Ahn, Thomas and Jacob Vigdor. “Analysis of the Effectiveness of Alternative Schooling in North Carolina.” Project funded by the NIDA Transdisciplinary Prevention Research Center.

Alternative schools are broadly defined as schools of 'second chance,' or 'last resort,' where students who do not perform well or are not accepted into the traditional mainstream academic classroom setting, due to prior dropout, suspension, expulsion, pregnancy, substance abuse problems, learning disabilities or other reasons, are offered education and training. Currently there are over 70 such institutions in North Carolina, with each LEA having one to three schools.

Previous studies done on alternative schooling have centered on surveys sent out to school administrators, teachers, and students to gauge their opinions and impressions about the effectiveness of the program. While these provide insight into how persons associated with alternative schooling value these schools, I believe we can benefit from a more detailed look at the operation of these schools and the student outcomes they generate.


This set of two studies investigates the high school and college outcomes of middle school students who participated in a summer residential program for the academically talented, using a control group of qualified students who did not attend such a program. Through their participation in a 7th grade talent search in 1996-97 the students qualified to attend a summer program at Duke University’s Talent Identification Program (TIP). Of the North Carolina students in this group, 141 (72 female) attended at least one summer program in middle school (7th and 8th grades). The control group consisted of 2,649 students from the state of North Carolina who had qualified for but did not attend a summer program at TIP in middle school. The two groups did not differ significantly on gender, parent education level, or ethnicity. For Study 1, the students’ high school end-of-course (EOC) standardized test scores were obtained from state public school
records and compared across the two groups in a series of multiple regression analyses by subject area. Results showed that the effects of summer program on high school achievement appear to depend on the subject area and the students’ level of qualification. For Study 2, surveys were mailed to program participants (N=92) and non-participants (N=184) from the same talent search cohort to assess students’ high-school coursetaking, GPA, college major, and educational aspirations. Some associations were found between program participation and later academic choices.


Underachievement has been a widely discussed topic in the gifted education literature, but research to date has been primarily qualitative in nature and has focused primarily on intra- and interpersonal characteristics of individual students rather than on the overall extent of the phenomenon in question (Kaskaloglu, 2003; McCoach & Siegle, 2003). Underachievement is “a severe discrepancy between expected achievement (as measured by standardized achievement test scores or cognitive or intellectual ability assessments) and actual achievement (as measured by class grades and teacher evaluations)” (McCoach & Siegle, p. 157). This definition suggests that underachievement may be described using evidence of high ability together with evidence of correspondingly lower-than-expected performance in the classroom. Therefore, this study seeks to quantify the prevalence of academic underachievement among a population of students identified as highly academically able, by combining data collected by the Duke University Talent Identification Program (Duke TIP) with student-level data from the North Carolina Education Research Data Center (NCERDC). Duke TIP data will enable prediction of expected achievement, while NCERDC student-level data will provide records of actual achievement as well as additional relevant demographic data. Documenting the prevalence of underachievement among academically able students will help determine future research directions, both at Duke TIP and within the broader field of gifted education. Additionally, information about the scale and scope of this problem may be applicable to future educational policy decisions affecting gifted students.


We seek data to complete a dissertation project that creates, implements, and evaluates a decision support system, SmartChoice, designed to assist parents whose children are eligible to exit a substandard school under provisions of NCLB. This web-based program will use data provided by the Data Center to develop an algorithm to predict which schools in Charlotte-Mecklenburg (CMS)
are most likely to maximize the child's academic growth given a parent's preferences and the schools' track record with children with similar demographic characteristics, skills, interests, and needs. Trained volunteers will work with parents in Charlotte's predominantly low-income West Boulevard Corridor to use the system and interpret the results. Data collected during the project will enable us to determine the key factors that predict whether an eligible family will exit the substandard schools, the factors most important for low-income parents in choosing a school, and whether the alternate schools offered by CMS are likely to increase the student's academic growth.


Charter schools have been one of the fastest growing forms of school choice during the past decade. While school voucher programs have faced legal challenges and political opposition, charter school programs have been adopted in 39 states and the District of Columbia. As of fall 2002, 2,699 charter schools were in operation serving approximately 575,000 students nationwide.

Charter school programs are intended not only to increase student learning, but also to promote educational innovation, diversification of educational programs and learning environments, and expanded opportunities for teachers to become more involved in program design and school governance. Nonetheless, improving student learning is among the most important goals of charter school programs, and scholars and policy makers alike have been awaiting evaluations of how charter schools have affected student achievement.

In this paper, we use an extensive, individual level panel data set to evaluate the impact of charter schools in North Carolina on the math and reading performance of students in Grades 4 through 8. We use student level fixed-effects models together with auxiliary analyses to address three questions:

1. Do students who attend charter schools make larger achievement gains, on average, than they would have in the absence of charter schools?
2. Do students who attend traditional public schools located near charter schools, and thus subject to competition from charter schools, make larger achievement gains than they would have in the absence of charter schools?
3. What accounts for quality differences between charter schools and traditional public schools?

Using an individual panel data set to control for student fixed effects, we estimate the impact of charter schools on students in charter schools and in nearby traditional public schools. We find that students make considerably smaller achievement gains in charter schools than they would have in public schools. We also conclude that the large negative estimates of the effects of attending a charter schools are neither substantially biased, nor substantially
offset by positive impacts of charter schools on traditional public schools. Finally, we find suggestive evidence that about 1/3 of the negative effect of charter schools is attributable to high rates of student turnover.


Using an individual panel data set to control for student fixed effects, we estimate the impact of charter schools on students in charter schools and in nearby traditional public schools. We find that students make considerably smaller achievement gains in charter schools than they would have in public schools. The large negative estimates of the effects of attending a charter school are neither substantially biased, nor substantially offset by positive impacts of charter schools on traditional public schools. Finally, we find suggestive evidence that about 30 percent of the negative effect of charter schools is attributable to high rates of student turnover.


Using evidence from Durham, North Carolina, we examine the impact of school choice programs on racial and class-based segregation across schools. Theoretical considerations suggest that how choice programs affect segregation will depend not only on the family preferences emphasized in the sociology literature but also on the linkages between student composition, school quality and student achievement emphasized in the economics literature, and on the availability of schools of different types. Reasonable assumptions about how these factors differ for students of different races and socio-economic status suggest that the segregating choices of students from advantaged backgrounds are likely to outweigh any integrating choices by disadvantaged students. The results of our empirical analysis are consistent with these theoretical considerations. Using information on the actual schools students attend and on the schools in their assigned attendance zones, we find that schools in Durham are more segregated by race and class as a result of school choice programs than they would be if all students attended their geographically assigned schools. In addition, we find that the effects of choice on segregation by class are larger than the effects on segregation by race.


Durham, NC, is a large, countywide district that, like many urban districts across the country, combines geographic attendance zones with a variety of parental choice programs. Using administrative data that includes addresses for
individual students, we examine whether the likelihood of opting out of one’s geographically assigned school varies across different groups defined by race, parent education level, and student achievement. We also examine how the characteristics of a student’s geographically assigned school and the characteristics of nearby school choice options influence the likelihood of opting out. Finally, we compare the peer composition in neighborhood schools to what the peer composition in those schools would be if all students attended their neighborhood schools. We find that school choice programs in Durham have allowed higher achieving schools to cream-skim educationally advantaged students from many neighborhood schools. Although, cream-skimming has only small effects on the peer composition of non-choosers on average, schools with concentrations of disadvantaged students and schools located near choice schools attractive to high achievers are particularly hard hit by cream-skimming.


