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The Cumulative Disadvantages of First- and Second-Generation Segregation for Middle School Achievement

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Middle schools are important because they launch students on trajectories that they are likely to follow throughout their formal educations. This study explored the relationship of first-generation segregation (elementary and middle school racial composition) and second-generation segregation (racially correlated academic tracks) to reading and mathematics test scores of Grade 8 students who attended the Charlotte-Mecklenburg Schools (CMS) in 1997. At the time the data were collected, the district had been operating under a mandatory desegregation plan since the early 1970s, which it continued to do for another five years. While the majority of students attended desegregated schools for most of their CMS education, a portion of youth also experienced school- and classroom-level segregation. Survey data collected from 1,812 students in randomly selected language arts classes stratified by track from the district's 24 middle schools were analyzed with multilevel modeling to examine the influence of school and classroom racial composition on standardized scores, controlling for student and family factors associated with school performance. Results indicate that school- and classroom-level racial segregation was negatively related to achievement. Beginning in elementary school, sequential experiences of first- and second-generation segregation likely triggered a cycle of cumulative disadvantage for respondents' middle school educational outcomes. This article contributes to the literatures on the structural antecedents of school success and failure, the ways that many positive desegregation effects are undermined by tracking, and how first- and second-generation segregation contributes to maintaining the race gap in school outcomes.

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Middle schools are a critical stage in the educational sequence that starts in preschool and culminates for many youth in higher education. They launch students on trajectories that they are likely to follow throughout the remainder of their formal educations. Academic experiences in middle schools are critical for adolescents' development and subsequent schooling (Carnegie Council on Adolescent Development, 1989; Epstein & MacIver, 1990), in large part because middle school is the last formal educational institution that young adolescents attend while their primary social role is still as a student. The vast majority of middle school youth has yet to take jobs outside the home or to seriously date (Dauber, Alexander, & Entwisle, 1996). High-quality and equitable middle school educational opportunities are essential if all young adolescents are to achieve their highest potentials during this interregnum between childhood and what will become their increasingly complex lives in high school and beyond.

Persistent racial differences in middle school achievement, however, reflect serious threats to this goal for many youth. Students from Black, Latino, and other disadvantaged minority groups are more likely than Whites or Asians to earn lower grades and standardized test scores in eighth grade (National Center for Educational Statistics [NCES], 2011a, 2011b). Although the past few decades have witnessed overall improvements in U.S. students' scores, results from the National Assessment of Educational Progress (NAEP) indicate Grade 8 race and socioeconomic (SES) differences in reading, science, and mathematics performance continue into high school.

Explorations of the sources of the racial differences in performance typically focus on school resources or characteristics of students and their families. This study focuses on the association of school organizational features with Grade 8 mathematics and reading performance. It investigates the relationships between the racial composition of schools and the classrooms in them with the standardized test scores of Grade 8 middle school students who attended the Charlotte-Mecklenburg Schools (CMS) in 1997. Understanding if school racial composition is relevant to racially based achievement disparities is important because U.S. schools are resegregating. School composition is shaped by demographic shifts, educational decision makers' policy choices, and families' responses to these demographic shifts and policies (Fiel, 2013; Liebowitz & Page, 2014).

This study conceptualizes racial segregation among schools within a school district as first-generation segregation and the racial segregation among classrooms within a school due to tracking or within a classroom due to ability grouping as second-generation segregation (Meier, Stewart, & England, 1989; Mickelson, 2001; Wells & Crain, 1994; Welner & Oakes, 1996). Ability grouping tends to occur in elementary grades while tracking with curricular differentiation typically happens in secondary schools.

Because middle school– and classroom-level segregation occurs at a critical stage in young adolescents' cognitive and social development, both forms of segregation are likely to cumulatively disadvantage students' post–middle school educational outcomes. Combining both foci in one study permits an exploration of how both types separately and jointly contribute to the race differences in educational opportunities students encounter.

Two recent developments in public education reinforce the urgency of understanding the possible contributions of school racial composition and tracking to race differences in middle school outcomes. The first is the demographic shift in the racial and ethnic make-up of the school-aged population. Across the United States, the growth of Asian, Latino/a, and immigrant populations and the suburbanization of Black families have changed the parameters of pupil assignment (Fiel, 2013; Orfield & Frankenberg, 2008). The second development is the Supreme Court's 2007 decision in the Seattle and Louisville voluntary desegregation cases (*Parents Involved in Community Schools* [PICS], 2007). Although the Court's majority held that using an individual student's race for pupil assignment was not constitutionally permissible, Justice Kennedy's controlling opinion recognized for the first time that diverse schooling and the avoidance of racial isolation in education are compelling state interests. Notably, neither Justice Kennedy's (2007) concurrence nor Chief Justice Roberts's (2007) majority opinion mentioned second-generation segregation as an issue. However, Justice Thomas's (2007) concurrence referred directly to the presence of second-generation segregation in desegregated school districts. In it he argued that because of widespread racially correlated tracking in desegregated school systems, pupil assignment policies designed to create racially diverse schools were of questionable value.

This study employs longitudinal data to examine academic outcomes and first- and second-generation segregation in a district, CMS, renowned for its successful desegregation efforts from the mid-1970s through 2002 when its court-mandated desegregation order was vacated (Douglas, 1995; Mickelson, Smith, & Nelson, 2015; Smith, 2004). This article is the second of two studies to explore these issues in CMS. The earlier study focused on outcomes for high school seniors (Mickelson, 2001). The current one examines the relationship of sequential exposure to segregation during elementary and middle school on reading and mathematics standardized test scores of 1997 eighth-grade students in CMS. Given the importance of middle school to the students' education experiences that followed and CMS's historic role as a national model of desegregation success, the findings are relevant to several ongoing educational practices and policy debates involving school composition, tracking, and racial gaps in achievement. This case study's findings suggest why decades of desegregation efforts have had uneven results. Perhaps more significantly, the findings offer insights into the dynamics by which the disadvantages of sequential first- and second-

generation segregation cumulate over time and contribute to the persistence of race-based differences in academic achievement.

This article proceeds as follows: After locating this study in the broader literature on desegregation, tracking, and achievement, it will briefly describe CMS and its history with first- and second-generation segregation. The article then presents the methods, data, and findings from the study. It ends with a discussion of the study's limitations and the findings' implications for understanding the cumulative disadvantages posed by middle school segregation.

Previous Research on Desegregation, Tracking, and Achievement

Desegregation

The *Brown* (1954) decision did not trigger widespread desegregation. It took almost 15 years before desegregation began to be seriously implemented across the nation. Early research that evaluated the outcomes of initial desegregation efforts was largely case studies of single districts' outcomes. More often than not, earlier studies designed as experiments or quasi-experiments investigated desegregation effects after only a brief interval of implementation (Bradley & Bradley, 1977; Cook, 1984; St. John, 1975).

It is fair to say that conclusions drawn from the early case studies of desegregation effects were mixed.[1] While some syntheses of the early research on desegregation reported positive effects on minority student outcomes (Crain & Mahard, 1983; Hallinan, 1998; Wells & Crain, 1994), other syntheses of early research concluded there were few, if any, relationships between desegregation and achievement gains (Armor, 1995; Cook, 1984; St. John, 1975). In fact, skeptics argued that even if racial composition correlated with achievement outcomes, the relationship most likely reflected social class rather than racial differences per se (Armor, Rossell, & Wahlberg, 2002).

A contributing factor to the inconsistent findings during this period is the relatively inferior data, designs, and methods employed in studies conducted in the 1960s, 1970s, and early 1980s as compared to superior qualities of later ones. Although many early studies benefitted from experimental designs, they also suffered from small, nonrandom samples; severe sample attrition; weak measures of key constructs; and brief or incomplete implementation of the desegregation treatment—all factors that threatened the studies' internal validity and precluded generalizations from their findings (Linn & Welner, 2007; Mickelson, 2008).

In the past 25 years, new empirical research has produced consistent evidence of the benefits of integrated schooling and the harms of both first- and second-generation segregation (Linn & Welner, 2007; Mickelson &

Nkomo, 2012; Vigdor & Ludwig, 2011). This body of newer research, highlighted in the following, typically utilizes large-scale surveys with nationally representative samples, statewide populations, or longitudinal data from a single school district. Improved measurement of outcomes and predictors combined with cutting-edge statistical methods make recent studies relatively more reliable and valid assessments of desegregation effects than the earlier ones. This newer corpus of social and behavioral science across the disciplines of economics, education, political science, psychology, public policy, and sociology demonstrates the positive effects of attending diverse schools and the negative effects of attending racially imbalanced ones, especially if they are also marked by concentrated poverty.

Emblematic of how more appropriate statistical tools can render very different findings compared to earlier analyses that employed inferior modeling strategies is Borman and Dowling's (2010) reanalysis of James Coleman's Equality of Educational Opportunity (EEO) data (Coleman et al., 1966). Using Coleman's original EEO data, the authors applied a two-level hierarchical linear model to measure the associations among school-level social composition, resources, teacher quality, peer characteristics, and achievement. The authors estimated that 40% of the achievement variance was between schools, whereas the Coleman Report estimated that only 8.5% to 18% lay between schools. Borman and Dowling's results suggest that the racial and SES composition of a student's school was over 1.75 times more important than a student's individual race or SES background for understanding educational outcomes. Their study does not undermine the well-established importance of family background for outcomes; rather, it illustrates how statistical advances like multilevel modeling enable researchers to fine-tune understandings of the relative contributions schools and families make to achievement outcomes.

Three studies employing longitudinal data and cutting-edge statistical tools with a state's population of public school students in selective grades reported that performance on standardized tests is negatively associated with percentage minority in a school. Hanushek, Kain, and Rivkin's (2009) analysis of Texas data showed that as the percentage Black in a school increased, Texas Assessment of Academic Skills (TASS) scores of seventh-grade Black students declined, particularly among the most able students. Likewise, Borman and her colleagues (2004) found that school segregation was negatively associated with the percentage of students at a school who passed the math and reading portions of the Florida Comprehensive Assessment Test (FCAT). Southworth's (2010) longitudinal study followed the population of North Carolina students from third through eighth grade. She found that as the percentage of either minority students or students eligible for free lunch increases in schools, reading and math scores decline. The study reported diverse, low-poverty schools provided optimal learning environments for all students.

