

The Academic Consequences of Desegregation and  
Segregation: Evidence from the  
Charlotte-Mecklenburg Schools

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For over 30 years, the Charlotte-Mecklenburg community has grappled with Swann's (1971) mandate to provide equality of educational opportunities to black children—to all children—by ending segregated schooling. The legal foundation for that effort dissolved this spring when the U. S. Supreme Court denied certiorari to review the Fourth Circuit's decision affirming the lower court's judgment that the Charlotte-Mecklenburg School system (CMS) is now unitary. These are difficult times for those in Charlotte and across the nation who believe there are still reasons to require public schools to desegregate. Not only are the courts declaring still segregated school districts to be unitary, but the interracial coalitions of progressive citizens and their allies among corporate and civic elites that once supported desegregation also appears to be disintegrating. In the face of claims that desegregation does little to improve the educational outcomes of minority students while it inflicts heavy burdens on children and communities it is intended to serve, a number of former desegregation supporters now embrace neighborhood schools or vouchers as reasonable alternative strategies for providing equality of educational opportunity to black students.

Aside from the philosophical, cultural, and legal reasons for desegregation, the central educational rationale for it rests largely upon claims that desegregated schooling improves minority youngsters' access to the higher quality education more often provided to whites. Yet for the last decade or so critics have labeled it a "failed social experiment." The empirical evidence that desegregation actually improves the academic outcomes of minority students has been, until recently, largely equivocal. Although the race gap in achievement has narrowed somewhat, it continues despite decades of desegregation. For many of desegregation's critics, the narrowing of the race gap is easily explained by the upward social mobility of black Americans during the past 50 years, not their greater exposure to desegregated schooling.

This paper brings new evidence to bear on the question of whether desegregated schooling, in fact, improves the academic outcomes of those who experience it.<sup>1</sup> Using survey data from the Charlotte-Mecklenburg Schools (CMS) collected in 1997, I examine (a) the academic consequences of attending segregated and desegregated schools, (b) how second generation segregation, in the form of tracking, diminished the potential benefits of school-level desegregation, (c) why desegregated learning environments are superior to segregated ones, and d) given the district's new neighborhood schools pupil assignment plan, what do preliminary data suggest about racial and social class isolation and concentration in CMS's 140 schools. The paper concludes with speculation as to what I anticipate will happen to race gaps in achievement, attainment, and racial antagonisms when the district returns to segregated neighborhood schools.

In many ways, Charlotte serves as a strategic case study. Aside from the school system's historic importance for the desegregation movement, and its reputation as a successfully desegregated district, this study's unique data and methodology advance desegregation research designs. Therefore, while the CMS findings are not generalizable, they are nonetheless, suggestive of the effects of desegregated and segregated schooling on achievement. They are also instructive about the broader theoretical and methodological issues with which all desegregation research must grapple: how to capture students' varied experiences with different types of segregation and desegregation, and the necessity of examining the extent to which desegregation plans have been implemented before assessing their value as a school reform.

The findings from Charlotte offer important insights for understanding why so many desegregation programs seem to offer minority students such limited redress from the inequality in educational opportunities they continue to endure. The paper demonstrates that the more CMS students—both black and white—were exposed to truly desegregated education, the better were their academic outcomes. It shows that even in a school district highly regarded for its desegregation record, ability grouping and tracking resegregated many students within

desegregated schools. Importantly, it shows that students who experienced desegregated schooling, both at the classroom and school level, fared better than comparable students who did not. The paper demonstrates that for desegregation policy to be truly successfully implemented, it must take place at both the school and classroom levels. Before turning to the presentation of the study's findings, readers may find some background useful.

### **Background**

CMS is an especially interesting district in which to study the effects of desegregation on academic outcomes because of its pivotal role in school desegregation history. CMS's historical significance rests upon its legacy as the first district where cross-town mandatory busing, express racial goals for student populations at each school, pairing of schools in different neighborhoods, and express faculty and staff ratio were permitted as remedies to desegregate its schools (Boger 2002). The U.S. Supreme Court upheld these practices as constitutional in its 1971 decision in Swann v Charlotte-Mecklenburg Schools.

From roughly 1974 to 1992, CMS used mandatory busing to racially balance its schools. This pupil assignment plan relied heavily upon a system of paired elementary schools. Secondary schools were desegregated by designing attendance zones that drew from black and white neighborhoods. Under this system, almost all students were bused to schools outside their neighborhoods for at least some portion of their educational careers. Blacks typically rode the buses for more years and for greater distances than did whites. Importantly, though, as a result of the mandatory busing, the majority of students in CMS attended a racially desegregated school during some portion of their academic careers in Charlotte. This was possible because CMS remained a majority white school district until 2001 when whites became 49.9 % of students. Whites remain the single largest ethnic group in CMS.

Charlotte's burgeoning financial sector has driven Mecklenburg County's rapid growth and development since the early-1980s. The countywide Charlotte-Mecklenburg School district, currently enrolling 109,213 students in 140 schools, is the 23rd largest in the nation. As is true of many other southern school systems, CMS is struggling to transform itself in order to meet the needs of students destined for an economy built upon the high-tech, information-age jobs that are replacing the area's traditional textile manufacturing, poultry processing, and agricultural jobs. At the time of the original Swann order in the late 1960s, only a handful of CMS students were neither white nor black. For this reason, the federal district court orders in Swann categorized children as either black or white/other (collapsing whites, Asians, Hispanics, American Indians, and students from other ethnic backgrounds into a single category of white/other). Today, CMS's population is 42 % black, 47.7 % white, and 10.3 % Hispanic, Asian, and American Indian ([www/cms/k12.nc.us/inside/general/index.htm](http://www/cms/k12.nc.us/inside/general/index.htm) 2002).

The broad social and political coalition supporting desegregation began to crumble in the late 1980's. As I have described elsewhere (Mickelson & Ray 1994), a successful Chamber of Commerce campaign to lure relocating firms to Charlotte brought thousands of middle-class white families to the county's sprawling suburban housing developments. Familiar with their former homogeneously white, middle-class high quality school systems, the newcomers were dissatisfied with the generally inferior, underfinanced, less rigorous southern education they found in CMS (a former school official observed that when he arrived in the early 1990s, he found a system geared more for future mill workers rather than computer scientists). In addition, newcomers found their children were sent to schools desegregated by race and social class. As one relocated mother told me, "If I wanted my children to attend school with students who live in trailer parks or projects, I'd have moved next to one." A mounting wave of suburban newcomer discontent led relocated firms to pressure the Chamber of Commerce to "do something about the schools."

In the early 1990s, much of the mandatory plan was replaced by other desegregation strategies, most notably a program of controlled choice among magnet schools whereby each magnet school sought an enrollment that was 40% black and 60% white/others. This policy shift came about largely in response to the social and political pressures arising from business elites who complained that the existence of the desegregation plan hindered economic development (Mickelson and Ray 1994; Mickelson and Smith 1999). Ironically, the use of racial guidelines for magnet school admissions was eventually challenged by white parents who sued the district seeking a declaration of unitary status, and an end to the use of race-conscious policies of any kind. This lawsuit led to a reactivation of the entire Swann case.<sup>2</sup> In September of 1999, a federal judge declared the district unitary. He enjoined the school system from using race in any of its official actions, and awarded to the white plaintiffs nominal monetary compensation (\$1) for damages to their constitutional rights suffered under the school system's use of a race-conscious magnet lottery.

In November 2000, a three-judge panel of the Fourth Circuit Court of Appeals overturned the lower court's unitary decision. Almost a year later, the full Fourth Circuit Court of Appeals, sitting *en banc*, reversed the three-judge panel and upheld the lower court's original unitary decision. Even before the US Supreme Court denied certiorari to review the Fourth Circuit's decision affirming the lower court's unitary judgment in spring of 2002, the school system began to implement a neighborhood school-based pupil assignment plan for the 2002-2003 school year. The pupil assignment plan, named the Family Choice Plan, allows parents to select either their neighborhood school or a magnet school within one of four choice zones into which the county-wide district has been divided. Enrollment is by lottery. The plan is, in fact, a neighborhood school assignment plan with an option for choice in magnets if space is available. During the first year, the vast majority of families received their 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> choices. But amongst families who did not, black students were the least likely to receive their 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> choices and also were the least likely to identify their neighborhood schools as one of these choices (Helms 2002).

### **Desegregation, Segregation, and Tracking**

The issues addressed in this paper lie at the intersection of several enduring questions in law, public policy, educational research and school practice: the relationship of desegregation and segregation to racial equity in educational processes and outcomes.

#### *Previous Research on Desegregation*

The Coleman Report (1966) found that blacks who attended desegregated schools had better academic outcomes than those who attended segregated ones. Since then, social scientists, civil rights advocates, and ordinary citizens have studied and debated the social and academic consequences of school desegregation. The effects of desegregation fall into two categories: Long term effects such as enhanced educational and occupational attainment, and racial attitudes for blacks who experienced desegregation; and short-term effects such as grades and test scores.

