American student achievement is enhanced by less segregated schooling. Third, these positive effects for African American students tend to be larger in earlier grades than in later grades and larger in studies using experimental designs or longitudinal data sets than in cross-sectional studies or studies that

lack control groups. Fourth, the earliest studies tend to focus on the effects of court-ordered desegregation, and therefore, to combine the impacts of racial composition per se with various policy actions undertaken to bring about desegregation. The results of these earlier estimates appear to be more variable than studies focused solely on variations in racial composition.

Near-Term Intergroup Relations

Although racially diverse schools and classrooms will not guarantee improved intergroup relations, current research generally supports the conclusion that such diverse environments are likely to be constructive in this regard. The research also identifies conditions that need to be present in order for diversity to have a positive effect, as well as the mechanisms through which these improvements might take place. In addition, research findings offer guidance regarding the steps that schools can take to structure contact so that it realizes the inherent potential for positive outcomes.

Long-Term Effects of School Desegregation

The weight of the research evidence supports the conclusion that there are long-term benefits of desegregation in elementary and secondary schools. Under some circumstances and over the long term, experience in desegregated schools increases the likelihood of greater tolerance and better intergroup relations among adults of different racial groups.

The Critical Mass Question

The research presented in the *amicus* briefs convincingly describes the harms caused by racial isolation, addressing problems like tokenism and stereotype threat that are much more likely to arise in racially isolated schools. For the most part, the briefs do not argue for a given percentage of racially diverse enrollment that would avoid these problems. Four studies are cited that offer some numerical guidelines, with a minimum percentage enrollment for avoiding these harms ranging from 15 to 30 percent. Nevertheless, the committee determined that the research does not support the conclusion that any particular percent enrollment is sufficient to avoid the harms associated with racial isolation or that there is a specified relationship between increased diversity and educational benefits as the percent moves from 15 to 30 percent and beyond. The research does support the conclusion that racial diversity, particularly when accompanied by an otherwise beneficial school environment, can avoid or mitigate the harms of racial isolation.

Race-Neutral Alternatives

The *amicus* briefs explore several race-neutral policy options with some potential to drive racial diversity or the potential benefits of that diversity. The most prominent among these alternatives is the use of socioeconomic factors in the enrollment process and the use of school choice policies that tend to decouple students' school assignment from housing segregation. The research cited in the briefs, however, suggests that—although assignments made on the basis of socioeconomic status are likely to marginally reduce racial isolation and may have other benefits—none of the proposed alternatives is as effective as race-conscious policies for achieving racial diversity. School choice generally, and magnet

schools in particular, have some potential to reduce racial isolation. But, school choice has the potential to *increase* segregation as well. The key for realizing the potential of these policies to achieve racial diversity to any significant degree is the inclusion of enrollment constraints, such as race-conscious policies, as part of the school choice policy.

Conclusion

In summary, the research evidence supports the conclusion that the overall academic and social effects of increased racial diversity are likely to be positive. Racial diversity per se does not guarantee such positive outcomes, but it provides the necessary conditions under which other educational policies can facilitate improved academic achievement, improved intergroup relations, and positive long-term outcomes. Because race-neutral alternatives—such as school choice and assignments based on socioeconomic status—are quite limited in their ability to increase racial diversity, it is reasonable to conclude that race-conscious policies for assigning students to schools are the most effective means of achieving racial diversity and its attendant positive outcomes. In the wake of the Supreme Court's decision regarding the Seattle and Louisville policies, the research on racial diversity in schools will remain important to educators and policy makers as they work within the Court's legal framework to craft procedures that provide students with the most beneficial educational environments.

Appendix: Briefs Reviewed for this Report

The initial intent of the committee was to base this report solely on the *amicus* briefs. However, because of the relatively limited discussion of social science research in the *amicus* briefs filed on behalf of the petitioners, we also included the reply brief filed directly by the petitioners in the Louisville case, as it included some discussion of social science research. The list of all briefs considered is set forth below.