Two longitudinal studies of the cumulative effects of desegregation on high school outcomes employed data from a single school district. Saatcioglu's (2010) study of the Cleveland Municipal School District (CMSD) examined dropping out of school among four cohorts of students in Cleveland. He estimated the effects of segregated, desegregated, and resegregated high schools on dropping out while controlling for different degrees of exposure to desegregation prior to high school. Desegregation especially benefitted minority and White students who were exposed to integration starting in first grade, but resegregation nullified many of the school-level benefits of desegregation. A 1997 study of CMS high school seniors investigated students' earlier exposure to first- and second-generation segregation in relation to standardized test scores, grades, and SAT scores. Like the present study, that one included longitudinal measures of first-generation segregation. Findings from its multilevel regression analyses indicated that both forms of segregation were negatively related to achievement for all students (Mickelson, 2001).

Newer longitudinal studies with nationally representative samples find that segregation is negatively associated with achievement for students from the earliest years of elementary school through the last years of high school. For example, Condron, Tope, Steidl, and Freeman (2013) drew on longitudinal, state-level data to examine the impact of four distinct forms of school racial segregation on racial gaps in mathematics and reading. Results from their pooled time-series analyses with two-way fixed effects using fourth-grade NAEP data from 1992 to 2009 suggest that as Black-White dissimilarity and Black isolation increase, so do the achievement gaps among Black and White fourth graders; similarly, as interracial exposure increases, achievement gaps decline.

Berends and Peñalosa (2010) used nationally representative data from 1972, 1982, 1992, and 2004 to examine the mathematics achievement of four cohorts of high school seniors, controlling for school and family background characteristics. Their Oaxaca decomposition estimates revealed that between 1972 and 2004, increases in school segregation corresponded to significant increases in the Black-White and Latino-White test score gaps. They concluded that resegregation outweighed the positive changes in family background measures for these minority groups. Rumberger and Palardy (2005) reported a notable exception to this pattern of findings. They found that school-level SES segregation, but not racial composition, affected achievement.

Johnson's (2012) study of intergenerational effects of desegregation used the Panel Study of Income Dynamics spanning the four decades (1968–2009) corresponding to the historical period of peak nationwide desegregation. He quantified the extent to which the well-being of three generations of children was improved by their parents' increased educational attainment. Johnson concluded that desegregation was the instrument of greater intergenerational educational attainment, which in turn was

a causal determinant of intergenerational mobility. Specifically, he found that school desegregation significantly reduced the likelihood of grade repetition while it improved math and reading scores, high school graduation, college attendance, and graduation across the three generations in his study.

Several recent studies exploited the end of CMS's mandatory desegregation plan and the 2002 return to a neighborhood schools–based assignment plan to examine the effects of unitary status and resegregation on outcomes in CMS. Billings, Deming, and Rockoff (2013) reported that the return to neighborhood-based school assignments widened racial gaps in middle school and high school math scores. Jackson (2009) reported resegregation led the best teachers to leave schools as their minority populations grew, and Wang (2005) reported middle school grades declined in resegregated schools. Together, these studies suggest the resegregation of CMS contributed to racial inequality in opportunities to learn and in subsequent outcomes.

Tracking

Racial composition is not the only school structural feature linked to outcomes. Ability grouping in elementary grades and tracking with curricular differentiation in secondary schools affect learning opportunities and in this way shape students' cognitive achievement as well as other educational outcomes. In theory, the same courses taught at different track levels cover the formal curricula while differing in the breadth and depth of coverage. In practice, students in higher tracks are exposed to broader curricula, better teaching, and more highly motivated peers (Gamoran & Mare, 1989; Kelly, 2007, 2009; Kelly & Price, 2011; Lucas, 2001; Oakes, 2005; Slavin, 1990). Students in lower level tracks are likely to cover less of the formal curricula, experience less rigorous pedagogy, are often taught by less qualified teachers, and experience a weaker academic climate (Giersch, 2012; Kornhaber, 1997; Oakes, 2005; Watanabe, 2007).

Tracking in language arts, science, mathematics, and social studies is widely practiced in middle schools (Braddock, 1990; Hallinan, 1992; Hoffer, 1992). Middle school tracks condition students' future academic trajectories by "plac[ing] young adolescents on particular developmental paths or trajectories that have important implications for their future academic and occupational achievement, as well as their overall psychological and behavioral development" (Fuligni, Eccles, & Barber, 1995, p. 59). Over time, the effects of differences in track locations in which learning takes place cumulate. And because there is an association between students' race and SES and their track placements, tracking magnifies initial race and SES differences in achievement (Kelly, 2007, 2009; Kelly & Price, 2011; Lucas, 2001; Oakes, 2005; Schofield, 2010).

Those who make the case for tracking argue that placements are largely the result of students' prior achievement and their interests (Hallinan, 1994;

Kulik & Kulik, 1982) and that tracking is beneficial to high ability students, especially in mathematics (Loveless, 2009). However, research consistently indicates non-meritocratic factors informally influence track placement. Such factors include the recommendations of educational gatekeepers (teachers and counselors), parents' pressure on decision makers, students' race and social class, their prior exposure to segregated schooling, and students' desire to be with their friends or to be in a class with a welcoming social climate. Specific organizational features of schools such as types and number of course offerings, seat availability in a given course, and the racial mix and socioeconomic level of the student population also contribute to placement decisions (Gamoran & Mare, 1989; Jones, Vanfossen, & Ensminger, 1995; Kelly, 2009; Kelly & Price, 2011; Riehl, Pallas, & Natriello, 1999; Spade, Columbia, & Vanfossen, 1997; Useem, 1992).

For most youth, track placements are related to their prior achievement. But academic performance is socially constructed over the course of a child's prior school career because of the curricula, instruction, and peers to which a child has been exposed. For example, the different versions of the implemented curriculum received by elementary children who are, say, identified as gifted or learning disabled or by those placed in low, middle, and high ability groups within a classroom launch them on educational trajectories that contribute to their middle school track placements. Then, once in a middle school track, the differentiated curriculum and social relations of authority to which the student is exposed become additional building blocks that cumulate to either continue their advantages or disadvantages into high school and beyond.

Tracking in Desegregated School Systems

There is a great deal of evidence that a critical component of persistent race differences in achievement is the relative absence of disadvantaged minority students in higher-level courses and their disproportionate enrollment in lower-level ones (Clotfelter, 2004; Kelly, 2007; Lleras, 2008; Lucas, 2001; Oakes, 2005; Tyson, 2012). Even some of the most ardent critics of race-sensitive remedies to educational inequality acknowledge that racially correlated tracking contributes to the race gap in educational outcomes (Armor et al., 2002).

In schools with any degree of racial and socioeconomic diversity, tracking is almost always correlated with students' race and SES. Blacks and other disadvantaged minorities are more likely than comparably able Whites to be assigned to lower tracks. Even in racially balanced schools, Blacks, Latinos, and Native Americans disproportionately are found in lower tracks where curricula and instructional practices are weaker. Notably, some studies report Blacks are more likely to be placed in college preparatory tracks in racially segregated minority schools (Kelly, 2009; Lucas & Berends, 2007; Oakes, 2005; Southworth & Mickelson, 2007).[2]

Identification of students for special education is another manifestation of ability grouping or tracking with direct implications for racial diversity (Kornhaber, 1997). Using national data from school districts under a court mandate to desegregate, Eitle (2002) found Black males were more likely to be identified for special education than in otherwise similar school systems not under court order. Saatcioglu and Skrtic (2012) suggest the Cleveland Municipal School District manipulated disability categorization during court-ordered desegregation so as to maintain White privilege in status distinctions in special education.

The intersection of racially correlated tracking with school desegregation efforts reflects one of the central dynamics explored in this article. In many desegregated school districts, tracking disproportionately assigns minority students to lower tracks and Whites to college preparatory tracks (Mickelson, 2001; Wells & Crain, 1994; Welner & Oakes, 1996), thereby undercutting desegregation's capacity to improve outcomes for all students in the school. Meier and his colleagues (1989) were the first to describe this practice as second-generation discrimination. The dynamics of the yet-to-be-named practice were recognized well before scholars theorized it as second-generation segregation (CMS, 1973; Eyler, Cook, & Ward, 1983).

One of the few studies that examine both school racial composition and tracking influences on race differences in middle school academic outcomes is Lleras's (2008) research that used National Educational Longitudinal Study data. She modeled educational inequality as a feedback process among track placement, student engagement, and academic achievement separately for students in schools with high and low percentages of Black students. Her results showed strong reciprocal effects of course placement, engagement, and performance over time for both types of schools. Lleras demonstrated the disadvantaged positions of Whites and Blacks who attend predominantly Black urban middle schools compared to similar students in either high minority suburban or low minority schools. In some respects, the present study replicates Lleras's study with data from a district with schools reflecting a full range of racial compositions. It also extends aspects of Lleras's investigation of the reciprocal effects of middle school first- and second-generation segregation by including indicators of elementary segregation and early prior achievement, thereby adding a longitudinal dimension to the feedback model she described.

Social and Historical Context of the Study

Desegregation and Resegregation in Charlotte

CMS was once considered to be one of the nation's most successfully desegregated public school systems (Douglas, 1995; Smith, 2004). From the mid-1970s through 1991, CMS employed cross-town busing as its

primary strategy to achieve this end. Consistent with Judge James McMillan's decision in *Swann* (1971), schools were considered desegregated if their Black student population was within ±15% of the district's Black population. Any school whose Black proportion of the student body exceeded the 15% bandwidth was categorized as a racially imbalanced Black school (RIB), a school with a Black population 15% or less below the bandwidth was categorized as a racially imbalanced White (RIW), and all others were considered to be racially balanced schools (RB), that is, desegregated consistent with the *Swann* decision's mandate.

For many years, as the district grew and its population changed, CMS desegregated almost every school by redrawing school attendance zones, siting new schools strategically, and busing all students for some portion of their K–12 educations. From 1992 to 2002, CMS relied on voluntary participation in a controlled choice magnet school program to desegregate. Following a 1999 lawsuit that revisited the landmark *Swann* decision, CMS was declared unitary, that is, CMS was released from court supervision because the federal judge determined the district had eliminated the vestiges of de jure segregation to the extent practicable. After three years of mostly unsuccessful appeals, in 2002 CMS began operating as a unitary system. The district employed a neighborhood school–based assignment plan with some choice options but made no effort to create racially or socioeconomically desegregated schools. In the decade that followed, CMS's student population both grew rapidly and transformed demographically. After only a few years of operating under the residential-based assignment plan, racial segregation in CMS approached pre-*Swann* levels.