- ◆ There are few disagreements regarding desegregation's positive long-term effects on minority students' life course (Braddock and McPartland 1988; Wells and Crain 1994, 1996). Blacks who attended desegregated schools have higher levels of educational and occupational attainment than those who did not, are more likely to live and work in an integrated environment, and to experience less interracial hostilities and fears.
- ◆ Critics of desegregation read the evidence on the short-term as largely a wash. They find no consistent academic benefits for blacks. They believe desegregation triggers serious community disruptions for blacks who suffer from job losses, school closing, and inappropriate education (Shujaa 1996), and for whites forced to flee desegregating (and therefore deteriorating) school systems (Armor 1995, Rossell 1992).

- ◆ Others read the evidence on the short-term effects of desegregation more positively (Bankston and Caldas 1996, Brown 1999, Hallinan 1998, Hawley 2002, Hochschild 1997, National Association for the Advancement of Colored People [NAACP] 1991, Orfield and Eaton 1996, Wells and Crain 1994, 1996). They conclude that when schools consistently employ practices to enhance equality of opportunity (including the elimination of tracking and ability grouping), desegregation has clear, albeit quite modest, academic benefits for black students and does no harm to whites. But exposure to desegregated education in a school that does little to equalize educational opportunity in the classroom brings few benefits to minority students.

#### *Previous Research on Tracking*

Due to the pervasive practice of curricular differentiation, students are sorted into racially-correlated educational trajectories soon after they enter school. In early elementary school students are placed into ability grouping for instruction, and the identification process for gifted and special educational programs begins at this time as well. Once students are identified for any program, be it gifted, regular, or special education, their curricula and instruction differ. And this leads to very different educational careers, where at each juncture or transition, the effects of the previous year's differentiated curriculum affect the next transition.

Once they are in secondary school, students tend to learn academic subjects in tracked classrooms. As designed, tracks match student abilities with a differentiated curricula and instruction (Hallinan 1994, Kulik and Kulik 1987, Loveless 2000). The effects of early tracking cumulate over the course of each student's educational career. It is therefore important to consider the effects of tracking on academic outcomes when assessing the effects of desegregation and segregation on race equity in educational outcomes.

- ◆ The weight of scholarly evidence suggests that the practice of tracking unjustifiably assigns minority students disproportionately to lower tracks and almost excludes them from the accelerated ones; it offers them inferior opportunities to learn, and is responsible, in part, for their lower achievement (Lucas 1999; Mickelson 2001; Oakes et al. 2000; Welner 2002).
- ◆ The effects of tracking are manifest in both academic and social domains. Assignment to different tracks results in students receiving quite different content and instruction. Oakes and her colleagues (2000) report that students in high ability classes generally have better instructors and more challenging instruction than do those in low-ability classes. Tracking tends to reinforce the learning problems of socially and educationally disadvantaged students by providing them with less effective instructors who teach the least rigorous curricula using the methods least likely to challenge them to learn (Finley 1984, Ingersoll 1999). Tracking also affects friendship patterns. Students tend to make friends with others in their own tracks.
- ◆ Tracks socialize students to accept their position in the school's status hierarchy where the top tracks are the most valued. They channel students into designated paths for future occupations. Because tracks tend to be rather homogeneous with respect to race, ethnicity, and social class, students have limited exposure to individuals who differ from themselves on these important characteristics. In these ways, academic achievement, as well as future occupational and educational aspirations, are shaped by track placement.
- ◆ Given the differences in opportunities to learn described above, educational advantages cumulate for those in the top tracks relative to those in the bottom tracks. In these ways, racially stratified tracks create a discriminatory cycle of restricted educational opportunities for minorities that leads to diminished school achievement which, in turn,

exacerbates racial and social class differences in school outcomes (Lucas 1999; Mickelson 1998, 2001a, 2001b; Oakes 1990, 1994a; Oakes et al. 2000; Welner 2002)

### **First and Second Generation Segregation**

The relationship between segregation and tracking often is discussed in terms of first and second-generation segregation. First generation segregation generally refers to the racial segregation among schools within a school district and has been the focus of national desegregation efforts since Brown (1954). Second generation segregation refers to the racially correlated allocation of educational opportunities within schools typically brought about through curricular grouping or tracking of core academic classes in English, math, social studies, and science during secondary school (Meier et al 1991). During elementary school, second generation segregation begins when students are identified for special education and gifted status. Because CMS has been desegregating since the mid-1970s while it employed extensive tracking in academic courses throughout its secondary schools, the district offers the opportunity to examine the relationship between academic outcomes and both 1<sup>st</sup> and 2<sup>nd</sup> generation segregation.

In theory, tracking is designed to enhance teaching and learning through targeting instruction and course content to the student's ability and prior knowledge. However, there is no consistent evidence that, as implemented, tracking is the best form of classroom organization for maximizing opportunities to learn for the majority of students. To the contrary, ample evidence suggests that tracking hinders mid- and low-ability students' opportunities to learn. At the same time, there is a growing body of evidence that diverse learning environments maximize opportunities to learn for all students (Cohen & Lotan 2003, Gurin 1999, Hallinan 1998, Hawley 2002, Hurtado 1999, Terenzini et al. 2001). Moreover, track placements are strongly correlated with students' race, ethnicity, and social class. In racially diverse schools white students typically are disproportionately found in the top tracks while students of color—often comparably able ones—are disproportionately found in the lower ones. In this way, tracking limits minorities' access to the higher quality education and maintains whites' access to it. The federal courts recognized that tracking has the ability to undermine the potential benefits of policies, such as busing, designed to eliminate racial segregation among schools (Hobson v. Hansen 1967). For this reason, tracking implemented to undermine or to circumvent desegregation has been considered illegal by several courts (Welner and Oakes 1996, Welner 2002).

The fact that tracking can subvert potential gains from desegregation is very important for understanding the reasons why the evidence regarding desegregation's effects on test scores and grades has been more ambiguous until recently. Much of the prior school desegregation research did not examine the ways segregated academic programs or tracks within desegregated schools affect race equity in academic outcomes. Schools that are successfully desegregated at the building level are often successfully reseggregated by tracks within the school. This is the case with the Charlotte-Mecklenburg Schools. The results reported herein consider the effects of both classroom-level and school-level segregation.

### **Methods and Data**

The first part of the paper reports the results from my CMS survey data. The second part reports CMS data reflecting the projected data on the demographic composition of schools' students and faculty this coming semester. This paper is part of a 14 yearlong case study of school reform in the Charlotte-Mecklenburg Schools. Specifically, it draws from surveys of middle school and high school students I conducted in the spring of 1997. I surveyed a random sample of about 50 % of CMS's 1997 8<sup>th</sup> grade and 12<sup>th</sup> grade classes. Students answered questions about their family background, school experiences, attitudes toward education, and

plans for the future. Their answers were combined with information on their grades, test scores, and educational histories provided by CMS. The Methodological Appendix presents a full discussion of methods used in the collection and analysis of the survey data.

The design of this research enjoys a number of advantages over previous research on the effects of desegregation. I use multilevel regressions to examine simultaneously the effects of school-level and classroom-level segregation on academic outcomes. Importantly, the study uses an individualized longitudinal measure of the effects of elementary segregation on each student's academic outcomes that is unique in desegregation research. Also, the study utilizes random samples of middle and high school classrooms from every secondary school in the district rather than selections of students or schools isolated from the context of their larger societal and educational environments. I am able to detect district-wide trends and patterns that are missed with the large national samples typically used in desegregation research. Finally, the use of parallel surveys with both middle and high school students enhances the robustness of the findings regarding the effects of segregation and desegregation on academic outcomes.

The findings regarding the projected demographic composition of CMS schools in the fall of 2002 are based on projected enrollment data after the 3<sup>rd</sup> lottery (June 28, 2002). Preliminary data used to calculate changes in the racial composition and socioeconomic mix of students in schools for the Fall, 2002 term came from the CMS website which posts this information (CMS 2002). Correct data will be available in late September. Until then, I estimate the trends in resegregation by race and social class by comparing projected numbers for 2002-2003 with actual data from 2000-2001.

## Findings

*First generation segregation:* Although first generation segregation in CMS was never fully eliminated, during the early 1980s the district came very close to fulfilling the court's order to eliminate the dual system (CMS Monthly Reports 1970-1999). At that time, only a handful of schools were racially identifiable as minority or white. By the late 1980s—with a mere 1% increase (from 38 to 39%) in the proportion of CMS students who were black—the number of racially identifiable schools began to grow. In the 1998-1999 school year—with only an additional 2% increase (from 39 to 41%) in proportion of CMS students who were black during the previous 10 years—about one-fourth of schools were racially-identifiable black or white at the building level (Armor 1998, Mickelson 1998, Peterkin 1998, Trent 1998, Smith 1998). By 1999, CMS was rapidly resegregating at the school level even though the demographics of the district were relatively stable, the district was a majority white community, and Mecklenburg County as a whole was more residentially integrated than it was 30 years before (Lord 1999).