A. Briefs filed on behalf of the petitioners, who challenged the constitutionality of the districts' race-conscious student assignment policies:
   1. David J. Armor, Abigail Thernstrom, and Stephan Thernstrom (filed in both cases)
   2. John Murphy, Christine Rossell, and Herbert Walberg (filed in the Seattle case)
   3. Meredith Reply (filed in the Louisville case)
   4. Pacific Legal Foundation, American Civil Rights Institute, and Center for Equal Opportunity (filed in the Louisville case)
   5. Pacific Legal Foundation, American Civil Rights Institute, Center for Equal Opportunity, American Civil Rights Union, and the National Association of Neighborhood Schools (filed in the Seattle case)
   6. United States Solicitor General (filed in the Louisville case)

B. Briefs filed on behalf of the respondents, who defended the constitutionality of the districts' race-conscious student assignment policies (note that all of these briefs were filed to be considered in both cases):
   1. 19 Former Chancellors of the University of California
   2. 553 Social Scientists
   3. American Civil Liberties Union, ACLU of Kentucky, ACLU of Washington
   4. American Council on Education and 20 Other Higher Education Organizations
   5. American Educational Research Association
   6. American Psychological Association and the Washington State Psychological Association
   7. Amy Stuart Wells, Jomills Henry Braddock II, Linda Darling-Hammond, Jay P. Heubert, Jeannie Oakes, and Michael A. Rebell and the Campaign for Educational Equity
   8. Asian American Justice Center, Asian Law Caucus, Asian Pacific American Legal Center, and Asian American Institute et al.

9. Asian American Legal Defense and Education Fund and Chinese for Affirmative Action et al.
10. Black Women Lawyers Association of Chicago, Inc.
11. Caucus for Structural Equity
12. The Civil Rights Clinic at Howard University School of Law
13. Council of the Great City Schools, Magnet Schools of America, Public Education Network, United States Conference of Mayors, and the San Francisco Unified School District
14. Housing Scholars and Research and Advocacy Organizations
15. Joseph E. Brann, Daniel J. Coulombe, Edward F. Davis, Ronald Davis, and Darrel Stephens [law enforcement]
16. Latino Organizations
17. Lawyers Committee for Civil Rights of the San Francisco Bay Area
18. Leadership Conference on Civil Rights and Leadership Conference on Civil Rights Education Fund
19. Massachusetts Association of School Superintendents and the Massachusetts Association of School Committees
20. Media & Telecommunications Companies
21. National Collegiate Athletic Association and National Basketball Retired Players Association
22. National Education Association et al.
23. National Parent Teacher Association
24. National School Boards Association et al.
25. National Women's Law Center and the National Partnership for Women & Families et al.
26. Religious Organizations and Affiliated Individuals
27. Swann Fellowship, Former School Board Members, and Parents and Children from Charlotte-Mecklenburg Schools

*References**

Aboud, F., & Amato, M. (2001). Developmental and socialization influences on intergroup bias. In R. Brown & S. L. Gaertner (Eds.), *Blackwell handbook of social psychology: Intergroup processes* (pp. 65–71). Malden, MA: Blackwell Publishers.

Aboud, F. E., & Levy, S. R. (2000). Interventions to reduce prejudice and discrimination in children and adolescents. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* (pp. 269–278). Mahwah, NJ: Erlbaum.

Allport, F. H., Allport, G. W., Babcock, C., Bernard, V. W., Bruner, J. S., Cantril, H. et al. (1953). The effects of segregation and the consequences of desegregation: A social science statement. Appendix to appellant's brief: Brown v. Board of Education of Topeka. *Minnesota Law Review*, 37, 427–439.

Allport, G. W. (1954). *The nature of prejudice*. Boston: Beacon Press.

Armor, D. (1995). *Forced justice: School desegregation and the law*. New York: Oxford University Press.

Armor, D. (2002). Desegregation and academic achievement. In Christine Rossell et al. (Eds.), *School desegregation in the 21st century*. Westport, CT: Greenwood Publishing Group.