Longitudinal self-report data from 4,071 students are used to examine the degree to which students’ perceptions of their social environments (people and places) are associated with changes in three school success outcomes: school engagement, trouble avoidance, and grades. Specific variable dimensions within the neighborhood, peer, and family domains had significant effects on one or more of these school outcomes. Implications of the findings for further research and intervention practice are discussed, including the availability of a Web-based resource for linking these findings with evidence-based intervention and prevention strategies.


The Andrew W. Mellon Foundation is trying to understand how low-income students and their parents make decisions about college and how their pre-college characteristics interact with the college environment to shape outcomes, including graduation rates. Please see attached “General Notes” for a fuller description of motivation and guiding questions. The data (including personal identifiers), to which only the individuals specified in the attached document “College & Beyond Database,” below, will have access, will be stored on secure networked drives in Mellon’s offices in accordance with the attached “Information Security Plan.” The project is part of the larger College & Beyond study more fully described in the attachment below. The stripped data will become part of the expanded College & Beyond database. Procedures governing that database are also described in the “College & Beyond” section below.
The project has been ongoing since October 2005. The bulk of the last year was spent collecting data for the project from other universities. Around a quarter of the data was just received in the last few months. Currently, the project is in the preliminary analysis stage. Early results have shown a strong, positive, monotonic relationship between graduation rates and income quartiles. This correlation holds across race, ethnicity, and SAT/ACT scores. Also, some work has been done employing hazard rate analysis to observe the determinants of the probability of students dropping out across semesters.

Bowen, William. “Expanded College and Beyond Database.” Project funded by the Mellon Foundation.

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Observation suggests that learning from fellow teachers is an important part of becoming a good teacher. In fact, several states including North Carolina have implemented teacher mentoring as an integral part of education reform. However, it is difficult to identify the effect of learning from fellow educators on teacher effectiveness. The unique size and scope of the North Carolina Education Research Data Center data, allows one to identify high-ability teachers by linking student test score data with teacher personnel records.
The data also allow one to track teachers over time as they move from one school to another. Using the student End of Grade testing data, we hope to observe the effect of their arrival at or departure from a school on the student achievement gains in the classes of their colleagues. Understanding the size of such spillovers between teachers will aid researchers and policy makers in understanding the total importance of good teachers and could have strong implications for the effects on total student achievement of mixing teachers of different ability levels and backgrounds.


Do teachers prefer more homogenous classrooms? How does the distribution of student performance affect teachers’ decisions to change schools? This project will use exceptionally rich data housed at the North Carolina Education Research Data Center to address these questions. A matched panel of North Carolina public school teachers, their classrooms, and their schools will be constructed for several recent years. A multinomial logit model will be used to estimate the probability of different types of teacher transfers, controlling for teacher qualifications, sending school characteristics, and sending classroom characteristics. This study will add to prior work in two ways: (1) the distribution of student performance on state-administered end of grade exams will be controlled for in addition to average student profiles and (2) teachers will be linked to their actual classrooms with reasonable accuracy. The effect of the spread of initial classroom performance on the likelihood of teacher transfers will be interpreted. Some specifications will consider the interaction of binary indicators for a classroom’s average performance (in terms of state deciles) with the variance of classroom performance.


Charter schools are an important dimension of school choice, and their short- and long-term effectiveness has been debated at length in the popular and academic media. These discussions would be complemented by a better understanding of the characteristics of charter teachers and the staffing patterns of charter schools. I examine the qualifications and mobility patterns of charter school teachers, using ten-year panels of North Carolina schools, students, and teachers. Early results suggest that North Carolina's charter schools faced considerable staffing challenges. Teachers who moved to the charter system had on average lower qualifications than teachers who originated in similar schools but moved within the mainstream. New charters were staffed by new teachers at a much higher rate than new mainstream schools, but the difference faded as the schools aged. Finally, charters had persistently high turnover rates relative to mainstream schools.

The current study examined statewide data on schools that have been effective in “producing” high achieving black students and investigated a group of high achieving students and their parents to begin to delineate the factors that may be related to their successful academic performance. School-level analyses indicated that rural schools are significantly more likely to be effective schools. School-level characteristics were also found to be important. Specifically, effective schools had significantly lower percentages of black students in the overall population, of students receiving free/reduced priced lunch, and of minority teachers in the school population. Individual level analyses indicated that parental attitudes and expectations for their children were significantly associated with youth achievement, indicated by students' GPA and SAT scores. Contrary to expectations, parental education and socioeconomic status were not significantly related to students' achievement in this sample.


As in other states, many North Carolina schools face the challenge of hiring and retaining high quality teachers. Recruiting and retaining qualified teachers in math, science and special education is particularly difficult, especially for the schools serving disproportionate shares of disadvantaged or low-performing students. North Carolina responded to these challenges in 2001 by introducing an $1,800 bonus program for certified teachers of math, science and special education in eligible middle and high schools.

The goal of the program was to use financial incentives to induce teachers of subjects in short supply to teach in schools serving educationally disadvantaged students. That such schools have difficulty recruiting teachers emerges clearly from previous research, from survey responses from principals for this evaluation, as well as from pre-program data on turnover rates in those schools. Though other states have experimented with various types of financial incentives, little is known about the effectiveness of such programs or about how big the financial bonuses need to be to induce the desired outcomes.

A survey of principals revealed that many of them believed that the bonus program has had some effect on teacher recruitment and retention. However, a substantial number of principals thought it was too soon to tell whether the program had had an effect. Given that some districts did not use the program to recruit new teachers, and that many principals did not know their school was eligible, did not learn about it in a timely manner, or did not learn about it from official channels, it is not surprising that some principals could not evaluate it.
When they did evaluate it, most principals thought it had a positive impact, and most believed that this program was a good use of state resources.

In general, teachers felt that this bonus program could influence teachers to come to and remain in their school. About two-thirds of the teachers who knew they were eligible said the program had influenced them or would influence them, and even more of them claimed the program would influence others.

We find evidence that retention rates for math and science teachers in eligible schools were higher than they would have been in the absence of the program. In particular we found not only that the retention rate for math and science teachers in eligible schools rose after the program was introduced, but also that this rise could be attributed neither to other factors influencing the eligible schools nor to trends in other comparable schools. Thus, we conclude that the Bonus Program has had a positive effect on the ability of eligible middle and high schools to retain math and science teachers.


Using detailed administrative data for the public K-12 schools of North Carolina, we measure racial segregation in the public schools of North Carolina. With data for the 2005/06 school year, we update previously published calculations that measure segregation in terms of unevenness in racial enrollment patterns both between schools and within schools. We find that classroom segregation generally increased between 2000/01 and 2005/06, continuing, albeit at the slightly slower rate, the trend of increases we observed over the preceding six years. Segregation increased sharply in Charlotte-Mecklenburg, which introduced a new choice plan in 2002. Over the same period, racial and economic disparities in teacher quality widened in that district. Finally, we compare our basic measure to two alternative measures of segregation.


In much of the United States, school segregation is increasing even as residential segregation declines. We present a model in which a school or district administrator chooses segregation levels in order to balance competing pressures to integrate schools and to limit interracial contact. The sources of these pressures are stakeholders such as parents, teachers, and courts. We empirically test the central implications of this model using data on the racial composition of every classroom in the state of North Carolina in the 2000/01 school year. Our results suggest that administrators act differently when deciding on policies influencing segregation between schools and within schools, consistent with the
The fact that judicial regulation usually applies only to racial balance between schools.