However, it is important to keep two points in mind. First, when the data for this study were collected in 1997, almost all middle school students had attended a desegregated school during the major portion of their academic careers in CMS. Second, by the early 1990s some schools in the district had begun to resegregate. As a result, 56.6% of Black and 21.4% of White middle school students had *at least* one year of elementary or middle school education in a racially segregated Black school, and a small number of Blacks and a handful of Whites experienced all their educations in racially segregated minority schools. This variation in exposure to desegregated and segregated education over time permits this study to examine the cumulative effects of school composition on middle school students' academic outcomes in CMS.

Academic Tracking in CMS

The practice of academic tracking with curricular differentiation was widespread throughout CMS secondary schools in 1997. All CMS middle and high school mathematics, science, language arts, and social studies classes were tracked (CMS, 1997). The salience of tracking for this study is that in CMS, academic track placements were correlated with students' race. And as

is true in other districts, higher tracks were disproportionately White. In fact, from the onset of CMS's much celebrated desegregation efforts in the 1970s, the district's tracking practices fostered resegregation. In 1973, a CMS administrative report to the board on the status of desegregation efforts claimed that "'ability-grouping' too frequently is de-facto resegregation" (CMS, 1973, p. 14). In 1977, the Department of Health, Education, and Welfare reached a similar conclusion, ruling CMS ineligible for a $922,000 grant because of within-school resegregation (Bradbury, as cited in Smith, 2004, p. 276, note 73).

During the 31 years that CMS operated under its mandatory desegregation order, the district remained a majority White countywide system, not an impoverished inner-city district. It was still a majority White district in 1997 when the data for this study were collected. Nonetheless, both first- and second-generation segregation operated throughout CMS for decades—even during the heyday of its nationally renowned desegregation plan. An earlier study of 1997 CMS high school seniors indicated they experienced second-generation segregation even though they attended primarily desegregated schools (Mickelson, 2001). Similarly, the middle school students who participated in this research experienced a rich mix of desegregated and segregated schooling over the course of their educations. This study examines whether both types of segregation contributed to cumulative educational disadvantages for CMS students.

Research Questions

This investigation of CMS middle school achievement in relationship to first- and second-generation segregation was guided by four research questions:

Research Question 1: What was the extent of first- and second-generation segregation in CMS's middle schools as of 1997?

Research Question 2: What student- and school-level factors predicted middle school track placement and achievement in reading and mathematics?

Research Question 3: Do segregated minority schools and disproportionately minority lower-level tracks contribute to differences in students' achievement exclusive of other factors?

Research Question 4: Did first- and second-generation segregation operate to sequentially and cumulatively disadvantage those who experienced it?

Methods and Data

Data Sources

In 1997, I led a team of researchers who collected the survey data used in this study with the full cooperation of CMS. I developed the survey

instrument specifically to ascertain CMS middle school students' attitudes toward education and their future, educational and occupational aspirations, leisure time activities, school experiences, indicators of family background, and the involvement of parents in education. The team piloted the instrument among CMS seventh graders and administered it to eighth graders on scanable answer sheets preprinted by CMS with students' names.[3]

CMS matched students' survey responses to electronic achievement data by student names, birthdates, and CMS identification numbers. CMS provided student-level administrative data on attendance patterns, suspensions, special education status, and dates of enrollment in every school the student attended while enrolled in CMS. The school district also provided school- and classroom-level indicators including schools' racial composition, course offerings, and the racial composition of every class taught at every school in every period of the day. Classes were identified by course name, track level, and instructor. The Common Core of Data files from the National Center for Education Statistics (NCES, 1988–1997) provided historical information on the percentages of minority students enrolled in every CMS school from 1988, the year the oldest students in the sample entered kindergarten, through 1997.

Survey Samples

The school system provided the research team with complete access to the 24 middle schools in the district, their teachers, and classrooms. Using an official CMS list of every eighth-grade language arts class taught at each middle school as the sampling frame, I randomly selected a 50% sample of classes stratified by their track level. This produced a large enough sample to conduct complex multivariate analyses. Course track levels were determined in consultation with CMS curriculum specialists based upon the 1996–1997 Middle School Course Offerings guide (CMS, 1996b). At every school, at least one class from each of the three track levels (standard, academically gifted, and pre-International Baccalaureate in some schools) was included in the sample of classes. All students in each selected class had the opportunity to take the survey. Participation was encouraged by entry of respondents' names into a lottery for cash prizes. On average, 95% of students enrolled in the selected classes participated in the survey.[4]

Of the 2,552 surveys completed, 1,812 students had attended CMS in second grade and thus had a California Achievement Test (CAT) score, the study's measure of prior achievement. Of those who took the survey, 37% were Black, 56% were White, and 7% were Asian, Latino/a, Native American, or multiracial individuals. The racial composition of the sample was similar to the district's overall middle school demographics at the time (42% Black), suggesting the sample of students was representative of the district's population of eighth graders not enrolled in special education

Table 1
Means, Standard Deviations, Ns of Observations, and Ranges of Variables in Model

Variable	Mean	Standard Deviation	*N* of Observations	Range
EOG mathematics	171.460	12.179	2,536	142–205
EOG language arts	161.243	8.960	2,536	133–186
Black	0.370	0.489	2,552	0–1
Female	0.512	0.499	2,552	0–1
Socioeconomic status factor	0.004	0.498	2,524	–2.772 to 2.798
Art class	0.372	0.483	2,480	0–1
Effort	3.769	0.934	2,511	1–5
Prior achievement	–0.066	42.102	1,812	–206.35 to 99.25
Concrete attitudes	3.601	0.637	2,552	1–5
Abstract attitudes	3.829	0.566	2,552	1–5
Percentage segregated elementary education	0.149	0.264	2,241	0–100
Percentage Black in middle school	39.540	15.976	2,552	11.15–78.02
High track	1.318	0.466	2,552	1–2

Note. EOG = end of grade.

programs. Because the sample included so few Asian, Latino/a, Native American, and multiracial students, the analytic sample was restricted to only Black and White students.

Variables

The concepts investigated in this study were drawn from the literature on first- and second-generation segregation or factors widely known to predict student achievement. The middle school achievement models tested in this study parallel those examined in my earlier study of high school achievement in CMS (Mickelson, 2001). Descriptive statistics for all variables appear in Table 1.

Dependent Variables

End-of-grade tests (math and reading). The study employs students' end-of-grade (EOG) test scale scores in mathematics and reading (the test for language arts) as the two measures of middle school achievement. EOGs are the standardized tests linked to the 1997 formal curricula (North Carolina Department of Public Instruction, 2004).

College preparatory track. The track level of students' Grade 8 language arts classes served as an indicator of their track placement. In 1997, CMS Grade 8 language arts tracks were standard (the lowest non–special education course), academically gifted (AG), and pre-International Baccalaureate (pre-IB) (the highest). The two higher-level tracks were collapsed into a single college preparatory track because only a limited number of schools offered pre-IB classes. For statistical modeling, track placement was dichotomized into college preparatory or standard, the non–college preparatory track. Non–college preparatory track was the excluded category.

Level 1 Predictors

Exposure to elementary segregation. This study employed two measures of first-generation segregation, the first being the percentage of a student's elementary education that occurred in a segregated black school. Elementary school segregation is the first in a sequence of consequential building blocks in the cumulative disadvantage process. For example, using first-grade data from the Early Childhood Longitudinal Study–Kindergarten Cohort (ECLS-K), Condron (2009) reported that school factors play an elevated role in generating racial differences in achievement while non–school factors primarily drive social class inequalities in achievement. He concluded that school racial segregation appears to be an important contributor to the Black/White achievement gap during elementary grades.

CMS administrative data provided information on the elementary schools each respondent attended throughout his or her CMS career. Based on a school's racial composition in a given year (derived from Common Core of Data files), each school a child attended was coded as racially imbalanced White, racially balanced, or racially imbalanced Black in the year when the student attended it. Once all CMS schools in every year between 1987 and 1997 were coded in this manner, the measure of the respondents' exposure to elementary segregation was calculated by determining the total years (K–6) a student spent in a racially imbalanced Black elementary school in CMS, then calculating that sum as a percentage of total years spent by that student in CMS elementary schools.[5]

Middle school segregation. The multivariate analyses employ a second measure of first-generation segregation, the percentage Black in the middle school each student attended. In the multivariate modeling, percentage Black is a continuous variable (0 to 100). For descriptive analyses, the 24 middle schools were categorized as racially imbalanced Black, racially balanced, or racially imbalanced White based on the ±15% Black bandwidth described earlier.

Track placement. At different points in the various analyses, track placement served either as a dependent (college preparatory track or not) or control variable in models predicting EOG scores. When track placement served as a control variable in the multilevel regression analyses of EOG math and reading scores, it captured students' exposure to second-generation segregation in middle school. When the study reported descriptive statistics by level of track placement, the range of track categories included exceptional children through pre-International Baccalaureate levels.

Race. National educational indicators continue to show significant racial and ethnic disparities in outcomes (NCES, 2011a, 2011b) despite decades of reforms aimed at narrowing them. Because of the importance of student race as a predictor of outcomes, the study controlled for student racial background. However, analyses were confined to Blacks and Whites because there were too few Asians, Latino/as, and Native Americans in the sample to analyze them separately. Whites were the excluded category in the regression analysis.

Gender. Gender differences in key indicators of achievement and attainment have narrowed considerably over the past several decades (DiPrete & Buchmann, 2013; Mickelson, 1989). Because of the importance of gender for educational processes and outcomes, this study controlled for it. Males were the excluded category in the regression analyses.

Family SES. This study's operationalization of SES was created by a principal components factor analysis of mother and father's educational and occupational attainment, with loadings ranging from a high of .798 to a low of .637. The four indicators loaded on a single factor (eigenvalue = 2.101). Educational attainment was measured with an ordinal scale that ranged from (1) less than high school to (5) advanced degree. The Nakao-Treas Occupational Prestige Index (Nakao & Treas, 1995) measured occupational attainment. Employing a measure that captured mother and father's occupational and educational attainment provided a more holistic measurement of SES than the flawed but often used free and/or reduced lunch status.