In the early-1980s, whereas less than 5 % of CMS' black students attended schools whose black enrollment exceeded court mandated ceilings, in the mid- and late-1990s, the corresponding figure was approximately 27 % (Smith 1998). Among 1997 CMS 12<sup>th</sup> graders who participated in this study, 37 % of blacks and 15 % of whites had some experience with segregated black elementary education during their career; 56.4% of black and 21.2% of white middle school students experienced some segregated black elementary education.

I used multilevel regression analysis to examine the school-, family-, and individual-level factors that contribute to academic achievement. My results indicate that in addition to the racial composition of elementary schools, middle schools, and secondary school track placement race, gender, SES, cultural capital, effort, peers, and attitudes toward education affect outcomes in the anticipated directions (see the Methodological Appendix for description of variables). In this discussion of results I focus on the effects of segregation on outcomes.

I found that attending a segregated black elementary school has direct negative effects on achievement for both middle and high school students. Even after controlling for a host of

individual and family background factors, the multilevel regression analyses indicate the more time students—both blacks and whites—spend in segregated black elementary schools, the lower are their 12<sup>th</sup> grade EOC scores and 8<sup>th</sup> grade EOG reading scores as well. Middle school racial composition also has a significant negative effect on reading achievement. The larger the percent black in a middle school, the lower are all students' EOG scores. Table 1 presents the results of these analyses for middle school (EOG) and high school (EOC) standardized test scores. To be sure, the magnitude of the direct effects of elementary and middle school segregation on achievement is relatively small. But the size of the coefficient for elementary segregation is not larger because it represents the negative effect of segregation on achievement for every additional percent of elementary education spent in a segregated school. The negative effects cumulate over time.

—Table 1 about here—

*Effects of Desegregated Education.* The results of the regression analysis indicate that the more time both black and white students spent in desegregated elementary schools, the better is their academic achievement (measured by standardized tests) and the higher are their secondary track placements. There likely is several reason for this relationship. One often given is that desegregated schools have better material and human resources than segregated ones. Data from CMS certainly support that assertion. Another explanation relies on an emerging area of cognitive science that explores the effects of classroom diversity on thinking.

In Charlotte, like elsewhere across the nation, segregated black learning environments offer fewer material and teacher resources compared to desegregated ones. In CMS both racially identifiable black tracked classrooms and segregated black schools suffer from similar teacher resource deficiencies. For example, the higher the percent black in a school, the lower the percent of the school's teachers who are fully credentialed, are experienced, and who possess masters degrees (Mickelson 1998, Peterkin 1998, Trent 1998, Smith 1998). For example, at the time the surveys were conducted, the correlation between percent black in the student body and teacher license was  $-.392$  at the middle schools and  $-.720$  at the high schools; that is, the more black students, the fewer licensed teachers in the schools.

CMS secondary principals I interviewed in 1998 and 1999 confirmed that while lower track students could have a highly qualified teacher, top track students always do. Qualified, certified teachers are arguably the most important resource available to children (Darling-Hammond 2000, Ingersoll 1999). In CMS, then, access to the single most important element of opportunities to learn—an experienced, credentialed teacher—is strongly related to the composition of the secondary school a child attends and the track level of the classrooms in which they learn. In both cases, the fewer the blacks, the more qualified and experienced the teachers are likely to be.

Starkly different levels of material resources (up to date media centers, ample access to current technology, and newer buildings) are also related to the racial composition of a school, with fewer resources associated with higher percentages of black students (Gardner 1998; Peterkin 1998). In 1997 desegregated black high schools in CMS also have fewer Advanced Placement offerings and racially identifiable black elementary schools at all levels have proportionately fewer services for gifted and talented students (Mickelson 1998, Exhibit 1A-1H; Peterkin 1998).

In addition to the resource factors, there is another reason as well. The work of cognitive psychologists like Patricia Gurin (1999) sheds light on the mechanism by which desegregation enhances learning for students. Her experimental research demonstrates that students in diverse environments learn more than control group members who are in racially homogeneous settings. According to Gurin, diversity inhibits “automaticity” in thinking; the tendency to travel down the



same thinking paths we developed in the past. As a result, thinking is pushed to higher levels, the so-called critical thinking skills.

*Second-generation segregation:* Curricular differentiation (ability grouping and identification for gifted or special education in elementary school and tracking in secondary school) begins early in students' educational career (Entwistle et al 1999). Because this paper concentrates on secondary students, I briefly discuss curricular differentiation's roots in elementary school. A great deal has been written about the disproportionate numbers of black students, especially males, in special education and the similarly disproportionate number of whites in gifted education so I will not put my plow to this fertile field. I only will mention Tamela Eitle's (2000) research showing that nationally, districts under court-ordered desegregation rulings have significantly higher proportions of blacks in special education than otherwise comparable districts. Her work suggests that to understand early sorting of students, we must understand the social and political context of schooling.

Mindy Kornhaber's research on the identification process for gifted and talented (AG) education in CMS speaks to the issue of AG certification as the beginning of racially correlated tracking in CMS. She reported that throughout the early 1990s, African Americans were markedly under referred for AG assessments. Consequently programs for the gifted remain largely the domain of white students. According to one central office educator, gifted education has been widely used as a white track, and the CMS gifted program has been an "elitist, isolated, white-only program" that has only recently begun to change (Kornhaber, 1997; p. 105). Kornhaber described how formal AG identification is a high-stakes process, which some parents pursue and cultivate. She quoted one high-level staffer, who observed, "Parents want elementary school identification as gifted because it allows entrance into middle school gifted classes..." (1997, p. 119). They know AG identification in elementary school launches the children onto a trajectory of high-track secondary school courses.

The patterns of racially correlated sorting of elementary students into special education and gifted programs described by Eitle and Kornhaber are suggestive of some of the informal processes at work in districts under court ordered desegregation. In Charlotte, these processes worked to recreate white privilege in the school system as it desegregated. Elsewhere (Mickelson and Smith, 1999) I have argued that in fact, insofar as racialized ability grouping and tracking can be considered second generation segregation, it can be argued—quite plausibly—that the establishment and maintenance of second generation segregation was a political precondition of addressing first generation segregation.

My analysis of the racial composition of all math, science, English, and social studies course placements for the entire 1997 secondary school population reveals the extent to which CMS middle and high school academic courses are resegregated by track.<sup>3</sup> I base this claim on an analysis of a CMS document that identifies the course name, track level, student count by race, period, and teacher name for every course offered in each of the eleven high schools and the 24 middle schools (CMS Class Counts 1996-1997).

The pattern of resegregation by track within secondary schools is illustrated in Table 2. Here readers can see the percent black in a given school and in classes by subject and track level. The determination of whether a classroom is racially balanced within a school depends upon whether the class's racial composition is within  $\pm 15\%$  of its school's racial composition. For example, Cochrane Middle School is 78 % black but its racially imbalanced white AG math and English classes have no black students. Even though the Exceptional Children's math class is 84.5 percent black, it is racially balanced. Similarly, South Charlotte's Exceptional Children's mathematics class with 13.2 % black is racially balanced but its EC English, with 36 % black, is racially imbalanced black.

—Table 2—

In virtually all CMS secondary schools, not only are core academic classes tracked, but irrespective of the racial composition of the schools—even within schools considered to be racially balanced—tracking resegregates students such that the lowest tracks (special education) are largely black and the highest tracks (academically gifted and advanced placement) are overwhelmingly white. For example, controlling for each high school’s racial composition, my analysis of all 1997 middle and high school course offerings shows that in none of the core academic areas (math, science, social studies, and English) was a majority of classes racially balanced in either middle or high schools. Given that track placement is such a powerful influence on academic outcomes, racially correlated tracks in a desegregating school system are critical impediments to the potential of school-level desegregation policies for improving the achievement of black children.

One might argue that track assignments merely reflect technical decisions to allocate opportunities to learn commensurate with student merit, and that any correlations with student race are coincidental, or due to race differences in social class or in ability. But students’ track assignments are related to their race. First, I conducted contingency table analyses of track location by race of students in middle and high schools controlling for their prior achievement as measured by CAT scores in elementary school. The pattern among the most academically able students reflects the overall tendencies found throughout the decile ranges. Among grade 8 students in the top decile (90-99<sup>th</sup> percentile), 27.6 % of whites (N=92 of 152) and 81.3% of blacks (N=13 of 16) were in regular English classes, while 72.3 % of whites (N=110 of 152) but only 18.7 % of blacks (N=3 of 16) were in the top English track (AG or PreIB). Similarly, among 12<sup>th</sup> graders whose 6<sup>th</sup> grade CAT scores were in the top decile (90-99% ile), 20 % of blacks (N=2 of 10) compared to 53 % of whites (N=44 of 85) were enrolled in the AP English track. Recall, these comparisons are among comparably able students.