For complete paper, see: http://trinity.aas.duke.edu/~jvigdor/wdslips7113.pdf

**Clotfelter, Charles T., Helen F. Ladd, and Jacob L. Vigdor, “Segregation and Resegregation in North Carolina's Public School Classrooms.”**

http://www.pubpol.duke.edu/people/faculty/clotfelter/san02_03.pdf

Although many studies have used information at the school level to measure the degree of racial segregation between schools, the absence of more detailed data has limited the analysis of segregation within schools. Using a rich set of administrative data on North Carolina public schools, we examine patterns of enrollment both across and within schools, allowing us to assess the comparative importance of segregation of each type and how they interact. To examine patterns in upper as well as lower grades, we perform separate tabulations for 1st, 4th, 7th, and 10th grades. The data make possible what we believe to be the most comprehensive study of within-school segregation undertaken in two decades, one that covers schools in all 117 districts of a large and racially diverse state. Using data for 1994/95 and 2000/01, we find marked increases in segregation over the period. In addition, we find that within-school segregation was much less important in the elementary grades than in 7th and 10th grades and that segregation of both types tended to be greatest in districts with nonwhite shares between 50 and 70 percent.


We use a rich administrative data set from North Carolina to explore the extent to which that state's relatively sophisticated school-based accountability system has exacerbated the challenges that schools serving low performing students face in retaining and attracting high quality teachers. Most clear are the adverse effects on retention rates, and hence on teacher turnover, in such schools. Less clear from our analysis is the extent to which that higher turnover has translated into a decline in the average qualifications of the teachers in the low performing schools. Other states with more primitive accountability systems can expect even greater adverse effects on teacher turnover in low-performing schools.

For the complete paper, see: http://trinity.aas.duke.edu/~jvigdor/

In the last decade educators have been deeply engaged in a dialogue addressing inequities and discrepancies between Black and White student achievement. Teachers will play a significant role in achieving those laudable goals. Unfortunately, teachers can have either a positive or negative effect on student outcomes. For example, teacher perception and prejudice may cloud their judgment and impact their behavior towards students (Tatum, 1997; Ladson Billings, 1994; Delpit, 1995). Teachers may make assumptions about students not from what they have been told or what they have seen on television or in books, but rather from what they have not been told (Tatum, 1997). This point is significant because most teachers now in the classroom and in teacher education programs are likely to have students from diverse ethnic, cultural, and racial groups in classrooms, during their careers (Howard, 1999). If teachers make assumptions about the academic potential of students based upon what they have not been told about the students in their classrooms it could result in lowered academic expectations and performance of those students. Both academic and policy-based research suggests that in order to successfully address the achievement gap between Whites and students of color teachers must be prepared to effectively teach an increasingly diverse student body. Thus, all teachers, regardless of their race and ethnicity, will have to examine their prejudices in order to be effective teachers of all students.

While North Carolina has an increasing Mexican immigrant population, the exact opposite is evident in the teaching force where we have witnessed a decline in teachers of color in public schools. According to the Department of Public Instruction (2003), in 2001-02, the total teaching force was 83% White, 15% Black and less than 2% racially classified as other, presumably Asian, Native American and Hispanic. If a student is going to have a teacher of color, that teacher will be more than likely African American. Given the centrality of student-teacher interactions in raising academic achievement, we must create a schooling environment that gives African American teachers the tools necessary to effectively teach Latino students.

The data available from the North Carolina Education Research Data Center will inform a larger dissertation project that seeks to provide useful information about, and practical guidance for, creating models of teaching that are effective for addressing the educational and academic needs of Latino students, with applicability for African American teachers. Specifically, data for this part of the larger dissertation project will use data available from the North Carolina Education Research Data Center at Duke University will answer: Which school districts in the state have large enough numbers of African American teachers and Latino students (1) to warrant consideration in the qualitative portion of the project and (2) that will counter insider public identifiability. The specific data needed to answer this question is teacher and student membership (grade, race, sex) data for all North Carolina districts and schools.

Cook, Philip, Robert MacCoun, Clara Muschkin, and Jacob Vigdor. 2005. Does the timing of the transition to middle school affect substance abuse trajectories?
Are children exposed to middle school environments at an earlier age more likely to initiate substance use or exhibit problem behaviors predictive of later substance use? Such an impact might occur, for example, if younger adolescents are more susceptible to potentially deviant influence of older peers. We analyze this question using a comprehensive administrative dataset on school enrollment and reports of school disciplinary infractions for the State of North Carolina. The transition to middle school occurs after fifth grade in some school districts and after sixth grade in others. This variation forms the basis for a "natural experiment" identifying the impact of sixth graders' exposure to older peers.

We show that the incidence of problem behavior is significantly higher among sixth graders attending middle schools, relative to rates among sixth graders attending elementary schools. The magnitude of the differential is sizable: students attending middle school in sixth grade have a seven percentage point higher probability of appearing in our disciplinary database. For comparison, the male-female differential is fifteen percentage points. This disparity in rates of problem behavior persists beyond the sixth grade. Seventh and eighth graders who attended middle school in sixth grade display higher rates of problem behavior than their counterparts attending elementary school in sixth grade. We exploit the longitudinal nature of our database to examine further impacts through the high school years. The behavior differential does narrow over time, particularly for certain subgroups of the population. Among non-Hispanic white students, rates of problem behavior nearly converge by eighth grade. Among African-American students, however, effects are highly persistent over time. We also show that fourth and fifth grade students destined to attend different types of school in sixth grade show no significant differences in rates of problem behavior. This finding addresses concerns that sixth grade school assignment policies correlate with uncontrolled student-level risk factors. We also examine the behavior of students who switch schools after sixth grade, to address the concern that incident reporting patterns vary systematically across schools.


There is a dramatic racial and socioeconomic divide in American schooling. White and Asian-American students far surpass their African-American, Latino, and Native American counterparts in academic achievement and college enrollment. Research has traced the gap back to early schooling. While the movement for equal funding between school districts is an important part of the fight to reduce the schism, the critical role of the allocation of educational resources between and within schools must also be understood and addressed.

One critical input in the education production function, which has received little attention in the economics literature, is the curriculum of students within schools. Poor, African-American, Latino, and Native American students are severely underrepresented in advanced courses. The divide in enrollment can be
seen in Algebra 1 in middle school, which is typically the first course where students are formally divided into groups who receive different curriculum that directly limits the opportunities available once they reach high school. This study exploits comprehensive North Carolina administrative data that enables tracking each public school student over several years. The study first addresses the issue of course availability and shows that low-income and minority students are more likely to attend schools that either do not offer Algebra 1 or enroll a lower percentage of students in Algebra 1. Second, the study examines the characteristics of students who take Algebra 1 within middle schools. The instrumental variables probit estimation procedure corrects for the endogeneity of students' prior academic performance. The results suggest that low-income students, African-American students and those with less-educated parents are less likely to take Algebra 1 in middle school than other students with equal academic achievement. The impact of the Algebra 1 enrollment is measured through a value-added model. The results find that all students who take Algebra 1 in middle school experience a greater increase in the statewide end-of-grade mathematics exam regardless of their past exam scores. This study helps to bring into focus that one part of the bridge over the gulf in academic performance and college attendance is through equal access to rigorous curriculum both between and within schools.