Bankston, C., & Caldas, S. J. (1996). Majority African American schools and social injustice: The influence of de facto segregation on academic achievement. *Social Forces*, 75(2), 535–555.

Baron, A. S., & Banaji, M. R. (2006). The development of implicit attitudes: Evidence of race evaluations from ages 6 and 10 and adulthood. *Psychological Science*, 17, 53–56.

Bernard, M. (Ed.). (1990). *Volunteers in public schools*. Washington, DC: National Academy Press.

Betts, J. R., Rice, L. A., Zau, A. C., Tang, Y. E., & Koedel, C. R. (2006). *Does school choice work? Effects on student integration and achievement*. San Francisco: Public Policy Institute of California.

Boozer, M. A., Krueger, A. B., & Wolkon, S. (1992). Race and school quality since Brown v. Board of Education. In M. N. Baily and C. Winston (Eds.), *Brookings papers on economic activity, Microeconomics* (pp. 269–338). Washington, DC: The Brookings Institution.

Borman, G. D., & Dowling, M. (2006, April). *Schools and inequality: A multilevel analysis of Coleman's Equality of Educational Opportunity Data*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

---

* References to the *amicus* briefs are not included in this list.

Borman, K. M., McNulty-Eitle, T., Michael, D., Eitle, D. J., Lee, R. Johnson, L. et al. (2004). Accountability in a post-desegregation era: The continuing significance of racial segregation in Florida's schools. *American Educational Research Journal*, *41*(3), 605–631.

Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005). Explaining the short careers of high-achieving teachers in schools with low-performing students. *American Economics Review*, *95*(2), 166–171.

Braddock, J. H., II. (1980). The perpetuation of segregation across levels of education: A behavioral assessment of the contact hypothesis. *Sociology of Education*, *53*(7), 178–186.

Braddock, J. H., II. (1986). *Black student attendance at segregated schools and colleges: More evidence on the perpetuation of segregations across levels of education.* Paper presented at the National Conference on School Desegregation Research, University of Chicago, Chicago.

Braddock, J. H., II, Crain, R., McPartland, J., & Dawkins, R. (1986). Applicant race and job placement decisions: A national survey experiment. *International Journal of Sociology and Social Policy*, *6*, 3–24.

Braddock, J. H., II, & Eitle, T. M. (2004). The effects of school desegregation. In J. A. Banks & C. A. McGee Banks (Eds.), *Handbook of research on multicultural education*. (2nd ed., pp. 828–843). New York: MacMillan.

Braddock, J. H., II, & McPartland, J. M. (1989). Social-psychological processes that perpetuate racial segregations: The relationship between school and employment desegregation. *Journal of Black Studies*, *19*, 267-289.

Brown v. Board of Education of Topeka, Kansas, 347 U.S. 483 (1954).

Burt, R. T. (1980). Models of network structure. *Annual Review of Sociology*, *6*(1), 79–141.

Carroll, S. J., Reichardt, R. E., Guarino, C. M., & Mejia, A. (2000). *The distribution of teachers among California's school districts and schools* (Paper No. MR-1298.0-JIF). Santa Monica, CA: RAND.

Cobb, C., & Glass, G. (1999). Ethnic segregation in Arizona charter schools. *Education Policy Analysis Archives*, *7*(1). Retrieved June 14, 2007, from http://epaa.asu.edu/epaa/v7n1/.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Department of Health, Education & Welfare.

Comfort v. Lynn School Committee, 418 F.3d 1 (1st Cir.) (en banc), *cert. denied*, 126 S. Ct. 798 (2005).

Cook, T., Armor, D., Crain, R., Miller, N., Stephan, W., Walberg, H., & Wortman, P. (Eds.). (1984). *School desegregation and Black achievement*. Washington, DC: National Institute of Education.

Crain, R. L. (1971). School integration and the academic achievement of Negroes. *Sociology of Education*, *44*(1), 1–26.