—Figure 1 through Figure 4—

Comparing Figures 1 and 2, we see strikingly different slopes for Academically Gifted classes for blacks and whites; similarly, Figures 3 and 4 shows similar trends for the four levels of high school English classes.

Moreover, a comparison of CAT scores among students within a given track indicates an enormous range of “abilities” within each one. In the middle schools’ AG/PreIB track, 14.8% of whites and 5.8% of blacks scored in the 1<sup>st</sup> decile as 2<sup>nd</sup> graders. In fact, a greater % of whites (29.6%) with scores in the 2<sup>nd</sup> decile are in AG/PreIB than blacks (18.8%) that scored in the top decile (these data and all others not shown are available by request). Among 12<sup>th</sup> graders in the top high school track, there are students from the 4<sup>th</sup> through the 10<sup>th</sup> decile; similarly, Regular track students hail from the 1<sup>st</sup> through the 10<sup>th</sup> deciles of CAT scores. My analyses indicate “ability” cannot explain the pattern of racially correlated access to top (and bottom) tracks.

One question these findings raise is how do such racial discrepancies in track placement arise? To find the answer, I next conducted ordered multinomial multilevel logistic regression analysis of track placement for the middle and high school samples. Even after I held constant prior achievement, gender, prior achievement, attitudes, effort, and family background, black students are still more likely to be found in lower tracks than comparably able whites. In addition to the effects of race on placement, in both the middle and high school samples, holding everything else constant, students who attended racially imbalanced black elementary schools were more likely to learn in lower tracks. The findings from the logistic regression analyses of track placement also indicate that achievement or merit alone cannot explain track placement.

Results suggest that subjective judgments—influenced by students’ ascribed characteristics of race and family background—affect track placements.

A recent incident illustrates this point. In early fall, 2001, several thousand CMS middle school students, a majority of whom are black, were found to be tracked into lower-level mathematics classes even though many had passed or excelled on their previous year’s EOG math tests. In response to this discovery, several weeks into the fall semester the superintendent ordered the misplaced students to be moved into higher level, reconstituted math classes. The superintendent said a number of decisions led to the misplacement of so many blacks 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” he told the *Charlotte Observer* (Cenzipur, 2001; 7A). How comparably able black and white students end up in very different tracks is a highly complex process that unfolds over years. While parents and students also participate to varying degrees in the course selection process, the center of gravity still lies with educational decision makers like teachers, counselors, and school administrators (Cicourel and Kitsuse 1963; Yonazawa 1997).

*Neighborhood Schools and Resegregation* Beginning in the fall, 2002 CMS has selected a student assignment plan that will likely resegregate large numbers of students. My calculations based on the projected enrollments by school provided to the public by CMS indicate that of the district’s 80 elementary schools 29 will be racially-identifiable black (RIB) (compared to 22 in 2000), 20 will be racially-identifiable white (RIW) (compared to 11 in 2000) and the number of racially balanced elementary schools will drop from 44 to 31 in 2002 (totals do not agree due to opening and closing of schools). Similar patterns exist among middle schools where 9 RIB schools (up from 7 in 2000), 7 RIW (up from four in 2000), and 10 racially balanced schools (down from 16 in 2000) will open in the fall. Among high schools, four will be RIB (up from two in 2000), six will be RIW (up from one in 2000) and in 2000, five will be racially balanced (down from 11 in 2000).

Swann plaintiffs’ attorney James Ferguson (2001) used CMS projections of the degree of resegregation to calculate that over half of all black students projected to attend a nonmagnet school will be in a school that is two-thirds African American; about 25% of black children will attend a school with more than 90% African American enrollment and nearly 40% will attend an elementary school with more than 80% African American enrollment. Similarly, about 30% of black middle school students will attend a school with more than 90% African American enrollment. And the school buildings to which these students will be assigned are, more often than not, those in the system most in need of renovation or replacement (Gardner 1998).

The neighborhood assignment plan will also concentrate black students in schools with high concentrations of poor children. According to projected enrollment figures for 2002, of the 21 nonmagnet elementary schools that will have more than 65% black enrollment, all will have an even higher percentage of FRL students. Among elementary schools, 16 of 80 will have greater than 75% children on free/reduced lunch (FRL), up from 11 in 2000; and four middle schools (up from two in 2000) with greater than 75% FRL. By high school many poor children have dropped out of school so concentrations of FRL students are less intense. At the middle school level, four of 27 schools have greater than 75% FRL (compared to two in 2000). In 2000 no high school had more than 40% FRL but in 2002 four of the 15 do.

—Tables 3 and 4 about here—

At the other extreme, in 2002 the neighborhood school plan is expected to create in 2002 19 of 80 elementary schools with fewer than 25% FRL, down from 13 in 2000. At the middle school level, five of 27 schools have fewer than 25% FRL (compared to three in 2000), and while 10 (of 16) high schools had less than 25% FRL in 2000, the number will be 6 when school

begins in 2002. None of the high schools had greater than 40% poverty/FRL in 2001 but in 2002, 6 (of 17) will have higher concentrations. There will be significant overlap between RIB schools and concentrated levels of poverty. Given what research shows about the effects of concentrated poverty and segregation on opportunities to learn, the outlook for many of CMS's poor and black students is not promising.

*Segregation's Pathways* Figure 5 summarizes the findings presented in the previous sections. It represents the social organization and trajectory of access to opportunities to learn associated with segregation within this one school system. Based on the findings from the separate analyses of the middle and high school surveys, I developed this schematic model of how segregation affects outcomes. Arrows from each variable to the next show the causal paths and the positive or negative sign above the path indicate the direction of the relationship. For example, the arrow from segregated elementary schooling to CAT scores indicates that the greater the proportion of a person's elementary education that took place in segregated schools, the lower were his or her CAT scores, controlling for race, gender, family background, peer groups, attitudes toward education, effort and so on. The dotted paths indicate hypothesized relationships I am unable to test because the middle and high school data come from different samples. For example, theory, prior research, and practice suggest that middle school track location and achievement (EOG scores) influence high school track location. I do not have appropriate data to test the hypothesized relationships between middle school academic outcomes and segregation, and high school outcomes. Therefore, I indicate hypothesized pathways with a hatched line.

—Figure 5 about here—

## **Discussion and Conclusion**

In this paper I described how both racially segregated schools (first generation segregation) and racially segregated tracks (second generation segregation) continue to exist 32 years after the Supreme Court's order in Swann to desegregate Charlotte's schools. Although CMS achieved renown for its efforts to implement court-ordered desegregation from roughly 1971 to 2002, many of the district's practices and policies subverted Swann's mandate to provide equitable opportunities to learn for all students. Most notable are the growing number of segregated schools and the practice of tracking which begins in elementary school and continues through high school. While most of CMS students experienced long periods during which they attended desegregated schools, since the middle of the 1980s, growing numbers of blacks and some whites began to spend more of their elementary and secondary educations in segregated schools. Furthermore, from the mid-70s to the present, secondary students' academic courses are tracked in ways that relegated blacks to the lower ones and elevated whites to the higher, college-prep tracks. In these ways, resegregation undermined the potential benefits of school-level desegregation.

The unique data sets I collected in 1997 permit me to examine the effects of exposure to first and second segregation and desegregation on achievement over the course of a student's 13 year career in CMS. Black and white students with varying amounts of exposure to segregated and desegregated learning environments over time permits me to compare the effects of school and classroom racial composition on a variety of academic outcomes while I control for essential individual, family, and school-level covariates of achievement. I came to three main conclusions:

- (1) Students—both black and white—who experience desegregated schools and classrooms benefited academically from them in significant and substantive ways.
- (2) Racially identifiable black schools *and* classrooms have significant negative effects on both black and white students' academic outcomes.

- (3) Even in desegregated middle and high schools, tracking contributes to the maintenance of white privilege by placing whites disproportionately into higher tracks than their comparably able black peers. This practice maintains white enhances whites' access to better teachers and other resources while it diminishes them for those students in racially identifiable black tracks and schools.

The findings discussed in this paper most likely underestimate the magnitude of the effects of segregation on academic outcomes because of the students not included in the sample. First, many of the students most likely to have experienced segregated black elementary education are missing from the sample. They either never made it to the 12th grade or they have been relegated to special education classes or special programs where they were not surveyed. Second, because the students who did not attend CMS elementary schools or who had high levels of mobility in and out of the schools were dropped from the sample, the sample is further biased in a conservative direction. The most mobile students are poor blacks and they are also the students most likely to attend segregated black elementary schools.

Elsewhere (2001a, 2001b) I reported that second generation segregation, measured as track placement, has a much larger direct effect on academic outcomes than does first generation measured by elementary school racial composition. But it is important to remember that first generation segregation (middle and elementary school racial composition) affects academic outcomes in two ways—direct effects on test scores and track placement, and then indirectly through track placement's effects on test scores.