For many adolescents, using drugs is a social event. Their knowledge of and exposure to drugs comes from peers, their initial drug use occurs with peers, and their drug-use decision-making occurs with reference to peer norms and feedback. Association with drug-using peers is the single most potent predictor of drug-use initiation during adolescence. Furthermore, diffusion of drug use across neighborhoods and communities may well follow contagious processes, with the pathogenic agent being peer interaction. Unfortunately, current drug-use prevention programs and practices do not benefit sufficiently from basic-science knowledge of processes in social decision-making, peer influence, and social diffusion. Ironically, recent findings indicate that many current policies and practices may inadvertently exacerbate drug use by aggregating high-risk youth with deviant peers who provide a drug-use training ground. When peers do receive the attention of practitioners, they are the “enemy” that is the focus of peer-resistance skills training programs, rather than an ally.

This Transdisciplinary Drug Prevention Research Center will facilitate conducting empirical studies of adolescent social processes, designing innovative prevention programs, and evaluating program efficacy. The targets of this Center are adolescents who are at risk for initiating drug use or abuse, a group that is also highly susceptible to peer influence. These adolescents will be drawn from public schools, juvenile courts, and clinics that serve pregnant teenagers.
The Center includes 31 faculty from Duke and UNC-Chapel Hill in the disciplines of economics, psychology, sociology, neuropharmacology, public policy, statistics, psychiatric epidemiology, and health behavior. They conduct studies and translate knowledge into new preventive interventions at each of the three levels of peer influence: (1) cognitive and emotional processes that operate intrapersonally but are influenced by peers; (2) the social psychology of interpersonal peer interaction in dyads and small groups; (3) institutional peer effects at a macro-level. Data from the North Carolina Education Research Data Center will be used in studies for this third program of research.


In the fall of 2004, the North Carolina Department of Public Instruction communicated and published a vision for high school reform titled *Rigor, Relevance, Relationships: A Vision for High Schools in North Carolina that Succeed for All Students*. This vision outlined reform practices found in the literature and advocated by the National Association of Secondary School Principals as effective in improving high school student achievement; specifically, those practices involved in personalizing the high school experience for students and providing a rigorous and challenging curriculum for every child attending a North Carolina high school. The purpose of this dissertation was to investigate the current state of high school reform in North Carolina and to determine whether the high school restructuring practices in place were having a positive impact on student achievement.

This study utilized a descriptive analysis of the restructuring practices in North Carolina high schools. In addition, a multi-level modeling approach (i.e. Hierarchical Linear Modeling) was utilized to ascertain the effect of restructuring practices, school size and academic press on student achievement at the school level and on individual student groups.

The results of the High School Organization Questionnaire indicated that schools classified as restructuring increased dramatically from 46% in a similar study conducted in 1995 to 88% found in this investigation. In addition, the majority of the organization practices increased in frequency as well with notable exceptions being student opportunities to evaluate course content and student satisfaction with courses.

The results of the multi-level analysis found that reading received the largest impact from the variables of school organization, academic press, and school size. The only effect seen for math was the positive effect of school size. Specifically, academic press had the largest impact on 10th grade reading achievement with school size exerting a smaller, yet significant effect as well. Essentially, higher academic press translated into higher 10th grade reading
achievement for the whole school. School organization only served to provide a positive impact on reading achievement for the highest achieving students. A similar effect was seen for school size in both reading and math achievement.


I propose to use the NCERDC’s North Carolina school administrative data as part of my Master’s Project, which will be completed in April 2007. My master’s project addresses the following policy question: what realistic policy options exist for increasing racial diversity in North Carolina elementary schools?

I would like to use the data to model the effects of adopting a new assignment policy that seeks socioeconomic balance in elementary schools. I will reassign elementary school students within each sample district, with attention so socioeconomic status, proximity, and school capacity; the results of this reassignment model will demonstrate the effect such a policy would have on racial and ethnic diversity in these schools.


The mathematics success of African-American students at a specialized secondary school depends not only on their mathematical ability, but a host of other factors. Mathematics success and building a strong mathematics identity for African-American students includes feeling confident about self-perceived ability, finding connections to the culture of mathematics, and having examples of successful African-Americans in mathematics. Once enrolled at a specialized secondary school, each student’s mathematics course history at their home school can determine the mathematics courses they are able to enroll in at the school. The proposed data analysis is a portion of a doctoral study highlighting the strategies employed by African-Americans at a specialized, residential high school.

**Edmunds, Julie, Elizabeth Glennie, and Larry Bernstein.** 2008. “Early Results and Methodological Issues from an Experimental Study of Early College High Schools Symposium.”

Funded by a four-year grant from the Institute of Education Sciences, the Study of the Efficacy of the Learn and Earn Early College High School Model is a longitudinal, experimental study that will examine the impact of the Early College High School model on student outcomes and will associate aspects of program implementation with specific outcomes. This session includes four presentations that present early results from the study as well as methodological issues that have been encountered. The four presentations include: an overview
of the study and model; a discussion of the development and piloting of an instrument to measure attitudinal and behavioral outcomes; early student outcomes from one school that used random assignment prior to the study; and proposed analysis strategies for dealing with the issue of endogenous outcomes that impact student achievement.


The primary goal of this project is to examine the access to gifted education for North Carolina minority students, particularly African Americans and Hispanics, before and after the enactment of the No Child Left Behind Act of 2001 (NCLB). In pursing this goal, this project will also reveal general trends regarding gifted and talented identification in North Carolina public schools for the past decade. In summation, the fundamental research question to this project is: How has NCLB, if at all, affected the identification of gifted minority students in North Carolina public schools? To answer this question, the investigator requests access to data sets that code for gifted/exceptionality status. Data from the North Carolina Education Research Data Center will include these files: SAR - School Activity Student Count And Activity Directory (Classroom-Level Data) and End of Grade Tests (Student Level Data).


Concern over the quality of education provided for children with disabilities has been present for centuries. However, a lack of sufficient evidence exists to determine whether current special education programs result in academic achievement gains for students with disabilities. For my doctoral dissertation, I will utilize a new methodology for examining outcomes for such students.

The broad goal of the proposed study is to estimate the effectiveness of special education programs in the state of North Carolina by examining the scores of students with disabilities on large-scale assessments of academic achievement. The specific aims of the proposed study are two-fold. First, the proposed study will replicate the study conducted by Hanushek, Kain, and Rivkin (1998, 2002), which found that students with disabilities who transitioned out of special education programs demonstrated significantly greater gains on large-scale assessments of mathematics and reading comprehension than did students with disabilities who transitioned into special education programs. Second, this study will expand upon the analyses conducted by Hanushek et al. by: (a) using a more representative sample of students with disabilities, (b) using an alternate method for accounting for regression to the mean as a potential influence on students’ growth scores than the technique used by Hanushek et al., and (c) conducting additional analyses to estimate the extent to which the provision of test accommodations to students in special education could account for any positive effects found for special education programming.
Fletcher, Jason. “Students with Special Needs: Transitions, Achievement, and Spillovers.”

The goals of this project are several-fold. First, this project will describe the transitions into and out of special education placements of students over time. Emphasis will be placed on predictors of transitions as well as important differences in transition propensities based on individual, classroom, and school characteristics. These transitions will be examined separately by the different categories of special needs (e.g. learning disability, emotional behavior disorder, etc.). Second, this project will characterize the learning environments in which students with special needs are placed. The description will focus on school characteristics, teacher characteristics, and classmate characteristics. Third, this project will examine the longer-term test score outcomes of students placed in special education environment. Finally, this project will seek to examine the impacts on the educational environments caused by included students with different types of special needs. This final goal will complement research I am currently conducting that has been funded by the American Education Research Association and uses the Early Longitudinal Childhood Study-Kindergarten Cohort. All analysis will use standard and advanced econometric cross-sectional and panel-data techniques, including fixed effects and propensity-score matching estimation.