Crain, R. L., & Mahard, R. (1983). The effect of research methodology on desegregation achievement studies: A meta-analysis. *American Journal of Sociology*, *88*(5), 839–854.
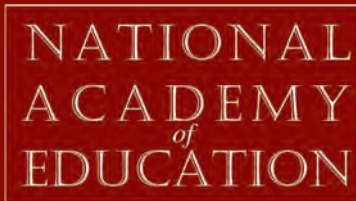
Crain, R. L., & Strauss, J. (1985). *School desegregation and Black occupational attainments: Results from a long-term experiment* (Rep. No. 359). Baltimore: Center for Social Organization of Schools.

Crano, W. D., & Brewer, M. B. (2002). Synthesizing research results: Meta-analysis. In *Principles and methods of social research*. Mahwah, NJ: Erlbaum.

Dawkins, M. P., & Braddock, J. H., II. (1994). The continuing significance of desegregation: School racial composition and African American inclusion in American society. *Journal of Negro Education*, *63*(3), 394–405.

Donato, R. (1997). *The other struggle for equal schools: Mexican Americans during the civil rights era*. Albany, NY: State University of New York Press.

Dovidio, J. F., Kawakami, K., & Gaertner, S. L. (2000). Reducing contemporary prejudice: Combating explicit and implicit bias at the individual and intergroup level. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* (pp. 137–147). Mahwah, NJ: Erlbaum.

Eaton, S. (2001). *The other Boston busing story*. New Haven, CT: Yale University Press.

Farley, J. E. (1996). *The new American reality: Who we are, how we got here, where we are going*. New York: Russell Sage Foundation.

Gaertner, S. L., Rust, M. C., Dovidio, J. F., Bachman, B. A., & Anastasio, P. A. (1996). The contact hypothesis: The role of a common ingroup identity on reducing inter group bias among majority and minority group members. In J. L. Nye & A. M. Brower (Eds.), *What's social about social cognition?: Research on socially shared cognition in small groups* (pp. 230–232). Thousand Oaks, CA: Sage.

Gamoran, A. (1987). The stratification of high school learning opportunities. *Sociology of Education 60*(3), 135–155.

Gerard, H., & Miller, N. (1975). *School desegregation*. New York: Plenum Press.

Glass, G. V., McGaw, B., & Smith, M. L. (1981). *Meta-analysis in social research*. Beverly Hills, CA: Sage.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, *78*(6), 1360–1380.

Gratz v. Bollinger, 539 U.S. 244 (2003).

Grutter v. Bollinger, 539 U.S. 306 (2003).

Gurin, P., Dey, E. L., Hurtado, S., & Gurin, G. (2002). Diversity and higher education: Theory and impact on educational outcomes. *Harvard Educational Review*, *72*(3), 330–366.

Hallinan, M., & Smith, S. (1985). The effects of classroom racial composition on students' interracial friendliness. *Social Psychology Quarterly*, *48*(3).

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2004). Why public schools lose teachers. *Journal of Human Resources, 39*(2), 326–354.

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2006). *New evidence about* Brown v. Board of Education: *The complex effects of school racial composition on achievement*. Unpublished manuscript. University of Texas, Dallas.

Harris, D. N. (2006). *Lost learning, forgotten promises: A national analysis of school racial segregation, student achievement, and "controlled choice" plans*. Center for American Progress, Retrieved June 14, 2007, from http://www.americanprogress.org/issues/2006/11/pdf/lostlearing.pdf.

Hartigan, J. A., & Wigdor, A. K. (Eds.). (1989). *Fairness in employment testing: Validity generalization, minority issues, and the General Aptitude Test Battery*. Committee on the General Aptitude Test Battery. Washington, DC: National Academy Press.

Hastings, J., Kane, T., & Staiger, D. (2005). *Parental preferences and school competition: Evidence from a public school choice program* (Working paper). Cambridge, MA: National Bureau of Economic Research.

Hedges, L., Laine, R. D., & Greenwald, R. (1994). Does money matter? A meta-analysis of studies of the effects of differential school inputs on student outcomes. *Educational Researcher, 23*(3), 5–14.