Despite significant narrowing in the last quarter century, the black-white gap in achievement that existed in 1954 continues today. Even some thoughtful observers question the efficacy of school desegregation for closing that gap. Other critics lament the social, educational, and political fallout from it. They point to a host of adverse consequences to the black community including job losses, removal of cultural integrity in the curriculum, and destruction of extended caring communities that were integral to the well being of black children and their education during Jim Crow (Anderson 1988, Siddle-Walker 2000). Though it is important to acknowledging these losses, it is also important to avoid romanticizing segregated black schools. To do otherwise is to ignore the historical realities that, at times, segregated black education also included grossly inferior opportunities to learn along with the caring, warm, and professional core of black educators (Anderson 1988, Douglas 1995, Gaillard 1988, Kluger 1977, Siddle-Walker 2000).

The findings from Charlotte are important for several reasons. Even though desegregation was unevenly implemented in the district, the lessons from this strategic case study offer hope and promise for reducing racial inequities in educational outcomes. The results of the analyses show that for all those students who experienced it, desegregated education has a positive effect on their academic outcomes. This is an especially important finding with regard to black students. Both the scholarly and popular literatures are replete with claims that desegregation fails to improve the academic achievement of black students. These findings show that black students educated in desegregated learning environments do better than their comparable peers schooled in segregated ones. I believe that reason for previous studies' ambiguous conclusions regarding the academic benefits of desegregated schooling is that other scholars typically did not examine if second generation segregation undermined the benefits of first generation desegregation as I have done in this study.

The likely intensification resegregation of CMS that will accompany the return to neighborhood schools in the fall of 2002 does not bode well for the educational prospects of black children. Based on the corpus of social science evidence on this topic, we can anticipate that racial antagonisms and race gaps in achievement and attainment will grow as the district

returns to segregated neighborhood schools. Because CMS's vaunted desegregation plan was considered to be one of the most successful in the nation, the prospect of a return to segregated schools and the likely educational and social sequela to this trend are telling indications of just how far this nation still is from fulfilling Swann's mandate to provide equal educational opportunities for all children.

## Endnotes

1. More detailed versions of this paper's argument appear in "Subverting Swann: First- and Second-Generation Segregation in the Charlotte-Mecklenburg Schools", published in summer, 2001 in the American Educational Research Journal (Volume 38 (2): 215-252); and in an unpublished manuscript about middle school outcomes entitled, "How Middle School Segregation Contributes to The Race Gap in Academic Achievement" (2001b). In these articles, readers will find a more complete description of the methods, data, analyses, and results, including tables presenting full results of the statistical analyses. The research reported in this paper is supported by grants from the National Science Foundation (RED-9550763) and the Ford Foundation (985-1336). I wish to thank George Farkas, Willis Hawley, Chandra Muller, Meredith Philips, Kathryn Schiller, Stephen S. Smith, Elizabeth Stearns, Richard Valencia, and Anne Velasco for their helpful comments on earlier drafts. Debbie Agata, Jan de Leeuw, and Ita Kreft provided valuable statistical advice and assistance for which I am deeply grateful. Stephanie Southworth-Brown prepared the tables presenting projected racial balance of CMS schools.

2. In 1997, white plaintiffs (Capacchione et al. 1999) sued the Charlotte-Mecklenburg Schools seeking a declaration of unitary status, an end to mandatory desegregation, and an end to any race-conscious policies. Shortly thereafter, the original Swann plaintiffs, perceiving the lawsuit as a threat to the Swann ruling, intervened by reactivating their original case against CMS. Two young black families with children currently enrolled in CMS, the Belks and the Collins families, joined the Swann plaintiffs. Consequently, the case is also known as Belk et al.1999. Because the two lawsuits mirrored each other—the whites requesting a declaration of unitary status and the blacks requesting a thorough implementation of the original Swann order to desegregate—the judge consolidated the two cases (Swann/Belk and Capacchione) into one. In 1999, I served as an expert witness for the defendant in both cases, the Charlotte-Mecklenburg Schools.

Several months after filing the lawsuit, the Capacchione family moved from Charlotte, NC to Torrance, CA. In order to sustain the lawsuit's viability, several other white families joined the lawsuit as plaintiff interveners. Although the judge, Robert Potter, was a citizen-activist against mandatory busing before President Reagan appointed him to the federal bench, he did not recuse himself from the case. He retired from the bench on December 31, 2000 (Mickelson 2001a). One of the white plaintiff-interveners was elected to the school board in November 2001. In May 2002 the Superintendent, Eric Smith, resigned to take a position in Maryland. To ensure continuity during the transition to neighborhood schools in August 2002, the school board named James Pughsley, Smith's Deputy Superintendent, as the Superintendent.

3. This pattern of resegregation by track within a desegregating school system is also noteworthy given its endurance. In 1973, two years after the Swann decision, the administration reported to the CMS school board on the status of desegregation efforts. The report noted that, among other problems arising from efforts to implement the court's order, "ability-grouping" [quotations in the original] too frequently is de-facto resegregation" (CMS 1973; 14). William Poe, the chair of the school board in 1975, explained to me why the district began "ability grouping" when it began desegregating. He drew an example from the desegregation of West Charlotte, the flagship high school of the black community. Poe stated that when students from the prosperous white Myers Park neighborhood desegregated West Charlotte, an optional Open Program (a rigorous college prep track) was instituted to encourage whites to participate in desegregation

(Poe 1998). Poe recalled that “(the Open Program) was created as an impetus for whites to enroll their kids in the school. The school board viewed it as a sop to white people.” He explained that the implementation of this track necessitated the hiring of new chemistry, calculus, and foreign language teachers at West Charlotte. According to Poe, “Whites needed to be assured that their children would get the same quality of education they had received at Myers Park High, not just the culinary and cosmetology classes offered to blacks at West Charlotte.”



## Detailed Methodological Appendix

Design Much of the prior research on the academic outcomes of desegregation and segregation suffers from a number of methodological problems including small sample size, voluntary participation in desegregation, the brief duration of the treatment, and an absence of high-quality data as controls for intervening forces such as family background and individual and school characteristics (Cook, 1984; Crain & Mahard, 1983; Philips, 1998; Wells & Crain, 1994).

This study does not suffer from those shortcomings. It employs a longitudinal measure of each student's exposure to first-generation (building-level elementary and middle school segregation) and second-generation (academic track placement) segregation. The respondents were taken from a random sample of 1996-1997 grade 8 English classes stratified by track and drawn from every middle school in an entire school system, the Charlotte-Mecklenburg Schools. There is little selection bias in students and none in schools because all of the middle schools in CMS participated. In these ways, the design offers a distinct advantage over those studies employing national samples. Also, by focusing on a single district, the study views middle schools—their processes and practices—and the students—their demographic distributions across schools and achievement outcomes—in their interdependent social, educational, and political contexts, something that is impossible with representative national samples.

Sample At each school, at least one class from each of the various English track levels was included in the 50 percent random sample of classes. All students in each selected class were surveyed. To encourage high levels of participation among students in selected classes, the names of respondents were entered into a lottery for cash prizes. On average, 90 % of students enrolled in the selected English classes participated in the survey.

Data were obtained for 1833 high school students, 611 (33.3 %) were black, 1119 (61.1 %) were white, and 103 (5.6 %) were Asian, Hispanic, and Native American. A total of 2730 middle school students participated in the survey, 1014 (37.1 %) of whom were black, 1538 (56.3 %) were white, and 178 (6.5 %) were Asian, Hispanic, and Native American. Because there are so few Hispanic, Asian, and Native American respondents, only data from black and white students are analyzed. The sample of respondents also excludes CMS students who were enrolled in exceptional children's classes, special programs, or special schools. Because of the disproportionate number of black students in special education classes and special programs, the proportion of black students in the nonspecial education classes and regular high schools was lower than the overall district's percent black (41 %). The sample is, therefore, biased toward *underestimating* the effects of segregated schooling on black children's achievement.

### Data

This study relies primarily upon survey data collected in 1997. The survey instrument ascertained students' attitudes toward education and the future, their educational and occupational aspirations, their demographic characteristics (age, race, gender), their family background (mother's and father's educational and occupational attainment), and their self-reported effort. Multiple measures of achievement and the history of prior schools attended by each student were matched by ID numbers to students' survey responses. Finally, CMS district records provided indicators of school-level variables such as proportion of teachers with full licensure and with advanced degrees.

Aggregate school system data and qualitative data from in-depth interviews with educators, parents, and civic leaders supplemented the survey data. Additional data includes CMS documents and reports, expert witness reports from the 1999 desegregation trial, and a set of phone interviews conducted from December, 1998 through May, 1999 with CMS secondary

principals, senior administrators, and several current and former school board members. These interviews were designed to elicit information about the formal and informal policies and practices associated with tracking, race, and desegregation, and about the allocation of students to specific courses in CMS schools.