Cultural capital. The concept of cultural capital differs from but is related to SES. Drawing on the work of Bourdieu (1984), Lareau (2011) describes cultural capital as part of class-based differences in children's socialization that are reflected in the amount and forms of resources individuals can draw on as they navigate various institutions in the social world, such as schools. Middle-class children's high status cultural capital resources equip them favorably for interacting with the language, cultural knowledge, and behavioral norms of the middle class schools they typically attend. The importance of cultural capital for school outcomes has been described by theorists (Bourdieu, 1984; Coleman, 1998; Lamont & Lareau, 1988) and has

been demonstrably linked to achievement over several decades (DiMaggio, 1982; Farkas, 1996; Lareau 2011). Dumais (2002), for example, found that participation in high-status cultural forms was especially important for eighth-grade girls' academic performance.

For this study, students were asked whether they had taken private art, music, or dance lessons during the previous three years (yes = 1, no = 0). This measure captures students' access to high-status cultural practices that are distinct from their socioeconomic status as indicated by a weak correlation between the two constructs (r_{xy} = .168). Although cultural capital is a complex and nuanced social construct, this operationalization reflects families' conscious efforts to expose their children to high-status cultural practices in order to gain their associated benefits.

Effort. Effort can be considered as an indicator of student engagement in learning (Kelly, 2009; Lleras, 2008). Studies in sociology, economics, and education show that effort is an important factor for achievement (Edelman, 2010; Sørenson & Hallinan, 1977; Stewart, 2008). The survey ascertained students' self-reports of effort they usually put into their schoolwork. Choices ranged from *just enough to get by* (1) to *as much effort as possible all the time* (5).

Prior achievement. Prior achievement plays an important role in any analysis of school effects and student achievement. Without in some way controlling for students' baseline abilities or achievement, analyses are unlikely to discern the effects of other school factors. Lee and Bryk (1989) note that using an early test score as a "pretreatment" measure of academic background is preferable to using a more recent test score because the stratification of learning opportunities in secondary school due to curricular differentiated tracking has a strong effect on subsequent achievement. A more recent test score used as a control variable might residualize out not only differences in students' ability but a portion of the anticipated school effects on achievement that occurred in the years between entry into school and the much later measurement of achievement that serves as the dependent variable.

Following Lee and Bryk's (1989) logic, in this study students' Grade 2 California Achievement Test total battery scores in mathematics and reading served as indicators of their prior achievement. The prior achievement variable was calculated by transforming a respondent's Grade 2 CAT scale score (in mathematics and language, respectively) into a deviation from his or her elementary school's CAT score mean in math or reading. Administrative data identified which of the 60 CMS elementary schools the respondents in this sample attended in Grade 2. Centering CAT scores controls for the effects of the elementary school itself on the individual's CAT scores and provides a clearer measure of students' early abilities net of school effects.

Abstract and concrete attitudes toward education. Students' attitudes toward education can offer important insights into their perspectives on the social and educational environments that influence their behaviors (Carter, 2005; D'Hondt, Van Houtte, & Stevens, 2015; Harris, 2011; Herman, 2009; Mickelson, 1989, 1990, 2001; Van Praag, D'hondt, Stevens, & Van Houtte, 2015). The research included two measures of students' attitudes toward education. Abstract educational attitudes are widely held and draw on the core tenets of the American Dream including the belief that education and hard work will bring anyone success in this society. Because abstract attitudes are uniformly high, they do not covary with school performance, and thus, they cannot predict achievement. In contrast, concrete attitudes are grounded in people's beliefs about the material realities in the opportunity structure's treatment of educational credentials. Concrete attitudes, which vary with students' racial and SES backgrounds, can predict academic outcomes (Mickelson, 1989, 1990, 2001).

The abstract and concrete attitude variables used in the multivariate models were scale scores created by factor analyzing a series of approximately 30 Likert-scaled belief statements about education and opportunity scored from *strongly agree* (5) to *strongly disagree* (1). Belief statements were worded alternatively positively or negatively to reflect skepticism or endorsement of education and opportunity and then recoded so that the higher the score, the more positive were the students' beliefs toward education. The scales were constructed in three stages. First, a confirmatory factor analysis (CFA) was conducted on the belief statements. Besides the abstract and concrete attitude factors, the CFA model included a "common method bias" factor (Podsakoff, McKenzie, & Lee 2003). Belief statements were constrained to load equally on the common method bias factor in order to account for variance associated with the underlying survey design and other common attributes of the questionnaire that may affect the responses. In the second stage, belief statements with low loadings on their respective factors and those that violated discriminant validity assumptions (e.g., no cross-loadings) were dropped. The final set of unconstrained factor loadings (range, 0.42–0.72) were then used to construct weighted averages to represent composite scale scores for abstract and concrete attitudes. The belief that "education is the key to success in the future" (i.e., the American Dream) is an example of the eight items used to construct the Abstract Attitude Scale (eigenvalue = 9.235; Cronbach's alpha = 0.780). The belief that "even without a good education it is likely that I will end up with the kind of job I want" is emblematic of the six items used for the Concrete Attitude Scale (eigenvalue = 3.266; Cronbach's alpha = 0.715). Like the other five, this belief taps into students' perceptions of their lived experiences.

Level 2 Predictor

School. The middle school that students attended served as the grouping variable in the multilevel analysis.

Analytic Steps

Data analyses proceeded in several steps. First, the extent of first-generation segregation as of 1997 was assessed with administrative school-level data provided by CMS (1996–1997). Based on the racial demographics of students enrolled, each school was categorized as racially imbalanced White, racially balanced, or racially imbalanced Black using the previously described criteria.

Next, the extent of second-generation segregation was investigated in all 24 middle schools using administrative data provided by CMS (1996–1997). The percentage Black was calculated for every class in science, mathematics, social studies, and language arts offered during the spring semester of 1997. The official name of each class identified by its track level (i.e., exceptional children language arts Level 1, academically gifted language arts, etc.). The percentage Black in each track level (lowest to highest: exceptional children, standard, academically gifted, and pre-International Baccalaureate) for all subjects was calculated for each school and then compared across RIW, RB, and RIB schools.

Third, a multilevel logistic regression analysis using STATA investigated the relationship of middle school track placement to students' race, gender, prior achievement, effort, abstract and concrete attitudes, family SES, cultural capital, and exposure to first-generation segregation in both elementary and middle school. Because students are nested within schools, multilevel models are necessary to adjust errors to account for of the lack of independence among students and schools. Multilevel logistic regression was appropriate because the outcome variable, college preparatory track placement, was dichotomous. The middle school each student attended was used as the grouping variable.

The final step in the data analysis investigated the factors that predicted middle school achievement. Multilevel regressions with random intercepts were performed on students' Grade 8 EOG Total Battery Scores in reading and mathematics using STATA. These models controlled for students' experiences with first- and second-generation segregation, race, gender, prior achievement, effort, abstract and concrete attitudes, family SES, and cultural capital. As with the analysis of track placement, first-generation segregation was measured sequentially first by percentage of elementary education in segregated Black schools and then by the percentage Black students in the respondent's middle school. Because of the long-standing practice of racially correlated tracking in CMS, second-generation segregation was

measured by the respondent's language arts track placement. Again, the middle school the student attended was used as the grouping variable.

Results

First-Generation Segregation in 1997

School-level segregation in CMS was never fully eliminated, but from the mid-1970s to the late 1980s, the district came very close to fulfilling the Court's order to eliminate the dual system.[6] In the early 1980s, fewer than 5% of Black CMS students attended schools where Black enrollment exceeded court-mandated ceilings. By the early 1990s, 27% of Black CMS students attended schools where Black enrollment exceeded court-mandated ceilings (Smith, 2004). At the time the survey data used in this study were collected, 4 of CMS's 24 middle schools were racially imbalanced White, 16 were racially balanced, and 4 were racially imbalanced Black. Importantly, even in schools designated as racially imbalanced Black or racially imbalanced White, there was still some degree of racial diversity. For example, on average, over 17.6% of students in segregated White schools were Black. And in segregated Black schools, on average, 23.4% of students were White.

Second-Generation Segregation in 1997

To determine whether resegregation by track existed in 1997, the mean percentage Black by course and track level was examined within each middle school and compared with the school's overall percentage Black. Table 2 presents enrollment data for all language arts 8, math, and science classes by track level and school racial composition for all of the 24 CMS middle schools.

Table 2 illustrates the breadth and magnitude of second-generation segregation in core academic subjects in CMS middle schools and how it operated relatively independently from first-generation segregation. An examination of the mean percentage Black in AG courses across the three subjects reveals a pattern: Irrespective of a particular school's racial composition, the percentage Black students who were enrolled in the AG course was smaller than the percentage Black in the school itself. Conversely, the mean percentage of Black students in exceptional children (EC) courses across the three subjects reveals that irrespective of categorization of the school as RIW, RB, or RIB, few White students were enrolled in EC-level courses. The percentage Black students in standard level courses appeared to be somewhat more reflective of the school's racial demographics.

Although Table 2 demonstrated the relationship between race and track assignment with descriptive statistics, it does not control for prior achievement or merit, one key criterion on which assignment to a course at

Table 2

Mean Percentage Black in Middle School Academic Courses by Track Level in Racially Identifiable White (RIW), Racially Balanced (RB), and Racially Identifiable Black (RIB) Charlotte-Mecklenburg Schools (CMS) Middle Schools, 1996–1997

Mean % Black in CMS Middle Schools by Racial Composition		Subject	Mean % Black Academically Gifted/Pre-International Baccalaureate Courses	Mean % Black Standard Courses	Mean % Black Remedial/ Exceptional Children Courses
		Language arts	7	23	34
RIW	18	Mathematics	7	26	16
(N = 4)		Science	12	27	47
		$\chi^2 = 29.29$; $p \leq .001$			
		Language arts	14	50	60
RB	42	Mathematics	9	49	58
(N = 16)		Science	11	53	—
		$\chi^2 = 12.78$; $p \leq .01$			
		Language arts	19	69	64
RIB	68	Mathematics	7	72	67
(N = 4)		Science	23	72	85
		$\chi^2 = 8.16$; $p \leq .08$			

Source. Charlotte-Mecklenburg Schools (1998).

a particular track level ostensibly rests. Assignment to a higher track is, in principle, based primarily on merit. Irrespective of race, similarly able students should be equally likely to be assigned to the same track. To examine whether students' track placement is influenced by their race net of prior achievement, the sample was divided into deciles based on their Grade 2 CAT scores. Then the Grade 8 track placement of Black and White students was compared within each decile range. If track placements were merit based, a student's race would have been irrelevant.