Heubert, J. P., & Hauser, R. M. (Eds.). (1999). *High stakes: Testing for tracking, promotion, and graduation*. Committee on Appropriate Test Use. Washington, DC: National Academy Press.

Johnson, D. W., & Johnson, R. T. (2000). The three c's of reducing prejudice and discrimination. In S. Oskamp (Ed.), *Reducing prejudice and discrimination* (pp. 239–247). Mahwah, NJ: Erlbaum.

Kanter, R. M. (1977). *Men and women of the corporation*. New York: Basic Books.

Katz, P. (1982). Development of children's racial awareness and intergroup attitudes. In P. Katz (Ed.), *Current topics in early childhood education* (pp. 17–54). Washington, DC: National Institute of Education.

Kaufman, J. E., & Rosenbaum, J. E. (1992). The education and employment of low-income Black youth in White suburbs. *Educational Evaluation and Policy Analysis, 14*(3), 229–240.

Knox, H., Savage, M., & Harvey, P. (2006). Social networks and the study of relations: Networks as method, metaphor and form. *Economy and Society, 35*(1), 113–140.

Kurlaender, M., & Yun, J. T. (2001). Is diversity a compelling educational interest?: Evidence from Louisville. In G. Orfield & M. Kurlaender (Eds.), *Diversity challenged: Evidence on the impact of affirmative action*. Cambridge, MA: Harvard Education Publishing Group.

Kurlaender, M., & Yun, J. T. (2005). Fifty years after Brown: New evidence of the impact of school racial composition on student outcomes. *International Journal of Educational Policy, Research and Practice, 6*(1), 51–78.

Lissitz, R. W. (1994, April). *A longitudinal multiple indicators assessment of an interdistrict transfer program and some implications for multicultural education*. Paper presented at the annual meeting of the National Council on Measurement in Education, New Orleans, LA.

Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education, 80*(3), 44–70.

McConahay, J. (1981). Reducing racial prejudice in desegregated schools. In W. Hawley (Ed.), *Effective school desegregation: Equity, quality, and feasibility* (pp. 35–53). Beverly Hills, CA: Sage.

McPartland, J. M., & Braddock, J. H., II. (1981). The impact of desegregation on going to college and getting a good job. In W. D. Hawley (Ed.), *Effective school desegration: Equality, quality, and feasibility* (pp. 141–154). Beverly Hills, CA: Sage.

Mickelson, R. A. (2003). The academic consequences of desegregation and segregation: Evidence from the Charlotte-Mecklenburg schools. *North Carolina Law Review, 61*, 1513.

Oakes, J., Gamoran, A., & Page, R. (1992). Curriculum differentiation: Opportunities, outcomes, and meanings. In P. W. Jackson (Ed.), *Handbook of research on curriculum* (pp. 570–608). New York: Macmillan.

Orfield, G. (1997). A secret success: Racial equity and integration in Indiana schools. In K. Wong (Ed.), *Advances in educational policy* (Vol. 3, pp. 225–248). Greenwich, CT: JAI Press.

Orfield, G., & Lee, C. (2004). *Brown at 50: King's dream or Plessy's nightmare?* Cambridge, MA: The Civil Rights Project at Harvard University.

Orfield, G., & Lee, C. (2006). *Racial transformation and the changing nature of segregation*. Cambridge, MA: The Civil Rights Project at Harvard University.

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, *49*, 65–85.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality & Social Psychology*, *90*, 751–783.

Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster.

Reardon, S. F., Yun, J. T., & Kurlaender, M. (2006). Implications of income-based school assignment policies for racial school segregation. *Educational Evaluation & Policy Analysis*, *28*(1).

Regents of the University of California v. Bakke, 438 U.S. 265 (1978).

Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement. *Econometrica*, *73*(2), 417–458.

Saporito, S., & Sohoni, D. (2006). Coloring outside the lines: Racial segregation in public schools and their attendance boundaries. *Sociology of Education*, *79*, 81–105.