Public education, which must be available without cost to all children from roughly age six to age sixteen, presents unique challenges not present within private, tuition-funded schools. One such challenge involves how to handle students with frequent disciplinary problems who may inhibit the learning of other students. While private institutions can conceivably expel such students, public schools are required by law to provide such students with educational services. As a possible remedy, an increasing number of public school systems have created special schools for behaviorally-challenged students. Disruptive students are taken out of the regular public schools in the district and placed in such schools, commonly known as alternative schools. Still, the effects of alternative schools on educational outcomes, for students in the alternative schools and the schools the disruptive students were taken out of, are unclear. Many of these schools are relatively new; similarly, research into the topic is still in its infancy.


Positive Behavior Support (PBS) is a school-wide program that consists of positive behavior training and reinforcement of good behavior. Encouraging
good behavior is hypothesized to decrease a range of negative school outcomes such as: the number of suspensions; the number of days suspended; the number of arrests for specific reportable offenses; and the amount of teacher turnover. It is also believed that encouraging good behavior will have positive effects on end of year test scores, attendance and teacher work satisfaction.

North Carolina public schools began implementing PBS in 2001, and as of September 2006 it is in use in 249 (14%) of the state’s 1,752 public elementary schools. Eight of these schools have implemented the PBS program using seven major program components that are considered the gold standard for optimal program success: a) an agreed upon and common approach to discipline; b) a positive statement of purpose; c) a small number of positively stated expectations for all students and staff; d) procedures for teaching these expectations to students; e) a continuum of procedures for encouraging displays and maintenance of these expectations; f) a continuum of procedures for discouraging displays of rule-violating behavior; and, g) procedures for monitoring and evaluating the effectiveness of the discipline system on a regular and frequent basis.

The goal of this study is to evaluate outcomes of the PBS program on a selection of elementary schools participating in PBS in North Carolina. We will create reports for all eight schools, and where data permit, we will create an individual report for each school.


Purpose: To conduct an epidemiological study of the educational performance, educational outcomes, and special education needs of school-age children with chronic kidney disease (CKD) in North Carolina. Participants: Fifty school-age children/adolescents with CKD will be matched to controls (N = 250) on age, gender, race, school district, and season of testing. A one to five case/control matching ratio will be used. Data: All student-level data housed in the North Carolina Educational Research Database Center (NCERDC) center will be collected for both cases and controls. Procedure: Participants will be recruited from major medical centers in North Carolina. Once consent is obtained, identifying information will be sent to the NCERDC where cases will be matched to controls. A dataset of school, school testing results, and academic placement will be granted. Identifiers for cases will be linked to unique identification number and stored separate to the school data file. Analysis: Data will be examined both cross-sectionally and longitudinally.

Without ready access to relevant data, researchers cannot conduct high-quality policy research. Although many state governments collect vast amounts of data on students, teachers, and schools, they do not store the data in formats that researchers can use. The North Carolina Education Research Data Center was established as a partnership between university researchers and government officials to facilitate problem-focused education research. The Data Center encrypts confidential information, creates longitudinal databases, and links district, school, classroom, student, and teacher data. It integrates education data to files from other government agencies and university surveys. By integrating and standardizing these files, the Data Center reduces the burden of time and effort of government administrators, university researchers, and survey respondents in doing research.


In May 2003, an Education Commission of the States (ECS) report, entitled “Where They Are Needed Most: Recruiting and Retaining High-Quality Teachers in North Carolina's Hard-to-Staff and Low-Performing Schools” identified 272 Hard-to-Staff schools and evaluated the impact of various education policies on teachers in these schools. This analysis incorporates data from state and federal sources to show whether school characteristics and teacher perceptions of the work environment in Hard-to-Staff schools differ from those in Non-Designated schools.

Hard-to-staff schools differ from their peers in several respects. They tend to have higher percentages of students who are performing below grade level on end of grade tests. They have higher percentages of students who are eligible for free lunch, and who are ethnic minorities. A large majority of Hard-to-Staff schools are middle schools, and many Hard-to-Staff schools are located in urban areas.

Like their peers in Non-Designated schools, Hard-to-Staff school teachers are most satisfied with Leadership and least satisfied with Time Management. However, Hard-to-Staff school teachers are less satisfied than their peers are with almost every aspect of the working environment. Although they are similar to their peers in perceptions of Time Management, they are less satisfied than their peers with Facilities, Leadership, Personal Empowerment, and Opportunities for Professional Development.

This paper explores the relation between school performance and dropout rates under North Carolina’s accountability system. We evaluate competing hypotheses. The first posits that accountability systems help all students succeed by increasing test performance and decreasing dropout rates. The alternative hypothesis states that accountability systems give schools incentives to encourage difficult students to leave. By “pushing out” these students, schools can increase their overall test performance. Utilizing data on every dropout in the state, we examine the relation between changes in dropout rates and changes in the schools’ academic performance. Using a fixed-effects model clustering schools within years, we find that schools improve test performances when dropout rates rise; they add to their overall composite by subtracting problematic students.

Glennie, Elizabeth, Charles Clotfelter, Helen Ladd, and Jacob Vigdor. “Evaluating the North Carolina Math, Science, and Special Education Teacher Bonus Program.” Project funded by the North Carolina Department of Public Instruction.

Like other states, North Carolina faces the challenge of hiring and retaining high-quality teachers. This challenge is especially daunting for schools enrolling low-income and minority students and in the teaching areas of math, science, and special education. Some observers have advocated higher pay as one policy tool that can contribute to meeting this challenge. In the summer of 2001 the North Carolina Department of Public Instruction instituted a bonus program, by which teachers certified in math, science, and special education, who teach in certain schools, would receive an annual $1,800 bonus.

If successful, this bonus program will increase the attractiveness to a group of sought-after teachers of working in particularly challenging environments, thereby boosting the academic achievement of the students in the affected schools. In short, we see three potential measurable effects: teacher recruitment, teacher retention, and student achievement. To examine retention, we examine whether a given teacher remains to teach in a given school from one year to the next. With respect to recruitment, we propose to look at measurable characteristics of teachers, including experience, quality of college, and teacher test score and ask whether the program changed the average values of these measures in affected schools, in comparison to other schools. Finally, we propose to examine changes in measured achievement in schools affected by the program, again in comparison to other similar schools.


Since the late 1980s, many policy-makers and school administrators have been concerned with the shortage of qualified teachers. Given that scholars (e.g., Darling-Hammond, 2000; Goldhaber & Brewer, 1999) have found a correlation
between teacher quality and student achievement, the fact that many schools have difficulty attracting and retaining qualified teachers is troubling.

While demographic trends (growing student population, aging teacher population) contribute to this shortage (Hussar, 1999), much of it results from teachers who migrate to other schools or leave the profession entirely. Ingersoll (2002) found that more teachers left school due to dissatisfaction or to get a better job than for retirement or family reasons. Few studies have rigorously addressed the effect of school characteristics on working conditions and staffing problems.

In May 2003, an Education Commission of the States (ECS) report entitled “Where They Are Needed Most: Recruiting and Retaining High-Quality Teachers in North Carolina's Hard to Staff and Low-Performing Schools” identified 272 Hard-to-Staff schools. This current study incorporates administrative data from state and federal sources and data from a survey of teachers to show how staffing problems vary by school type and how school characteristics influence perceptions of the working conditions.