Figure 1 shows that race is relevant to CMS eighth graders' track placements in language arts. Race differences in college preparatory track placement are apparent across the range of deciles. Those who scored in the top decile (90%−99%) illustrate race differences in likely track placements. While nearly three-quarters of the second-grade White students who scored in the highest decile were in college preparatory language arts in CMS middle schools, less than one-fifth of similarly able Black students were in the top track. In fact, a White second grader scoring in the second decile had a greater likelihood of placement in a college preparatory track in Grade 8 than a Black second grader who scored in the top decile on his or her CAT test.

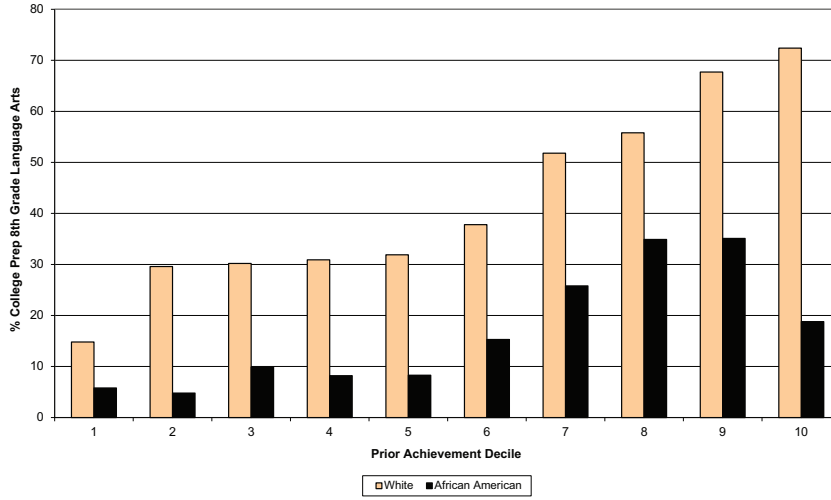

Figure 1. **Percentage eighth-grade language arts college prep track placement by race and prior achievement.**

The findings from the multilevel logistic regression analysis of track placement presented in Table 3 further examines middle school track placements by considering a host of other factors known to predict placements. These results show the influences of prior achievement, race, gender, effort, parental SES, cultural capital, educational attitudes, as well as exposure to segregated elementary education and the students' own middle school's racial composition on the likelihood of placement in Grade 8 college preparatory track language arts. Holding other factors constant, the more years students spent in segregated elementary schools, the lower was their likelihood of learning in a college preparatory track once they arrive in middle school (–1.522***). Black students (–0.456**) were less likely than Whites to be in higher tracks, while the higher students' SES (0.537***), concrete attitudes (0.153*), and prior achievement (0.040***), the more likely they were to be in college preparatory tracks. Self-reported effort, cultural capital, abstract attitudes, and gender did not predict track placement.

Effects of First- and Second-Generation Segregation on Achievement Outcomes

The study's final analysis examined whether either form of segregation predicted student achievement outcomes controlling for widely known individual and school factors associated with achievement. Table 4 indicates

Table 3

Coefficients of a Multilevel Logistic Regression Analysis of College Preparatory Track Placement, Charlotte-Mecklenburg Schools Eighth Graders, 1996–1997

Variable	Simple Model	*SE*	Full Model	*SE*
Race (African American)	–0.800***	.303	–0.456**	.223
Gender (female)	0.047	.136	0.032	.150
Family socioeconomic status	0.629***	.106	0.537***	.112
Cultural capital (yes)	0.236	.151	0.203	.157
Effort	0.025	.075	0.033	.078
Prior achievement	0.036***	.004	0.040***	.004
Concrete educational attitudes	0.152*	.085	0.153*	.091
Abstract educational attitudes	0.138	.143	0.159	.139
Percentage segregated elementary education			–1.522***	.431
Middle school percentage Black			–0.011	.015
Pseudo R^2	0.315		0.338	
Constant	–2.2***		–1.840**	
N of observations	1,766		1,756	
N of groups	24		24	

*$p < .05$. **$p < .01$. ***$p < .001$.

segregation is related to achievement in three ways. First, the more time students spent in racially imbalanced Black elementary schools, the lower were their Grade 8 EOG math (–2.748***) and reading scores (–1.712***). Second, net of other factors, the higher the percentage Black in the middle school the student attended, the lower students' EOG score in reading (–0.053*) and mathematics (–0.056**) were likely to be. Finally, within-school segregation in the form of racially correlated tracking was also related to achievement. Recall that higher tracks are disproportionately White in every CMS middle school (see Table 3). Results of the multilevel regression analyses indicate that net of other individual, school, and family factors, the higher the track in which the student learned, the higher the students' EOG scores in reading (3.542***) and mathematics (7.143**) were likely to be.

Results for other constructs in the model were largely consistent with prior research. Blacks performed worse than Whites in both reading (–2.273***) and math (–4.069***); females did better in reading (0.7861***) than males but worse in math (–1.497***). The higher the SES of parents, the higher the students' EOG scores in reading (0.702**) and mathematics (0.966***). Students who reported putting more effort into their school work scored higher on EOG in reading (0.678**) and mathematics (1.042***). Concrete attitudes that embrace schooling were positively related to EOG scores in reading (1.568***) and mathematics (1.229***). The higher the respondents' prior achievement in reading and math, the more likely they were to score

Table 4

Coefficients of a Multilevel Regression Models of School Achievement, Charlotte-Mecklenburg Schools Middle School Students, 1996–1997: End of Grade Reading and End of Grade Mathematics

	Reading				Mathematics			
Variable	Simple Model	*SE*	Full Model	*SE*	Simple Model	*SE*	Full Model	*SE*
Race (African American)	–3.231***	.427	–2.273***	.456	–5.675***	.486	–4.069***	.569
Gender (female)	0.873***	.243	0.786***	.216	–1.369***	.423	–1.497***	.420
Family socioeconomic status	1.082***	.231	0.702***	.204	1.702***	.273	0.966***	.228
Cultural capital (yes)	0.603*	.344	0.490	.352	0.691*	.374	0.464	.336
Effort	0.690***	.202	0.678***	.207	1.098***	.276	1.042***	.268
Prior achievement	0.114***	.004	0.102***	.004	0.148***	.006	0.122***	.006
Concrete educational attitudes	1.713***	.266	1.586***	.253	1.448***	.343	1.229***	.305
Abstract educational attitudes	–0.227	.315	–0.305	.284	–0.356	.360	–0.473	.348
Percentage segregated elementary education			–1.712**	.692			–2.748***	.841
Middle school percentage Black			–0.053**	.020			–0.056**	.024
College preparatory track			3.542***	.392			7.143***	.549
Rho	0.036		0.029		0.038		0.036	
Constant	153.8***		155.5***		166***		167.300***	
N of observations	1,758		1,748		1,756		1,746	
N of groups	24		24		24		24	

*$p < .05$. **$p < .01$. ***$p < .001$.

higher on their in EOG tests in reading (0.102***) and mathematics (0.122***). Neither students' cultural capital nor their abstract attitudes were related to test scores. All of these relationships are in the expected direction.

Predicted Probabilities for Track Placement and Predicted Values for Test Scores

To more clearly illustrate the effects of exposure to first- and second-generation segregation on key outcomes, I calculated predicted probabilities for middle school track placement and predicted values for both EOG reading and mathematics scores for students exposed to very low and very high levels of segregation during elementary and middle school. I calculated these for the overall sample and separately for Blacks and Whites with all other control variables held constant at their mean values. Table 5 presents the predicted values of EOG reading and math scores and the odds that a student will be placed in a college preparatory track for those who experienced very little segregation (5% of their elementary educations and low levels at middle school) or a great deal of segregation (95% of their elementary educations and high levels at their middle school).

The predicted probabilities reflect the likely magnitude of the effects of segregation on test scores and college preparatory track placements. For example, the predicted values of reading EOGs are 159.6 for those who spent most of their educations (95%) in segregated elementary schools compared to the predicted reading EOGs of 161.2 for those who spent very little time (5%) in segregated elementary schools. Similarly, the predicted mathematics EOG scores were 169.6 (95%) and 171.8 (5%).

Overall, results presented in Table 5 indicate that irrespective of students' race, the more time a student learned in segregated elementary schools and the larger the percentage Black in his or her middle school, the less likely the student was to be placed in a college preparatory middle school track, itself an important predictor of test scores, as earlier findings reported. Students who attended schools with high percentages of Black students have predicted reading EOG score of 159.6 and predicted mathematics EOG score of 169.7. These compare with predicted reading EOG scores of 162.9 and math EOG of 173.0 among those who attended schools with lowest percentages of Black peers. With respect to predicted odds of college preparatory track placement, holding all other factors constant, the predicted probability for those who spent very little time in segregated elementary schools is 25% compared to 8% for those who spent a great deal of time in them. White students, compared to Blacks, gained more advantages from less exposure to segregation during their elementary education (29% odds of being in a college preparatory track compared to Blacks' odds of 20%). Black students, compared to Whites, received the greater harm from experiencing a larger portion of their elementary education in segregated

Table 5
Predicted Values of Reading and Mathematics End of Grade (EOG) and Predicted Probabilities of College Track Placement at Different Levels of Segregation Exposure

	Reading EOG	Mathematics EOG	College Preparatory Track (%)
Average	161.17	171.4	21
5% distribution of % segregated elementary education[a]	161.43	171.82	25
95% distribution of % segregated elementary education	159.97	169.46	8
5% distribution of middle school % Black[b]	162.69	173.01	—
95% distribution of middle school % Black	159.6	169.73	—
In college preparatory track	163.56	176.27	—
Not in college preparatory track	160	169.12	—
Exposed to low levels of segregation	165.37	178.31	—
Exposed to high levels of segregation	157.27	165.52	—
White students exposed to low levels of segregation[c]	166.21	179.82	29
White students exposed to high levels of segregation	158.11	167.03	10
Black students exposed to low levels of segregation	163.95	175.75	20
Black students exposed to high levels of segregation	155.84	162.96	7

[a]The 5% distribution of % segregated elementary education is equal to 0.0%; 95% distribution % segregated elementary education is equal to .857.
[b]The 5% distribution of middle school % Black is 11.15; 95% distribution of middle school % Black is 69.45. Maximum value = 166.21 and 179.82; minimum value = 155.84 and 162.96.
[c]Values calculated separately for Black and White subsamples.

schools (7% odds of being in a college preparatory track compared to Whites' 10% odds).