Schofield, J. W. (1991). School desegregation and intergroup relations: A review of the literature. In G. Grant (Ed.), *Review of research in education* (Vol. 17, pp. 335–409). Washington, DC: American Educational Research Association.

Schofield, J. W. (1995). Review of research on school desegregation's impact on elementary and secondary school students. In J. A. Banks & C. A. McGee Banks (Eds.), *Handbook of research on multicultural education* (pp. 597-617). New York: MacMillan.

Schofield, J. W., & Sagar, H. A. (1977). Peer interaction patterns in an integrated middle school. *Sociometry*, *40*, 130–138.

Schofield, J., & Sagar, H. (1983). Desegregation, school practices, and student race relations. In C. Rossell & W. Hawley (Eds.), *The consequences of school desegregation* (pp. 58–102). Philadelphia: Temple University Press.

Steele, C. M., & Aronson, J. (1995). Stereotype threat and the intellectual test performance of African Americans. *Journal of Personality & Social Psychology*, *69*.

Stephan, W. G. (1984). Blacks and Brown: The effects of school desegregation on Black students. In T. Cook, D. Armor, R. Crain, N. Miller, W. Stephan, H. Walberg, & P. Wortman (Eds.), *School desegregation and Black achievement*. Washington, DC: U.S. Department of Education.

Stephan, W. G. (1986). The effects of school desegregation: An evaluation 30 years after Brown. In M. Saks & L. Saxe (Eds.), *Advances in applied social psychology*. Hillsdale, NJ: Erlbaum.

Stephan, W. G. (2002). Improving intergroup relations in the schools. In C. H. Rossell, D. J. Armor, & H. J. Walberg (Eds.), *School desegregation in the 21st century* (pp. 267–289). Westport, CT: Prager.

Stephan, W. G., & Stephan, C. W. (2001). *Improving intergroup relations*. Thousand Oaks, CA: Sage.

St. John, N. H. (1975). *School desegregation: Outcomes for children*. New York: John Wiley & Sons.

Taylor, S. E., Fiske, S. T., Etcoff, N., & Ruderman, A. (1978). Categorical and contextual bases of person memory and stereotyping. *Journal of Personality & Social Psychology*, *36*, 778–793.

Trent, W. (2007, February). *School desegregation: Necessary but not sufficient*. Paper presented at the Sociology of Education Association Conference, Pacific Grove, CA.

Tropp, L. R., & Prenovost, M. A. (in press). The role of intergroup contact in predicting children's inter-ethnic attitudes: Evidence from meta-analytic and field studies. In S. Levy & M. Killen (Eds.), *Intergroup relations: An integrative developmental and social psychological perspective*. Oxford, England: Oxford University Press.

U.S. Department of Education, Office for Civil Rights. (2004). *Achieving diversity: Race-neutral alternatives in American education*. Washington, DC: Author.

U.S. Department of Education, Office of the Undersecretary. (2003). *Evaluation of the magnet schools assistance program, 1998 grantees*. Washington, DC: Author.

Wells, A. S., & Crain, R. L. (1994). Perpetuation theory and long-term effects of school desegregation. *Review of Educational Research*, *64*(4), 531–555.

Wells, A. S., & Crain, R. L. (1997). *Stepping over the color line: African-American students in White suburban schools*. New Haven, CT: Yale University Press.

Wells, A. S., Duran, J., White, T., James-Szanton, J., & Holme, J. (2006). Refusing to leave desegregation behind: A study of Louisville and Seattle graduates of racially diverse public schools. Manuscript submitted for publication (copy on file with author).

Wells, A. S., Holme, J., Revilla, A., & Atanda, A. (2004). *How desegregation changed us: The effects of racially mixed schools on students and society*. Retrieved June 14, 2007, from http://cms.tc.columbia.edu/i/a/782_ASWELLS041503.pdf.

Welner, K. G. (2006). K–12 Race-conscious policies: Law, social science, and diversity. *Review of Educational Research*, *76*(3), 349–382.

NATIONAL
ACADEMY
of
EDUCATION