Hard to Staff schools differ from their peers in several respects. Consistent with other research (Hirsch et al., 1998; Sanders & Rivers, 1996; Ingersoll, 2002; Clotfelter, et al., 2004), we find that minority, disadvantaged, and academically struggling students are more likely to be in Hard to Staff schools and less likely to have experienced, effective teachers. Thus the children with the greatest need for effective teachers are less likely to get them. Further, a large majority of Hard-to-Staff schools are middle schools, and many Hard-to-Staff schools are located in urban areas.

Analyses examining the effects of student and school characteristics on perceptions of the work environment show that the school environment influences teacher satisfaction. Middle school teachers are more satisfied with Time and Facilities, but less satisfied with Leadership, Professional Development, and Empowerment than elementary school teachers. Suburban school teachers are more satisfied with Time but less satisfied with Leadership than their rural school peers. Across all dimensions of the school environment, those in schools making good academic progress are more satisfied than their peers. However, those in Hard to Staff schools are less satisfied with every aspect of the school environment than their peers.

Glennie, Elizabeth and Joel Rosch. Retention and Suspension: An Analysis of North Carolina Students and Schools.

Working with the North Carolina Education Research Data Center, authors will create unique datasets that permit detailed analyses of the effects of retention on individuals and schools. Grade retention can have social as well as academic consequences. Students who are held back become older than their classmates,
and this age difference may cause strain particularly as children become adolescents. Glennie and Rosch hypothesize that this age difference will influence peer relations and attachment to pro-social groups. If older retained students display poorer social adjustment and more problem behaviors than promoted students do (e.g., Jimerson and Kaufman, 2003) they may be more likely than their peers to use illegal substances. Furthermore, peer contagion theory suggests that retention policies will influence the school population. If some schools retain a higher percentage of children, and retention is associated with deviant behavior, than schools retaining a relatively high proportion of students should have higher incidents of such behavior. Recent research has suggested that older students have a greater likelihood of exerting negative influence on peers. Glennie and Rosch will test the hypothesis that increasing the density of older retained students in a school will increase the overall rate of deviant behavior in that school.


Prior research has indicated an association between extracurricular activity participation and positive academic and social outcomes for teens. However, much of this has focused on sports clubs and not emphasized the school and student characteristics that influence students to join different activities, such as arts, academic, or service clubs. Research examining gender in relation to participation in extracurricular activities has consistently found that, except for sports, girls participate more often in more activities than boys do (Coleman, 1961; Jacobs & Chase, 1989; McNeal, 1998; Davalos, Chavez, & Guardiola, 1999). Given the greater variation in girls' activities, we focus this multi-level analysis on the individual and school factors that influence girls' participation in different types of clubs.

Consistent with dominant status models of action, we expected academically and socio-economically advantaged girls would be more likely to participate than their less advantaged peers. Our findings support that model: girls with higher reading scores, math scores, and socioeconomic status are more likely to participate in every type of activity.

Previous studies have had different conclusions about the effect of ethnicity on extracurricular activity participation. Our analysis shows that examining different activity types may account for these differences. We find that net of family background, ethnicity influences participation, and this relationship differs by type of activity. Whites are most likely to participate at all, and they have the highest participation rates in arts and sports, which are the most popular activities. Asian girls have higher participation rates in academic, “other” and service clubs.
Similarly, we draw on social capital theory and prior research results in arguing that school context would influence the likelihood of extracurricular activity involvement. In contrast to past research, school size does not have a strong, consistent effect on participation for girls. School size may be a proxy for other attributes, such as locale.

This study shows that the school's ethnic composition does influence participation. Participation rates are higher in predominantly white schools than in those where ethnic minorities predominate. These differences may reflect variation in school resources or student-based resources: this is another avenue for future research. As expected, the school minority composition interacts with the student's ethnicity to influence participation in some activities. In schools with a high percentage of ethnic minorities, the gap in arts participation between African American and White girls decreases.


Giving parents a choice among schools within their district is one of the most widely used school assignment policies in the United States. Coupled with standardized testing, public school choice is a key component of the school accountability movement and was institutionalized nationwide through the provisions of the 2001 No Child Left Behind Act (NCLB). Three interrelated expectations underlie the policy. First, choice will increase allocative efficiency by encouraging schools to differentiate their products and allowing parents to choose the curriculum and pedagogy most appropriate for their children. Second, choice encourages technical efficiency by forcing schools to compete. This competition pushes schools to adopt more efficient production methods. Third, choice promotes equity by allowing students who reside in areas served by poorly performing schools to enroll in better schools. This paper evaluates the logic and empirical evidence concerning these expectations.

Goldhaber, Dan. “Inside Charter Schools; Understanding the Mobility of Charter School Teachers and Leaders.” Project funded by the US Department of Education.

Charter schools present a unique opportunity to explore such questions and inform the broader teacher policy debate in public education for two important reasons. First, because charter schools are largely located in urban areas, they tend to enroll minority and low-income students. Nationally, over half (58%) of charter school students enrolled in 2005 were racial/ethnic minorities and about half (52%) were eligible for free/reduced-price lunch (Lake and Hill, 2005). Charter schools typically serve just the kids of students who typically face the teacher quality problems in the broader public school system. At the same time,
charter schools ostensibly operate outside many of the institutional and organizational constraints traditional public schools face, including human resource constraints. In some states charter teachers (or a percentage thereof) do not have to meet typical teacher certification requirements and are not unionized. In exchange for more operational independence, charters are (theoretically) held more strictly accountable for performance and maintaining a clientele of satisfied parents than traditional schools. With their combination of a high-need student population, operational flexibility, and pressure for results, charter schools make an interesting case for examining what human resource practices look like when schools face different human resource constraints.


While the prevalence of teacher testing has grown tremendously over the last 30 years, research on the effectiveness of these examinations has not kept pace. There is some evidence suggesting that teacher performance on these tests may be predictive of teacher effectiveness, but it is far from conclusive (National Research Council 2001) — a startling fact, given their extensive use.

In order to help states make more informed decisions about the way they license teachers, in this presentation we examine the relationship between teacher performance on commonly-used licensure tests and growth in student achievement. In short, we investigate whether or not licensure tests are an effective policy tool for ensuring teacher quality.

To do this, we examine the relationship between teacher test scores and student performance using a unique dataset from North Carolina that links teachers to individual students in grades three through five. Because this unique dataset includes information on teachers' performance on various licensure exams, we can estimate educational production functions that isolate the contribution of teachers to student achievement and assess the strength of the relationship between teacher testing and student achievement gains. These data also allow for the tracking of students and teachers over time, thus permitting the estimation of sophisticated econometric models that avoid certain problems inherent in previous studies employing aggregated datasets. Furthermore, we can use the results from statistical models to simulate the extent to which differences in licensure cut-off scores screen out both effective and ineffective teachers.

Specifically, we examine the following research question: How does teacher performance on commonly-used licensure tests (such as the Praxis I & II) relate to student growth over time as measured by standardized tests administered in North Carolina?
In this paper, we describe the results of a study assessing the relationship between the certification of teachers by the National Board for Professional Teaching Standards (NBPTS) and elementary-level student achievement. We examine whether NBPTS assesses the most effective applicants, whether certification by NBPTS serves as a signal of teacher quality, and whether completing the NBPTS assessment process serves as a catalyst for increasing teacher effectiveness. We find consistent evidence that NBPTS is identifying the more effective teacher applicants and that National Board Certified Teachers are generally more effective than teachers who never applied to the program. The statistical significance and magnitude of the “NBPTS effect,” however, differs significantly by grade level and student type. We do not find evidence that the NBPTS certification process itself does anything to increase teacher effectiveness.