Moreover, both Black and White students are predicted to perform better the less their exposure to segregated elementary education (predicted reading EOG scores of 166.2 for Whites and 163.9 for Blacks and math EOG scores of 179.8 and 175.75) compared to those who experienced higher percentages of segregated elementary education (reading EOG scores of 158.1 for Whites and 155.8 for Blacks and math EOG scores of 167.0 and 162.9). Notably, the benefits of minimal segregation appear to be higher for

White students (who have a predicted reading EOG of 166.21 and a predicted math EOG of 179.82), and the challenges from higher levels of segregation (those who attend the greatest percentage of their elementary education in segregated schools) appear to be the biggest for Black students (with predicted reading EOGs of 155 and math EOGs of 162).

Together, these predicted probabilities in EOG scores and track placement show that all students' outcomes are related to their exposure to elementary and middle school segregation. Students with the best predicted outcomes are White students with low levels of exposure during elementary and middle schools, and the ones with the worst predicted outcomes are Black students with high levels of exposure to elementary and middle school segregation. These findings are consistent with prior research suggesting that segregated schooling has the most adverse consequences for the most disadvantaged minority youth.

Discussion

By 1997, the Charlotte-Mecklenburg School District was approaching the twilight years of its historic desegregation effort. Within five years, the district would begin operating as a unitary system, and within seven years, it would become a majority-minority racially segregated district. But in 1997, when these data were collected, CMS was still a majority White district operating under *Swann*'s (1971) desegregation mandate. Most CMS students had attended desegregated schools during large portions of their educational careers. At the same time, almost all students learned science, social studies, mathematics, and reading in racially correlated tracked classrooms. Given the resegregation of U.S. schools, the findings from this strategic case study of CMS are particularly useful for understanding how the cumulative disadvantages from first- and second-generation segregation can contribute to race differences in test scores elsewhere across the nation.

The first research question guiding this study focused on the extent of first- and second-generation segregation in CMS during the third decade of its compliance with the *Swann* desegregation order. Findings reveal some school segregation had reappeared in CMS by 1997. Although the majority of CMS middle schools was racially balanced, at least one-third was racially imbalanced. Four schools were racially imbalanced Black, 4 were racially imbalanced White, and 16 were racially balanced, or desegregated. Resegregation by tracking within middle schools, however, was almost universal. The exceptions were a magnet school operating without tracking by design and a magnet school exclusively for students certified as gifted.

The second question explored the student- and school-level factors related to middle school track placement. Like so many other students across the nation, relative to their numbers in the student body, CMS Black students were found disproportionately in lower tracks while Whites were found

disproportionately in higher tracks. One might argue that track assignments merely reflected technical decisions to place students in courses commensurate with their academic merit and that any correlations between placements and students' race reflected genuine ability differences between the groups. The results of this study show track assignments *were* related to students' race. Figure 1 and the multilevel logistic regression analysis of track placement that appears in Table 3 show that prior achievement—an indicator of merit—contributed to but was not the key predictor of track placement in CMS middle schools in 1997. The fact that Black children and those who attended racially segregated elementary schools had less likelihoods of placement in the college preparatory track than their counterparts with the same prior achievement but with more desegregated elementary educations reflected the deep structure and sequential nature of racial inequality that existed in CMS precisely *during* the period when it was widely considered to be one of the nation's foremost examples of a successfully desegregated school system.

Race continued to be a factor in track placements four years after these data were collected. In early fall 2001, school leaders announced that several thousand CMS middle school students, a majority of whom were Black, had been placed in lower-level mathematics classes even though all had achieved levels of proficiency or higher on their previous year's EOG math tests (one official criterion for higher track placement). In response to the discovery, the superintendent ordered the improperly tracked students moved into higher-level math classes. The superintendent explained that while a number of decisions led to the misplacement of so many Black students into lower level math courses, including racial stereotyping, "I think people need to face that there are issues of bias and prejudice that play into this" (Cenziper, 2001, p. 7A).

The third question examined whether first- and second-generation segregation contributed to CMS middle school students' achievement exclusive of other factors. The results presented in Table 4 indicate that first-generation segregation is negatively associated with mathematics and reading EOG test scores among all CMS Grade 8 students even after controlling for their prior achievement and other student-level and family background characteristics. The more time a student learned in segregated elementary schools and the larger the percentage Black peers in his or her middle school, the lower the student's tests scores were likely to be. Notably, if a student learned in segregated elementary schools, the less likely the student's placement in a college preparatory middle school track, itself an important predictor of test scores. The predicted probabilities and test score values presented in Table 5 suggest the magnitude of the first- and second-segregation segregation effects on outcomes. While these effects are small, they are not trivial. Moreover, they are lower-bound estimates of track placement and test score predicted values at various levels of minority school composition after adjusting for all the independent and control variables in the model.

The final question guiding this study asks whether sequential first- and second-generation segregation operated to cumulatively disadvantage students who experience it, and if so, did this cumulative disadvantage contribute to race differences in middle school achievement? The findings suggest that the answer to both parts of this question is yes: The sequential disadvantages of segregation did in fact accumulate over time for CMS eighth graders. Attending a racially imbalanced elementary school was negatively associated with middle school college preparatory track placement, and both forms of segregation are associated with EOG scores. By the time students exit middle school and enter high school, youths with comparable prior achievement and family backgrounds who learned in different tracks likely had markedly different stocks of knowledge and academic skills. Students who enter high school with lower test scores and track placements are disadvantaged by these deficits that the findings from this study link to their prior exposures to first- and second-generation segregated schooling. Students from all racial and ethnic backgrounds are subject to the dynamics of cumulative disadvantages, but Black youth are disproportionately affected by it.

Strengths and Limitations of This Study

Several strengths of this study's design distinguish it from other examinations of racial differences in middle school achievement. First, unlike this study, very few other studies employ three measures of students' exposure to segregation, including sequential measures. Second, this study examines the sequential and interactive effects of all types of segregation in conjunction with a host of conventional measures of individual and family factors known to predict achievement. Doing so permits the analyses to isolate and identify the complexity of the relationships of segregation over time to outcomes net of other factors.

Third, by focusing on a single district, the study is able to consider the 24 middle schools and the students who attended them in their interdependent social, educational, political, and historical contexts. There was virtually no selection bias in the desegregation "treatment condition" because all CMS students had participated in mandatory desegregation at the time this study was conducted and all middle schools were included in the sampling frame.

The survey's design avoids several of the methodological problems that weakened earlier research on school achievement and school racial composition effects. The study's data source is a 1997 survey of CMS middle school students supplemented by rich administrative data supplied by the school district. The representativeness of the sample; the long duration of the desegregation treatment; the multiple sequential indicators of segregation; the high-quality measures of possible moderating or mediating factors such as family background, prior achievement, effort, and educational attitudes; the longitudinal nature of some key variables; and the appropriate

analytic strategies for hierarchically structured data separate this study from the majority of earlier single-site research studies on this topic. Finally, this study focuses on middle schools. Other methodologically strong longitudinal studies of desegregation processes and educational outcomes in a single district, such as Saatcioglu's (2010) study of Cleveland's schools and Mickelson's (2001) earlier study of CMS, focused on high school students.

Despite these strengths, this study suffers from a number of limitations. The sample of eighth graders limits the generalizability of the findings. Several sources of selectivity raise concerns about the sample. Students who transferred to CMS after second grade were excluded from the sample. Those who learned in self-contained special education classes (most of whom were Black) were also excluded. The latter's absence from the sample likely contributes to an *underestimation* of the cumulative disadvantages of segregation on Black/White race differences in middle school achievement. The small numbers of Asian American, Latino, and Native American students in the district in 1997 made it impossible to include them in the analysis, and consequently, this study says nothing about the effects of racial isolation and tracking on the prediction of their school outcomes. This omission is increasingly problematic given the explosive growth in recent years of the nation's school populations, particularly Latinos.

Conclusion

Ten years after this study was conducted, in 2007, the U.S. Supreme Court addressed the constitutionality of using race-conscious pupil assignment plans for the voluntary desegregation of Seattle, Washington, and Louisville, Kentucky. The Court considered whether these districts' goals of racially diverse schools were a compelling state interest and whether the particular ways the plans used individual students' race were narrowly tailored. The Court's controlling opinion penned by Justice Kennedy (2007) agreed with the Court's majority opinion that neither plan was sufficiently narrowly tailored to pass constitutional muster (Roberts, 2007). However, Justice Kennedy's opinion affirmed the principle that achieving diversity and overcoming racial isolation in public schools are compelling state interests (Kennedy, 2007).

This study's findings are consistent with Justice Kennedy's opinion that avoiding segregation and fostering diversity are compelling state interests. The findings suggest that desegregation skeptics are wrong when they argue that the policy is not an effective strategy for improving academic achievement (Armor et al., 2002; Thomas, 2007). Indeed, this research reveals two important counterpoints to that claim. First, many Grade 8 students in CMS had not experienced genuinely desegregated education throughout their elementary and middle school careers even if they attended a racially balanced school. At least for many Black and White students in CMS, middle school tracking undermined some of the potential benefits they likely would

have received from a genuinely desegregated learning environment. The second, and arguably the most important counterpoint to desegregation skeptics, is this study's finding that even though many CMS students experienced second-generation segregation to some degree during their years in CMS, those who were educated in racially diverse schools still did better than their comparable peers who attended segregated Black schools.