## **Variables**

### *Dependent Variables:*

End of Course (EOC) and End of Grade (EOG Scores). Two measures of achievement are used in this analysis. Middle students' End-of-grade test scores in reading, and an EOC composite score based on Algebra I, US History, and 10<sup>th</sup> Grade English EOC scores. EOGs and EOCs are a standardized measure of achievement used since the early 1990s in accordance with North Carolina's statewide standards-based reform. These particular measures are problematic when used as indicators of an individual student's achievement (in contrast to their use as indicators of school-level achievement, the purpose for which such tests were designed). However, because standardized test scores are, as Hawley (2002) observes, the current "coin of the realm", students' North Carolina standardized test scores are used as indicators of their achievement.

Track placement. For middle school students track placement is coded regular (1), academically gifted (AG) (2), or pre-international baccalaureate (IB) (3). For high school student's track placement is coded (1) regular, (2) advanced, (3) academically gifted (AG), and (4) advanced placement/international baccalaureate (IB).

### *Independent Variables:*

Race. Because there are such small numbers of Asians, Hispanics, and Native Americans in the sample, the analyses are confined to Blacks (1) and Whites (0). Whites are the excluded category in the regression analysis.

Gender. Each student's gender is either female (1) or male (0). Males are the excluded category in the regression analyses.

Family background. Using factor analysis, a composite measure of family background was created from indicators of mother's and father's educational and occupational attainment. Parents' occupational attainments are coded with the Nakao-Treas Occupational Prestige Index (1995). Education attainment scores range from (1) less than high school to (5) graduate school degree.

Cultural capital. Exposure to high status culture enhances student achievement because the formal curriculum reflects elite cultural forms, tastes, and distinctions. Students were asked whether they had received private art, music, or dance lessons during the previous three years. This construct captures students' access to high-status cultural resources that are distinct from socioeconomic status (yes = 1; no = 0). Although cultural capital is a complex and nuanced social construct that includes much more than private art, music, and dance lessons, this measure reflects families' conscious attempts to explicitly expose their children to high culture, which is one important aspect of cultural capital and the formal curriculum (Bourdieu, 1977, 1987; Bourdieu & Passeron, 1977; DiMaggio, 1982; DiMaggio & Mohr, 1985; Dumais, 2002; Farkas, 1996; Lamont & Lareau, 1988).

Effort. This variable reflects students' self-reports regarding the amount of effort they usually put into their schoolwork. Choices range from "just enough to get by" (1) to "as much effort as possible all the time" (5).

Academic-oriented Peer Group. The proportion of students' peer group that will enter a 4-year college after high school (rather than work full time, enter community college, enter the military, etc) indicates the strength of the academic orientation of his or her peer group.

Prior achievement. Middle school students' 2<sup>nd</sup> grade California Achievement Test (CAT) Total Language Battery score and high school students' 6<sup>th</sup> grade California Achievement Test (CAT) Total Language Battery score are used in the regression analyses as a measure of their prior achievement. To control for an elementary school's effects on CAT scores, students' scores were centered on each student's 2<sup>nd</sup> or 6<sup>th</sup> grade school's mean on the CAT Total Language Battery. The actual variable used in the analyses is the respondent's score transformed into a deviation from his or her grade 2grade /6 elementary school's CAT mean.

Abstract attitudes toward education. Abstract attitudes are based on the core beliefs of the American Dream: that opportunity through education exists for everyone, that education is the solution to most individual and social problems, and that one's educational credentials are evaluated by the larger society according to merit. Abstract attitudes are measured by a series of Likert scaled belief statements scored from strongly agree (5) to strongly disagree (1). The higher the score, the more positive are the student's abstract attitudes. (For a fuller explication of abstract and concrete attitudes, see Mickelson, 1990).

Concrete attitudes toward education. Concrete attitudes are grounded in peoples' material realities, particularly the ways that the forces of race, ethnicity, and class shape their experiences in the opportunity structure. Adolescents' concrete attitudes are expressions of their lived cultures – cultures produced in ongoing interactions with other societal institutions on terrains wherein class, race, and gender meanings and conflicts are lived out. Concrete attitudes are influenced by family and community experiences with education and opportunity. Whereas abstract attitudes cannot predict achievement because they do not vary across groups, concrete attitudes do predict academic outcomes. As such, they are useful windows into adolescents' perceptions of their own location in the opportunity structure and they suggest how the perceptions influence respondents' educational outcomes. Like abstract attitudes, concrete attitudes are measured by a series of Likert scaled belief statements scored from strongly agree (5) to strongly disagree (1). The higher the score, the more positive are the student's concrete attitudes (see Appendix I for exact wording of the belief statements).

Proportion of elementary education in a segregated African American school. This variable measures students' exposure to school-level (first-generation) segregation. Using information on students' educational histories in CMS, each school a student attended was coded for its racial composition in the year when the student attended it. An indicator of exposure to first generation segregation was developed by counting the total years (K-6) a student spent in a racially-isolated Black elementary school in CMS, then calculating that sum as a proportion of total years spent by that student in CMS elementary schools. In creating this construct, the convention used by the school district was followed: a school was considered to be racially-isolated Black if its minority enrollment exceeded by more than 15% the systemwide Black elementary school enrollment in a given year.

Middle school percent minority concentration. In the EOG regression analyses, middle school percent minority concentration is used as an indicator of first-generation segregation. This variable measures the minority concentration in a middle school's student body.

Magnet. This variable indicates whether the student's middle school is a magnet school (1 = yes; 0= no). CMS magnet schools receive more resources than nonmagnet schools and are widely thought to "cream" academically able students and their (active) parents from nonmagnet programs.

Percent Gifted This measure represents the percentage of all students in the respondent's high school who are designated as gifted or talented. CMS provides additional teacher resources to schools according to the size of their gifted populations. The percentage gifted in the student population also may reflect the academic climate of the high school itself.

### **Analyses**

The analyses of the data proceeded in several steps. First, because students are nested within schools, the possible relationship between students' outcomes and the characteristics of schools that they attended was explored. Multilevel modeling was used to estimate individual students' outcomes as a function of school-level factors and characteristics of students within the schools (Kreft & de Leeuw, 1998). To model the between-school and within-school components of the explained variance of the response variables, multilevel regressions with random intercepts were performed, using STATA, on all dependent variables (Rabe-Hesketh & Everitt, 1999). Second, racial class composition by track in racially identifiable white, racially balanced, and racially identifiable black schools was explored with a sample of the tree type so schools in the Charlotte area. This procedure permitted me to evaluate if resegregation by track was taking place. Third, I examined projected student and staff demographics by school and compared them to those of the 2001 school year.

Table 1 Coefficients of Multilevel Regression Models of School Achievement for CMS Middle School Students (EOG Reading); and for CMS High School Students (EOCFactor), 1996 –1997.

Variables	Middle School EOGReading		High School EOCFactor	
	$\beta$	S.E.	$\beta$	S.E.
Race (African American)	-2.347***	.329	-5.331**	2.188
Gender (Female)	.778**	.276	-9.780***	1.917
Family Background	.722***	.150	.760	.996
Cultural Capital (Yes)	.553*	.285	2.342	1.980
Effort	.716***	.152	2.053	1.051
Prior Achievement	.104***	.003	.428**	.036
Magnet (Yes)	-.520	.632	2.576	1.920
Concrete Educational Attitudes	.937***	.134	3.253*	1.697
Abstract Educational Attitudes	.105	.138	-2.258	2.239
% Segregated Elementary Education	-.018**	.005	-.167**	.054
% Middle School Black Concentration	-.054**	.019	--	--
Academic-oriented Peer Group	--	--	31.881**	10.964
College Track	2.638***	.279	11.682**	2.397
% Gifted	--	--	-.282	.778
$\rho$ (Rho)	.046		.003	
Constant	157.652		167.877	
N of Observations	1748		1313	
N of Groups	24		11	

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

-- variable not in model

Table 2 Racial Composition of Selected CMS Secondary Academic Courses by Track and School, 1996-1997

	<i>Percent Black</i>			
	School	Academically Gifted	Regular	Exceptional Children
<i>8<sup>th</sup> Grade English</i>				
South Charlotte (RIW)	11	4	16	36
Carmel (D)	35.3	2	40.6	72.7
Cochrane (RIB)	78	0	84.8	84.5
<i>8<sup>th</sup> Grade Mathematics</i>				
South Charlotte (RIW)	11	3	20.6	13.2
Carmel (D)	35.3	1.5	23.5	69
Cochrane (RIB)	78	0	78.1	86.3
	School	Advanced Placement	Regular	Exceptional Children
<i>12<sup>th</sup> Grade English</i>				
North Mecklenburg (RIW)	21.6	5.1	35.2	33.3
Myers Park (D)	35.1	2.5	66.5	80.0
Garinger (RIB)	63.2	57.1	68.8	79.1
<i>Biology</i>				
North Mecklenburg (RIW)	21.6	0.0	36.2	37.4
Myers Park (D)	35.1	1.9	76.0	100.0
Garinger (RIB)	63.2	0.0	74.8	80.0

RIW = racially-isolated white      D = desegregated      RIB = racially-isolated black