In this paper, we use a unique dataset that includes a panel of all teachers in North Carolina over a four-year period (1996-1997 through 1999-2000) to describe the distribution of teachers certified by the National Board for Professional Teaching Standards (NBPTS) across classrooms, schools, and districts. The sorting of National Board Certified Teachers (NBCTs) across students is an important equity issue both because these teachers are thought to be exceptionally qualified teachers and because in North Carolina (and many other states) state-level financial incentives are provided to NBCTs, creating an implicit subsidy to those districts and schools where they are employed. Our findings on the sorting of NBCTs across districts, schools, and students reflects the research on the distribution of teacher credentials across students: the most disadvantaged districts, schools, and students are least likely to have access to those teachers who are recognized by NBPTS as being exceptionally qualified teachers.

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Research on teacher attrition has fueled concerns about retaining high quality teachers. Evidence suggests that the most academically proficient teachers are the most likely to leave the profession (Murnane & Olsen, 1989, Podgursky, Monroe, & Watson, 2004). When this is considered in light of the positive correlation between teachers’ academic proficiency and student achievement (Clotfelter, Ladd, & Vigdor, 2007; Goldhaber, 2006), it is tempting to conclude that public schools are losing their best teachers. However, many challenge the value of traditional quality indicators instead favoring teacher value-added measures. Using a variety of teacher value-added measures to explore the mobility of teachers, we found that the most effective teachers tended to stay in teaching and stay despite challenging school contexts.


Certification from the National Board of Professional Teaching Standards (NBPTS) represents a significant policy initiative for the nation’s public school teachers as outlined in the No Child Left Behind Act. This paper analyzes how obtaining NBPTS certification impacts teachers’ career paths. Using a competing risks model on data from North Carolina public schools, we find evidence suggesting that National Board Certified Teachers (NBCTs) exit the school, district, and state more frequently than others. These findings are robust to instrumental variables and other tests for robustness. We also employ regression discontinuity methods that support these conclusions, and use this design for further inquiry into the characteristics of teaching assignments for certified teachers relative to unsuccessful applicants. With these tests, we find only limited evidence that NBCTs might utilize the credential to select into teaching assignments with relatively fewer minorities in the student population.


Virtually all states require teacher candidates to undergo teacher testing as a prerequisite to participation in the public school teacher labor market. This paper analyzes the role of teacher licensure tests in shaping the demographic composition of the workforce and its subsequent effect on student achievement. Using a dataset on public school teachers in North Carolina, we find minorities in the teacher labor market have substantially lower performance on licensure tests, but find mixed evidence on whether these performance differences impact student achievement. It appears that utilizing teacher-testing policies in general screens out disproportionately more minorities from the teaching profession,
though their quality as teachers may potentially be higher than their counterparts. Further, holding all other teacher characteristics constant, we find the Praxis II exams, which are utilized heavily in teacher-testing policies, generally under-predict minority (and specifically African American) teachers’ performance. We further analyze and discuss the resulting impacts these policies have on student outcomes.


This cross-sectional study investigated whether schools serving populations at high risk of developing respiratory infections in the state of North Carolina (USA) were disproportionately burdened by flooding from Hurricane Floyd. We used geographic information systems (GIS) to overlay a satellite-derived image of the flooded land with school locations. We identified 77 flooded schools and 355 schools that were not flooded in 36 counties. These schools were then characterized based on the income, race/ethnicity, and age of their student populations. Prevalence ratios (PRs) revealed that low-income schools in which a majority of students were Black had twice the risk of being flooded (PR 2.01; 95% confidence interval, 1.28, 3.17) compared to the referent group (non-low-income schools with a majority of non-Black students). This analysis suggests that schools serving populations already at elevated risk of respiratory illness were disproportionately affected by the flooding of Hurricane Floyd. GIS can be used to identify and prioritize schools quickly for remediation following natural disasters.


This project is being conducted for the Durham Public School (DPS) Office of Teacher Attraction and Retention, and aims to provide guidance regarding teacher incentives at Hillside and Southern High Schools. In part, this project will explore the relative importance of monetary and specific non-monetary factors on teacher satisfaction and teacher retention. Access to the Working Conditions Survey 2002 data will allow me to understand which school traits are identified as problem areas by Hillside and Southern teachers, and to examine how these perceptions differ by teachers’ educational experience. This information is particularly valuable as it allows schools such as Hillside and Southern to target their retention policies toward teachers with particular characteristics. Similarly, the survey data of teachers who received state-issued $1,800 bonuses will allow me to examine the relative (self-reported) importance of such incentives to teachers that Hillside and Southern may be particularly anxious to retain (e.g. experienced teachers, teachers in particular subject areas, etc). Finally, I hope to use data from the Public School Universe and School Report Card data for Durham’s Hillside and Southern High Schools. As I
examine existing literature surrounding factors that influence teacher attraction and retention, data concerning the state of affairs (e.g. characteristics such as academic performance, pupil-teacher rations, count of students by race, etc) at Hillside and Southern High Schools will help to contextualize existing and potential teacher retention policies.


The proposed analysis seeks to use the extensive data available at the North Carolina Education Research Data Center (NCERDC) to conduct a study of the effects of Teach For America (TFA) teachers on student achievement. We propose to utilize the longitudinal data on North Carolina students and teachers available from the NCERDC to measure the extent to which TFA teachers are more or less effective at improving student achievement than other teachers in North Carolina. In order to perform this analysis, the Urban Institute (UI) is requesting School Activity Reports and student-, school-, and teacher-level data from NCERDC. The only data customization required will be for the NCERDC to use a dataset of North Carolina TFA teachers, provided by the Urban Institute, to match teachers by social security number and create a flag variable indicating which teachers are TFA. All other merging and cleaning of datasets will be done by the Urban Institute. The analysis will result in at least one paper that will expand the body of research on Teach for America’s effectiveness and the significance of teacher certification and quality. UI will share these papers with NCERDC and the Department of Public Instruction and will also share merged and clean data files.

Hannaway, Jane and Sarah Cohodes. “Student Transience in North Carolina: The Effect of Mobility on Student Outcomes Using Longitudinal Data.” Project funded by the Urban Institute.

The proposed analysis seeks to use the extensive data available at the North Carolina Education Research Data Center (NCERDC) to study the effects of student mobility on student achievement and behavioral outcomes. We will focus both on describing mobile students and the schools they move to and from estimating the effect of transience. In order to perform this analysis, the Urban Institute is requesting student-, school-, and teacher-level data from the NCERDC. The focus of the analysis will be on student movement, with the school- and teacher-level data being used as control variables and descriptively. The analysis will result in at least two papers that will expand the body of research on student mobility by utilizing the longitudinal data available from the NCERDC to gain more precise estimates of effects.

This study will aim to present information on enrollment trends and interracial interaction in public high school classrooms in Durham, Chapel Hill, and Wake County (Raleigh) in North Carolina and discuss racial segregation issues, specifically in schools using a tracking system. Tracking, at its core, is the separation of students into different education sequences based upon their desire and capacity to learn. One of the main goals is to provide a classroom setting that caters to specific student needs and enhances their academic performances to best prepare them for what lies ahead after high school graduation. In most public high schools, tracking occurs in all major subject areas, including English, mathematics, social studies, and sciences.

While much prior research has focused on how tracking decisions are made and who is tracked, little has been studied regarding enrollment trends in tracked public high schools, and whether the segregation so salient in these schools is declining, continuing, or even increasing. This paper aims to combine this prior research and look at minority assignment in certain tracked and untracked high school subjects and classrooms.