Anderson (2013) argues that integrated schools are a form of democratic responsiveness to the full diversity of the people whom the institution is supposed to serve. The persistence of systematic group social inequalities along race, ethnic, class, and gender lines is enabled when certain groups have greater access to necessary but scarce resources like quality education. First- and second-generation segregation are essential to the perpetuation of educational privilege. They embody the norms and structures that separate and stratify students between and within schools. The cumulative disadvantages that accrue to students from both forms of segregation result in the stratification of opportunities to learn. Stratified opportunities to learn contribute to effectively maintained inequality of educational outcomes and ultimately, to effectively maintained social inequality in later stages of the status attainment process (Lucas, 2001).

Indeed, Braddock and Eitle (2004) argue that one of the most insidious aspects of segregation is the tendency for it to be perpetuated across individuals' life cycles, across the institutions with which individuals are involved, and into future generations. Thus, it is not surprising that Johnson (2012) found that school desegregation is a powerful policy antidote to the intergenerational perpetuation of inequality across institutional contexts.

If the growth in the number of racially segregated schools and the persistence of racially correlated tracking are not relevant to the nation's racially correlated differences in reading and mathematics performance, then the widespread practices of ability grouping and tracking and growing school racial segregation are diversions from the genuine sources of the predicament of the nation's uninspiring educational performance. However, if first- and second-generation segregation *are* factors in creating and maintaining the gaps, the failure to address segregation will undercut the potential success of other education reforms—just as failing to seal all sides of a window against the winter's wind makes other efforts to raise a room's temperature far less efficient. While the findings from this study cannot be generalized to the nation's other school systems or to other grades, they suggest that race differences in achievement will be difficult to resolve so long as first- and second-generation segregation operate in the nation's schools.

Notes

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[1]I readily acknowledge that test scores are far from the only outcomes influenced by school and classroom racial composition. Nonacademic outcomes including interracial attitudes and cross-racial friendships, educational and occupational attainment, and preparation for citizenship in multiethnic democratic societies are arguably as important as test scores (Mickelson & Nkomo, 2012). Because at present test scores remain the coin of the realm for evaluating school outcomes, I acceded to this convention in designing the research reported in this article.

[2]I examined this possibility and found it not to be the case in Charlotte-Mecklenburg Schools (CMS) middle schools.

[3]The survey instrument and wording of attitude scales are available upon request. For details of the attitude scales' underlying theory, see Mickelson (1990, 2001).

[4]Exceptional children in self-contained classrooms were excluded from the multivariate analyses but included in the descriptive statistics. Approximately 5.5% of CMS middle school students were enrolled in self-contained special education reading classes. The percentage of students enrolled in such classes varied with the schools' racial composition. On average, in racially imbalanced Black schools, 7.8% of students were enrolled in self-contained special education classes, 6% in racially balanced schools, and 1.5% in racially imbalanced White schools. All self-contained education classes were disproportionately Black (CMS, 1996a).

[5]Although there are important distinctions among the terms, I interchangeably employ the terms *racially identifiable Black* and *segregated Black* and *racially identifiable White* and *segregated White* throughout the article.

[6]The Black-White Index of Dissimilarity value for CMS middle schools in 1997 was .23 as compared to .11 in 1974 when the district was implementing its plan (Armor, 1998). A value of 0 would have indicated perfect racial balance among schools in the district and a value of 1 complete segregation among between the two races.

References

Anderson, E. (2013). *The imperative of integration*. Princeton, NJ: Princeton University Press.

Armor, D. (1995). *Forced justice*. New York, NY: Oxford University Press.

Armor, D. (1998, December 30). Evaluation of unitary status in Charlotte-Mecklenburg. *Capacchione v. Charlotte-Mecklenburg Schools*. Expert report to the court. U.S. District Court for Western District of North Carolina.

Armor, D., Rossell, C., & Wahlberg, H. (2002). The outlook for school desegregation. In C. Rossell, D. Armor, & H. Wahlberg (Eds.), *Desegregation in the 21st century* (pp. 321–334). Westport, CT: Praeger.

Berends, M., & Peñalosa, R. (2010). Increasing racial isolation and test score gaps in mathematics: A 30-year perspective. *Teachers College Record*, *112*(4), 978–1007.

Billings, S. B., Deming, D. J., & Rockoff, J. (2013). School segregation, educational attainment and crime. Evidence from the end of busing in Charlotte-Mecklenburg. *Quarterly Journal of Economics*, *129*(1), 435–476.

Borman, G., & Dowling, M. (2010). Schools and inequality: A multilevel analysis of Coleman's Equality of Educational Opportunity data. *Teachers College Record*, *112*(4), 1201–1246.

Borman, K. M., Eitle, T. M., Michael, D., Elite, D., Lee, R., Johnson, L., . . . Shircliffe, B. (2004). Accountability in a postdegregation era: The continuing significance of racial segregation in Florida's schools. *American Educational Research Journal*, *41*(3), 605–631.

Bourdieu, P. (1984). *Distinction: A social critique of the judgment of taste*. Cambridge, MA: Harvard University Press.

Braddock, J. H. (1990). Tracking in the middle grades: National patterns of grouping for instruction. *Phi Delta Kappan*, *71*(6), 445–449.

Braddock, J. H., & Eitle, T. M. (2004). School desegregation: Research, policy, practice, and future directions. In J. A. Banks & M. McGee (Eds.), *Handbook of research on multicultural education* (2nd ed., pp. 828–843). San Francisco, CA: Jossey-Bass.

Bradley, L., & Bradley, G. W. (1977). The academic achievement of Black students in desegregated schools: A critical review. *Review of Educational Research*, *47*(3), 399–449.

Brown v. Board of Education. 347 U.S. (1954).

Carnegie Council on Adolescent Development. (1989). *Turning points: Preparing American youth for the 21st century: Preparing American youth for the 21st century: The report of the Task Force on Education of Young Adolescents*. Washington, DC: Carnegie Council on the Adolescent Development.

Carter, P. L. (2005). *Keepin' it real. School success beyond Black and White*. New York, NY: Oxford University Press.

Cenziper, D. (2001, December 17). New standards hit minorities hard. *Charlotte Observer*, pp. 1A, 7A.

Charlotte-Mecklenburg Schools. (1973). *A report to the superintendent on the pupil assignment plan*. Charlotte-Mecklenburg, NC: Author.

Charlotte-Mecklenburg Schools. (1996a). *Class counts*. Charlotte-Mecklenburg, NC: Author.

Charlotte-Mecklenburg Schools. (1996b). *Middle school course offerings guide*. Charlotte, NC: Author.

Charlotte-Mecklenburg Schools. (1997). *Class counts*. Charlotte-Mecklenburg, NC: Author.

Charlotte-Mecklenburg Schools. (1998). Middle school percent African Americans in language arts, mathematics, and science classes, 1997–1998, Exhibit 1a, 1b, and 1d, *Capacchione v. Charlotte–Mecklenburg Board of Education*. Charlotte-Mecklenburg, NC: Author.

Clotfelter, C. T. (2004). *After* Brown: *The rise and retreat of school desegregation*. Princeton, NJ: Princeton University Press.

Coleman, J. S. (1998). *Foundations of social theory*. Cambridge, MA: Harvard University Press.

Coleman, J. S., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfeld, F., & York, R. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.

Condron, D. J. (2009). Social class, school and non-school environments, and Black/White inequalities in children's learning. *American Sociological Review*, *74*(5), 683–708.

Condron, D. J., Tope, D., Steidl, C., & Freeman, K. (2013). Racial segregation and the Black/White achievement gap, 1992–2009. *The Sociological Quarterly*, *54*(1), 130–157.

Cook, T. (1984). *School desegregation and Black achievement*. Washington, DC: U.S. Department of Education.

Crain, R., & Mahard, R. (1983). The effects of research methodology on desegregation achievement studies: A meta-analysis. *American Journal of Sociology*, *88*(5), 839–854.

Dauber, S., Alexander, K. L., & Entwisle, D. R. (1996). Tracking and transitions through the middle grades: Channeling educational trajectories. *Sociology of Education*, *69*(4), 290–307.

D'Hondt, F., Van Houtte, P. L., & Stevens, P. (2015). Do attitudes toward school influence the underachievement of Turkish and Moroccan minority students in Flanders? *Comparative Education Review*, *59*(2), 332–354.

DiMaggio, P. (1982). Cultural capital and school success: The impact of status culture participation on grades of US high school students. *American Sociological Review*, *47*(2), 189–201.

DiPrete, T., & Buchmann, C. (2013). *The rise of women: The growing gender gap in education and what it means for American schools*. New York, NY: Russell Sage Foundation.

Douglas, D. M. (1995). *Reading, writing, & race. The desegregation of the Charlotte schools*. Chapel Hill, NC: University of North Carolina Press.

Dumais, S. A. (2002). Cultural capital, gender, and school success: The role of habitus. *Sociology of Education*, *75*(1), 44–68.

Edelman, B. (2010). *Classroom peer effects, effort, and race* (Unpublished dissertation). Department of Economics, Temple University, Philadelphia, PA.

Eitle, T. M. (2002). Special education or racial segregation: Understanding variation in the representation of African American students in educable mentally handicapped programs. *The Sociological Quarterly*, *43*(4), 575–605.

Epstein, J. L., & MacIver, D. (1990). *Education in the middle grades: National practices and trends*. Columbus, OH: National Middle School Association.

Eyler, J., Cook, V. J., & Ward, L. E. (1983). Resegregation: Segregation within desegregated schools. In C. Rossell & W. D. Hawley (Eds.), *The consequences of school desegregation* (pp. 126–210). Philadelphia, PA: Temple University Press.

Farkas, G. (1996). *Human capital or cultural capital?: Ethnicity and poverty groups in an urban school district*. New York, NY: Aldine.

Fiel, J. (2013). Decomposing school resegregation. Social closure, racial imbalance, and racial isolation. *American Sociological Review*, *78*(5), 828–848.

Fuligni, A., Eccles, J., & Barber, B. (1995). The long-term effects of seventh grade ability grouping in mathematics. *Journal of Early Adolescence*, *15*(1), 58–89.

Gamoran, A., & Mare, R. (1989). Secondary school tracking and educational inequality: Compensation, reinforcement, or neutrality? *American Journal of Sociology*, *94*(5), 1146–1183.

Giersch, J. (2012). *Standardized distraction. High stakes tests, tracking, and college outcomes in North Carolina* (Unpublished dissertation). Public Policy Program, University of North Carolina at Charlotte.

Hallinan, M. T. (1992). The organization of students for instruction in the middle school. *Sociology of Education*, *65*(2), 114–127.