**Table 3**  
**Selected Characteristics of CMS Middle Schools, 2001 and 2003 (Projected)**

Middle School	% Students			% Students			% Students			% Teachers		% Teachers	
	Black		% Diff.	White		% Diff.	Free/Red Lunch		% Diff.	<1 yr exp.		Mast Deg	
	2001*	2003	2001-03	2001	2003	2001-03	2001	2002	2001-02	2001	2002	2001	2002
Albemarle Road	53.8	54.0	0.4	34.2	29.0	-15.2	48.3	49.0	1.4	26.5	***	25.0	***
Alexander	24.3	27.0	11.1	71.8	63.0	-12.3	26.2	19.0	-27.5	9.6	***	34.2	***
Alexander Graham	45.4	27.0	-40.5	52.4	69.0	31.7	39.3	28.0	-28.8	8.3	***	35.4	***
Bradley	42.1	19.0	-54.9	52.6	76.0	44.5	31.7	13.0	-59.0	11.1	***	31.7	***
Carmel	32.3	29.0	-10.2	60.4	59.0	-2.3	30.5	30.0	-1.6	7.6	***	37.8	***
Cochrane	73.1	73.0	-0.1	6.4	9.0	40.6	69.0	68.0	-1.4	20.4	***	24.0	***
Coulwood	56.0	45.0	-19.6	35.7	43.0	20.4	55.1	48.0	-12.9	13.9	***	23.6	***
Crestdale	9.7	14.0	44.3	84.4	77.0	-8.8	6.3	14.0	122.2	10.0	***	35.0	***
Davidson IB	18.4	10.0	-45.7	77.4	80.0	3.4	7.5	5.0	-33.3	9.1	***	40.9	***
Eastway	61.1	62.0	1.5	14.4	17.0	18.1	77.0	73.0	-5.2	24.6	***	66.1	***
Hawthorne	65.2			10.8			72.8			25.0	***	30.5	***
JT Williams	51.6	89.0	72.5	40.8	4.0	-90.2	24.2	76.0	214.0	10.9	***	32.7	***
Kennedy	49.8	47.0	-5.6	39.7	38.0	-4.3	32.3	41.0	26.9	17.5	***	22.2	***
Marie G Davis	43.4	88.0	102.8	48.7	7.0	-85.6	23.8	81.0	240.3	17.0	***	34.0	***
Martin	62.6	66.0	5.4	29.9	19.0	-36.5	38.3	54.0	41.0	31.7	***	20.7	***
Mcclintock	36.7	39.0	6.3	50.5	46.0	-8.9	36.6	40.0	9.3	25.4	***	26.8	***
Northeast	31.6	24.0	-24.1	61.8	70.0	13.3	30.7	28.0	-8.8	31.6	***	34.9	***
Northridge	58.4	66.0	13.0	33.3	23.0	-30.9	33.7	47.0	39.5	23.7	***	27.6	***
Piedmont Open	38.0	54.0	42.1	39.5	34.0	-13.9	45.8	51.0	11.4	17.5	***	33.3	***
Quail Hollow	33.8	30.0	-11.2	54.6	50.0	-8.4	33.8	42.0	24.3	13.5	***	32.4	***
Randolph	51.1	48.0	-6.1	43.3	40.0	-7.6	44.8	47.0	4.9	15.9	***	20.6	***
Ranson	68.3	71.0	4.0	21.1	17.0	-19.4	51.1	58.0	13.5	25.3	***	22.6	***
Sedgefield	46.4	54.0	16.4	22.7	25.0	10.1	67.7	61.0	-9.9	13.2	***	26.4	***
Smith	48.6	34.0	-30.0	35.7	50.0	40.1	49.3	34.0	-31.0	15.2	***	21.2	***
South Charlotte	11.7	8.0	-31.6	79.9	83.0	3.9	8.9	8.0	-10.1	5.9	***	29.4	***
Spaugh	56.1	84.0	49.7	31.5	10.0	-68.3	50.8	81.0	59.4	16.7	***	27.0	***
Wilson	73.2	65.0	-11.2	20.0	21.0	5.0	75.5	75.0	-0.7	16.9	***	35.5	***

\* Data were collected at the end of each year listed

\*\* New School

\*\*\* Data will be available in July 2002

**Table 3 (Continued)**  
**Selected Characteristics of CMS Middle Schools, 2001 and 2003 (Projected)**

Middle School	% Students at/above			% Students			% Students		
	ABC Level III		% Diff.	EOG/Read		% Diff.	EOG/Math		% Diff.
	2001	2003	2001-03	2001	2003	2001-03	2001	2003	2001-03
Albemarle Road	65.7	***	***	65.3	64.7	-0.9	68.1	70.3	3.2
Alexander	79.8	***	***	77.5	81.8	5.5	78.9	86.0	9.0
Alexander Graham	76.0	***	***	73.5	80.9	10.1	79.3	88.2	11.2
Bradley	73.9	***	***	81.2	73.5	-9.5	77.9	80.3	3.1
Carmel	82.0	***	***	71.2	80.2	12.6	83.4	84.9	1.8
Cochrane	47.3	***	***	44.8	52.2	16.5	49.3	60.6	22.9
Coulwood	65.2	***	***	59.2	62.0	4.7	69.8	73.5	5.3
Crestdale	94.1	***	***	93.2	93.2	0.0	94.8	95.8	1.1
Davidson IB	96.0	***	***	96.7	98.7	2.1	94.6	100.0	5.7
Eastway	57.9	***	***	54.2	53.9	-0.6	66.6	68.2	2.4
Hawthorne	55.4	***	***	50.4	53.2	5.6	55.8	69.5	24.6
JT Williams	88.6	***	***	85.4	87.1	2.0	90.9	90.2	-0.8
Kennedy	78.5	***	***	77.2	80.1	3.8	81.6	86.9	6.5
Marie G Davis	91.2	***	***	91.4	92.6	1.3	93.6	95.3	1.8
Martin	69.8	***	***	65.2	73.3	12.4	71.3	76.8	7.7
Mcclintock	77.6	***	***	76.1	77.1	1.3	75.6	82.6	9.3
Northeast	82.0	***	***	75.7	78.9	4.2	83.4	87.2	4.6
Northridge	71.9	***	***	70.1	74.3	6.0	73.6	80.7	9.6
Piedmont Open	76.9	***	***	72.2	74.8	3.6	79.7	83.1	4.3
Quail Hollow	73.9	***	***	73.2	73.9	1.0	76.7	80.4	4.8
Randolph	69.0	***	***	64.6	70.0	8.4	70.3	75.2	7.0
Ranson	57.2	***	***	55.7	62.6	12.4	54.1	67.7	25.1
Sedgefield	62.5	***	***	56.8	61.1	7.6	61.9	75.3	21.6
Smith	73.9	***	***	69.1	73.5	6.4	78.7	82.9	5.3
South Charlotte	92.4	***	***	91.4	93.7	2.5	92.8	95.8	3.2
Spaugh	78.4	***	***	73.8	75.7	2.6	79.9	85.9	7.5
Wilson	48.9	***	***	44.9	54.8	22.0	56.4	69.3	22.9

\* Data were collected at the end of each year listed

\*\* New School

\*\*\* Data will be available in July 2002



**Table 4**  
**Selected Characteristics of CMS High Schools, 2001 and 2003 (Projected)**

High School	% Students			% Students			% Students		
	Black		% Diff.	White		% Diff.	FR Lunch		% Diff.
	2001*	2003	2001-03	2001	2003	2001-03	2001	2003	2001-02
Butler	34.8	24	-31.0	59.2	71	19.9	16.2	17	-4.9
East Meck	31.8	38	19.5	60	50	-16.7	15.8	25	-58.2
Garinger	64.2	67	4.4	18.6	14	-24.7	38.6	48	-24.4
Harding	52.6	61	16.0	37.2	29	-22.0	17.4	32	-83.9
Hopewell**	**	26	**	**	69	**	**	11	**
Independence	40.7	46	13.0	48.2	42	-12.9	22.3	28	-25.6
Myers Park	29.3	27	-7.8	63.8	65	1.9	16.5	20	-21.2
North Meck	24.3	27	11.1	71.2	66	-7.3	11.8	16	-35.6
Northwest Arts	44.1	54	22.4	52.8	41	-22.3	24.8	43	-73.4
Olympic	46.4	43	-7.3	33.4	41	22.8	26.5	26	1.9
Providence	15	10	-33.3	77.4	82	5.9	8.2	6	26.8
South Meck	25.5	15	-41.2	63.7	68	6.8	14.3	15	-4.9
Vance	42.6	54	26.8	47.9	33	-31.1	16.7	25	-49.7
Waddell**	**	**	**	**	**	**	**	**	**
West Charlotte	72.1	84	16.5	12.3	6	-51.2	37	56	-51.4
West Meck	57.1	63	10.3	34	28	-17.6	32.2	40	-24.2