Hallinan, M. T. (1994). Tracking: From theory to practice. *Sociology of Education*, *67*(2), 79–84.

Hallinan, M. T. (1998). Diversity effects on student outcomes: Social science evidence. *Ohio State Law Journal*, *59*(3), 733–754.

Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2009). New evidence about *Brown v. Board of Education*: The complex effects of school racial composition on achievement. *Journal of Labor Economics*, *27*(3), 349–383.

Harris, A. (2011). *Kids don't want to fail: Oppositional culture and Black students' achievement gap*. Cambridge, MA: Harvard University Press.

Herman, M. (2009). The Black-White-other achievement gap. Testing theories of academic performance among multiracial and monoracial adolescents. *Sociology of Education*, *82*(1), 20–46.

Hoffer, T. B. (1992). Middle school ability grouping and student achievement in science and mathematics. *Educational Evaluation and Policy Analysis*, *14*(3), 205–227.

Jackson, C. K. (2009). Student demographics, teacher sorting, and teacher quality: Evidence from the end of desegregation. *Journal of Labor Economics*, *27*(2), 213–256.

Johnson, R. C. (2012). *The grandchildren of* Brown: *The long legacy of school desegregation*. Unpublished manuscript, Goldman School of Public Policy, University of California, Berkeley.

Jones, J. D., Vanfossen, B., & Ensminger, M. (1995). Individual and organizational predictors of high school track placement. *Sociology of Education*, *68*(4), 287–299.

Kelly, S. (2007). The contours of tracking in North Carolina. *The High School Journal*, *90*(4), 15–31.

Kelly, S. (2009). The Black-White gap in mathematics course taking. *Sociology of Education*, *82*(1), 47–69.

Kelly, S., & Price, H. (2011). The correlates of tracking policy. Opportunity hoarding, status competition, or a technical-functional explanation? *American Educational Research Journal*, *48*(3), 560–585.

Kennedy, J. A. (2007). Concurring opinion. *Parents Involved in Community Schools v. Seattle School District No. 1*, U.S. 701.

Kornhaber, M. L. (1997). *Seeking strengths: Equitable identification for gifted education and the theory of multiple intelligences* (Unpublished doctoral dissertation). Graduate School of Education, Harvard University, Cambridge, MA.

Kulik, C., & Kulik, J. (1982). Effects of ability grouping on secondary school students: A meta-analysis of evaluation findings. *American Educational Research Journal*, *19*(3), 415–428.

Lamont, M., & Lareau, A. (1988). Cultural capital: Allusions, gaps, and glissandandos in recent theoretical developments. *Sociological Theory*, *6*(2), 153–168.

Lareau, A. (2011). *Unequal childhoods. Class, race, and family life* (2nd ed.). Berkeley, CA: University of California Press.

Lee, V. E., & Bryk, A. (1989). A multilevel model of the social distribution of high school achievement. *Sociology of Education*, *62*(3), 172–192.

Liebowitz, D., & Page, L. (2014). Does school policy affect housing choices? Evidence from the end of desegregation in Charlotte-Mecklenburg. *American Educational Research Journal*, *51*(4), 671–703.

Linn, R., & Welner, K. (2007). *Race-conscious policies for assigning students to schools: Social science research and the Supreme Court cases*. Washington, DC: National Academy of Education.

Lleras, C. (2008). Race, racial concentration, and the dynamics of educational inequality across urban and suburban schools. *American Educational Research Journal*, *45*(4), 886–912.

Loveless, T. (2009). *Tracking and detracking: High achievers in Massachusetts middle schools*. Washington, DC: Thomas B. Fordham Institute.

Lucas, S. R. (2001). Effectively maintained inequality: Education transitions, track mobility, and social background effects. *American Journal of Sociology*, *106*(6), 1642–1690.

Lucas, S. R., & Berends, M. (2007). Race and track location in U.S. public schools. *Research in Social Stratification and Mobility*, *25*(3), 169–187.

Meier, K. J., Stewart, J. J., & England, R. E. (1989). *Race, class, and education: The politics of second generation discrimination*. Madison, WI: University of Wisconsin Press.

Mickelson, R. A. (1989). Why does Jane read and write so well? The anomaly of women's achievement. *Sociology of Education*, *62*(1), 43–67.

Mickelson, R. A. (1990). The attitude-achievement paradox among Black adolescents. *Sociology of Education*, *63*(1), 44–61.

Mickelson, R. A. (2001). Subverting *Swann*: First- and second-generation segregation in Charlotte, North Carolina. *American Educational Research Journal*, *38*(2), 215–252.

Mickelson, R. A. (2008). Twenty-first century social science research on school diversity and educational outcomes. *Ohio State Law Journal*, *69*(6), 1173–1228.

Mickelson, R. A., & Nkomo, M. (2012). Integrated schooling, life-course outcomes, and social cohesion in multiethnic democratic societies. *Review of Research in Education*, *36*(1), 197–238.

Mickelson, R. A., Smith, S. S., & Nelson, A. H. (2015). *Yesterday, today, and tomorrow. School desegregation and resegregation in Charlotte*. Cambridge, MA: Harvard Education Press.

Nakao, K., & Treas, J. (1995). Updating prestige and socioeconomic scores. *Sociological Methodology*, *24*, 1–72.

National Center for Educational Statistics. (1988–1997). *Common core of data*. Washington, DC: U.S. Department of Education.

National Center for Education Statistics. (2011a). *Percentages below basic achievement level in mathematics by grade and race/ethnicity, 2009* (NAEP Data Explorer). Washington, DC: Institute of Education Sciences. Retrieved from http://nces.ed.gov/nationsreportcard/naepdata/dataset.aspx

National Center for Education Statistics. (2011b). *TIMMS data explorer*. Washington, DC: Institute of Education Sciences. Retrieved from http://nces.ed.gov/timss/idetimss/

North Carolina Department of Public Instruction. (2004). *Evolution of the ABCs*. Raleigh, NC: Division of Accountability Services.

Oakes, J. (2005). *Keeping track: How schools structure inequality* (2nd ed.). New Haven, CT: Yale University Press.

Orfield, G., & Frankenberg, E. (2008). *The last shall become first: Rural and small town America leads the way on desegregation*. Los Angeles, CA: The Civil Rights Project/Proyecto Derechos Civiles, University of California, Los Angeles.

Parents Involved in Community Schools v. Seattle School District No. 1, 551 U.S. 701 (2007).

Podsakoff, P. M., MacKenzie, S. B., & Lee, J. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903.

Riehl, C., Pallas, A., & Natriello, G. (1999). Rites and wrongs: Institutional explanations for the student course-scheduling process in urban high schools. *American Journal of Education*, *107*(2), 116–154.

Roberts, J. (2007). Majority opinion. *Parents Involved in Community Schools v. Seattle School District No. 1*, U.S. 701.

Rumberger, R., & Palardy, G. (2005). Does segregation still matter? The impact of student composition on academic achievement in high school. *Teachers College Record*, *107*(9), 1999–2045.

Saatcioglu, A. (2010). Disentangling school- and student-level effects of desegregation and resegregation in the dropout problem in urban high schools: Evidence from the Cleveland Municipal School District: 1977–1998. *Teachers College Record*, *112*(5), 1291–1442.

Saatcioglu, A., & Skrtic, T. (2012). *Categorical manipulation in the reproduction of organizational inequality: The case of disability categorization in schools*. Paper presented at the Meeting of the American Sociological Association, Denver, CO.

Schofield, J. (2010). International evidence on ability grouping with curriculum differentiation and the achievement gap in secondary schools. *Teachers College Record*, *112*(5), 1492–1528.

Slavin, R. (1990). Achievement effects of ability groups in secondary schools: A best evidence synthesis. *Review of Educational Research*, *60*(3), 471–499.

Smith, S. S. (2004). *Boom for whom? Education, desegregation, and development in Charlotte*. Albany, NY: SUNY Press.

Sørenson, A. B., & Hallinan, M. T. (1977). A reconceptualization of school effects. *Sociology of Education*, *50*(4), 273–289.

Southworth, S. (2010). Examining the effects of school composition on North Carolina student achievement over time. *Education Policy Analysis Archives*, *18*(18), 1–45.

Southworth, S., & Mickelson, R. A. (2007). The interactive effects of race, gender, and high school racial composition on college track placement. *Social Forces*, *86*(2), 497–523.

Spade, J., Columbia, L., & Vanfossen, B. (1997). Tracking in mathematics and science: Courses and course selection procedures. *Sociology of Education*, *70*(2), 108–127.

Stewart, E. B. (2008). School structural characteristics, student effort, peer associations, and parental involvement: The influence of school- and individual-level factors on academic achievement. *Education and Urban Society*, *40*(2), 179–204.

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

Swann v. Charlotte–Mecklenburg Schools. 402 U.S. 1, 15 (1971).

Thomas, C. (2007). Concurring opinion. *Parents Involved in Community Schools v. Seattle School District No. 1*, U.S. 701.

Tyson, K. (2012). *Integration interrupted: Tracking, Black students and acting White after* Brown. New York, NY: Oxford University Press.

Useem, E. (1992). Middle schools and math groups: Parents involvement in children's placement. *Sociology of Education*, *65*(4), 263–279.

Van Praag, L., D'hondt, F., Stevens, P., & Van Houtte, M. (2015). Is the sky really the limit? Exploring the attitude-achievement paradox in the Belgian context. *Sociology of Race and Ethnicity*, *1*(2), 225–238.

Vigdor, J., & Ludwig, J. (2011). Segregation and the test score gap. In K. Magnuson & J. Waldfogel (Eds.), *Steady gains and stalled progress: Inequality and the Black-White test score gap* (pp. 181–121). New York, NY: Russell Sage Foundation.

Wang, C. (2005). *Impacts of school racial composition on the middle school achievement gap in post unitary CMS*. Unpublished manuscript, UNCC College of Education, University of North Carolina at Charlotte.

Watanabe, M. (2007). Lessons from a teacher inquiry group about tracking: Perceived student choice in course-taking and its implications for detracking reform. *Teachers College Record*, *109*(9), 2135–2170.

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

Welner, K. G., & Oakes, J. (1996). (Li)ability grouping: The new susceptibility of school tracking systems to legal challenges. *Harvard Educational Review*, *66*(3), 451–470.

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