\* Data were collected at the end of each year listed

\*\* New School

\*\*\* Data will be available in July 2002

**Table 4 (Continued)**  
**Selected Characteristics of CMS High Schools, 2001 and 2003 (Projected)**

High School	\$ Students at/Above ABC'S Level III			% Students EOC Algebra I			% Students EOC Eng 1		
	2001	2002	2001-02	2001	2002	2001-02	2001	2002	2001-02
Butler	60.5	***	***	45.4	55.8	22.9	71.8	71	-1.1
East Meck	64.7	***	***	55.2	56	1.4	74.8	73.5	-1.7
Garinger	34	***	***	25.2	42.1	67.1	53.8	54.8	1.9
Harding	64.5	***	***	32.6	52.3	60.4	77.5	79.4	2.5
Hopewell**	**	***	***	**	48.6	**	**	70.8	**
Independence	59.8	***	***	41.8	46.2	10.5	67.6	69.4	2.7
Myers Park	66.8	***	***	34.8	43.4	24.7	74.4	76.9	3.4
North Meck	64.6	***	***	39.7	46	15.9	73.3	76.8	4.8
Northwest Arts	62.6	***	***	42.3	48.8	15.4	78.7	74.6	-5.2
Olympic	41.6	***	***	24.3	39	60.5	50.5	64	26.7
Providence	77.2	***	***	57.4	57.5	0.2	80.1	83.1	3.7
South Meck	65.3	***	***	55.3	62.1	12.3	73.3	75.2	2.6
Vance	57.7	***	***	28	33.3	18.9	71.5	73.6	2.9
Waddell**	**	***	***	**	29.8	**	**	50.1	**
West Charlotte	26.9	***	***	47.8	33.7	-29.5	50.8	53.3	4.9
West Meck	47.2	***	***	16	49.3	208.1	42	48.7	16.0

\* Data were collected at the end of each year listed

\*\* New School

\*\*\* Data will be available in July 2002

**Table 4 (Continued)**  
**Selected Characteristics of CMS High Schools, 2001 and 2003 (Projected)**

High School	% Students		
	EOC Hist		% Diff.
	2001	2002	2001-02
Butler	52.9	60.4	14.2
East Meck	64.4	60.4	-6.2
Garinger	27.8	20.8	-25.2
Harding	49.4	59.5	20.4
Hopewell**	**	55.6	**
Independence	45.3	47.3	4.4
Myers Park	60.1	61.2	1.8
North Meck	62	56.1	-9.5
Northwest Arts	58.5	65.7	12.3
Olympic	37.3	48.5	30.0
Providence	72.9	73.5	0.8
South Meck	65.3	65.5	0.3
Vance	53.5	50.5	-5.6
Waddell**	**	24.8	**
West Charlotte	48.4	16.2	-66.5
West Meck	22.9	38.2	66.8

\* Data were collected at the end of each year listed

\*\* New School

\*\*\* Data will be available in July 2002

Figure 1  
2nd Grade Language Battery and  
English Track Grade 8: Black Students

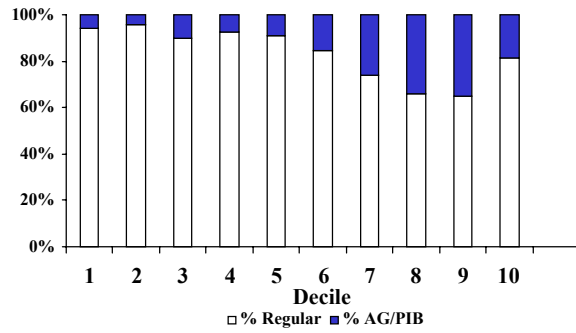


Figure 2  
2nd Grade Language Battery and  
English Track Grade 8: White Students

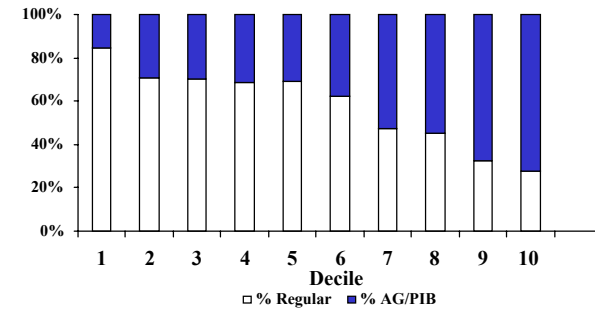


Figure 3  
6th Grade Language Battery and  
English Track Grade 12: Black Students

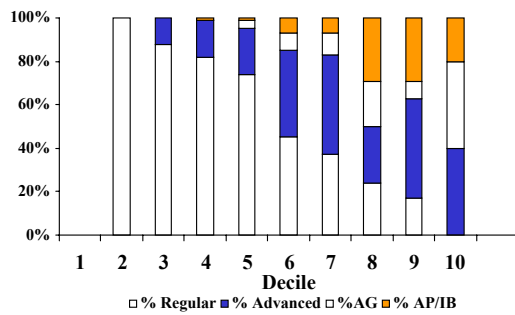
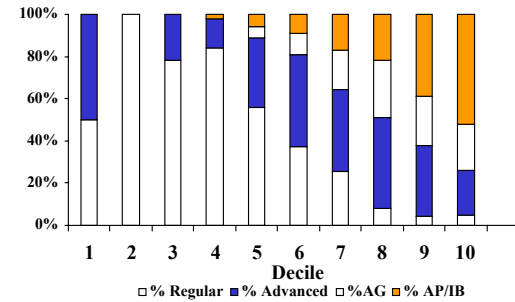
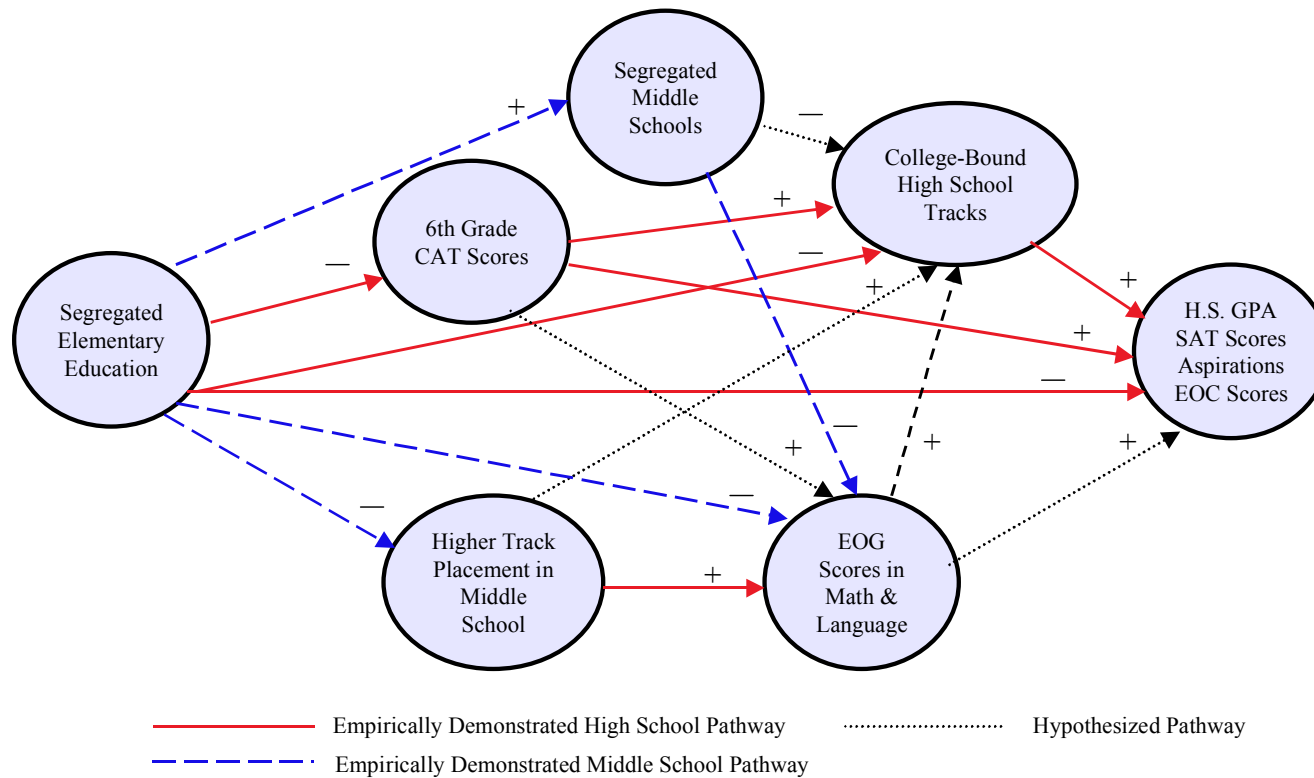


Figure 4  
6th Grade Language Battery and  
English Track Grade 12: White Students



**FIGURE 5**  
**HYPOTHESIZED SCHEMATIC MODEL OF THE EFFECTS OF**  
**SEGREGATION FROM ELEMENTARY THROUGH HIGH SCHOOL**  
**ON ACADEMIC OUTCOMES OF CMS STUDENTS**



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