Under pressure from No Child Left Behind (NCLB), states have a strong incentive to address the academic performance of low performing students. To comply with NCLB, a school’s students must make adequate yearly progress, as determined by the state. Students are categorized by ethnicity, socioeconomic status, disability, and Limited English Proficiency, and each subgroup must reach proficiency on end of grade reading and math tests. As North Carolina works to meet the needs of these students, individual schools have implemented new programs and practices designed to foster student and teacher success within the new system of accountability. This study will focus on End of Grade reading scores in grades 3, 5 and 8 from 2001-2005 to examine whether these initiatives have focused so narrowly on the advancement of low performing students that the achievement of already academically successful students has been compromised. If so, we would expect to find that decreases in the proportion of low performing students is also matched by a decrease in the proportion of students performing at the highest level.

Hoxby, Caroline and Hanley Chiang. “Rewarding Teachers for Performance: Getting the Design Right.”

Policymakers are increasingly interested in computing teachers’ effects, defined as teachers’ contributions to their students’ achievement, and rewarding teachers on the basis of these performance measures. Our proposed project undertakes a systematic analysis of teacher effects to investigate an array of issues that policymakers are likely to encounter if they seek to design reward schemes on the basis of teacher effects. We aim to: 1) Demonstrate how the estimation of a
large number of teacher effects can be rendered computationally feasible with a multiple-step method; 2) Test the validity of assumptions that underlie common regression specifications for the estimation of teacher effects; 3) Calculate the volatility of teacher effects when effects are estimated from multiple-year periods of varying lengths; 4) Simulate and compare the reward allocations of schemes that reward group performance and those that reward individual teacher performance; and 5) Determine the observable characteristics of rewarded, persistently rewarded, and unrewarded teachers under a variety of simulated reward systems.


Identifying the determinants of teacher mobility and retention has been difficult for researchers due to the fact that teacher mobility decisions are affected by characteristics of the neighborhoods that surround schools, and determined by teachers residential decisions. In order to break the link between school demographic characteristics and neighborhood characteristics I exploit the fact that Charlotte-Mecklenburg changed its school assignment policy in 2001 leading to changes in school demographics over time that are unrelated to changes in the demographics of the neighborhoods that surround the schools. Using teacher data to compare the change in teacher mobility and retention experienced by schools in Charlotte-Mecklenburg to those experienced by other high schools, one can isolate the changes in teachers’ mobility and retention changes that are solely due to changes in student demographic characteristics. Unlike estimates based on correlations between student characteristics and teacher mobility, using estimates derived from this source of variation can be used to predict how teachers will react to policies that change student demographics in schools such as school busing, school vouchers, and district consolidation. The North Carolina data is particularly rich, allowing one to look at the differences in response for different subpopulations of teachers, and also allows one to make predictions on the effect policies will have on teacher quality.

Jacob, Brian. “The Persistence of Teacher Effectiveness.” Project funded by the Spencer Foundation.

The primary objective of this project is to explore whether, and to what extent, teacher “effects” fade out over time. Recent research has demonstrated that there is considerable variation teacher effectiveness, defined as the ability of a teacher to raise student standardized test scores, within districts, and even within schools. For example, the findings of Rockoff (2004) and Hanushek et al (2005) both suggest a one standard deviation increase in teacher quality improves student math scores as much as a 4-5 student decrease in class size.
However, this research has not investigated whether the benefits of having a “good” teacher are persistent, or whether they “fade out” over time. Prior research in other interventions such as early childhood education and class size reductions suggest that there is considerable fade out of program effectiveness. Hence, the goal of this project is to explore the extent of fade out in teacher value-added impacts over time.

**Jacob, Brian and Jacob Vigdor. “Measuring the Impact of Peer Influence on Student Outcomes.”**

Do primary and secondary school students learn less when they share a classroom with a highly disruptive child? Is the behavior of one's peers more or less important than the cognitive ability of one's peers in fostering academic achievement? We address these questions using microdata on disciplinary incidents and student achievement in North Carolina public schools. For each of over 300,000 individual incidents, we observe information on the students involved, nature of the incident, and the punishment meted out. These disciplinary data can be linked to longitudinal microdata on individual achievement test scores. We provide evidence that in a number of elementary classrooms in North Carolina students are randomly assigned to classrooms. Moreover, we show that high school students within the same course and track are unlikely to be assigned to sections in ways that are correlated with unobserved factors that could be related to subsequent achievement (e.g., if there are 3 sections of honors 9th grade algebra or 10th grade general English in a school, students who sign up for this course and level, will be assigned to one of these three sections randomly or on the basis of their course schedule).

Using longitudinal data, we can identify the impact of being placed in a school or classroom with both poorly behaving and/or low-achieving peers in specifications that employ student and teacher fixed effects. We test for heterogeneity in effects by interacting exposure to bad seeds with gender, race, and other student-specific factors. We also examine the potential for suspension to moderate the impact of exposure to bad seeds. The results will provide insight as to which classroom assignment policies minimize the negative impact of bad seeds, and whether long-term suspensions for such students are an aggregate achievement-maximizing strategy.

**Jenkins, Scott; Diana Haywood, and Terry Thompson. “Preparing the Quality Teachers for NC: Aligning Higher Education & K -12 Data Marts to Make Data Driven Decisions.”**

The purpose of this study is to collect information on undergraduate teacher education program success, retention of graduates/new teachers in the workforce, and how trends affecting the geographic distribution of these graduates can help drive UNC policy decisions and funding allocations among
its institutions with teacher education programs to help improve teacher quality for the state of North Carolina.

The North Carolina Education Research Data Center (NCERDC) at Duke University plays an important role in the study by providing data on employment and performance for teachers in the workforce. The data from NCERDC will be linked with UNC teacher education program completers using student data files collected by the system office. Using statistical methods, matched data sets will be analyzed to answer a set of core questions. These questions will allow examination of policies designed to address teacher preparation and mentoring in the University of North Carolina system. These policies will help insure the production of more highly qualified teachers to educate the future of North Carolina.

**Jentleson, Barbara. “Evaluation of Project HOPE.” Project funded by the Kellogg Foundation.**

Grant funding from the W.K. Kellogg Foundation has been given to Duke University and North Carolina Central University (NCCU) to improve the academic and social outcomes of children in the neighborhoods surrounding these two universities. Duke University's Project H.O.P.E. (Holistic Opportunity Enrichment Plan) and NCCU's Project C.A.R.E. (Community Access to Resource Enterprises) have been designed to achieve this purpose. Project H.O.P.E. and Project C.A.R.E. will each conduct their own internal evaluation, with separate internal evaluators. NCCU will be the external evaluator of the overall project.

Project H.O.P.E. is working with Duke-Durham Neighborhood Partnership communities to develop after-school and summer programs as part of a strategy to break the cycle of poverty and to improve educational and economic outcomes for Durham's children. Each community center has its own unique history and offers different programs. All programs provide children and youth with a safe place to study, socialize with peers and receive support from caring adults. Project H.O.P.E.'s funding will support improved after-school and summer programming as well as improved collaboration with both the community centers and Durham community partners.

Project H.O.P.E.'s internal evaluation is designed to monitor the academic and social development of the students attending its after-school and summer programs. Demographic data, school report card, attendance data, and EOG testing data will be collected to document each student's progress. The purpose of this proposal is to request EOG testing data and specific core indicator measure information that will facilitate a more accurate internal and external evaluation of Project H.O.P.E. programs.

Project H.O.P.E. (Holistic Opportunities Plan for Enrichment) is designed to further the educational and economic outcomes for Durham's at-risk children. Project H.O.P.E.'s after-school and summer programs operate in five Durham community centers, located in faith-based, predominantly African-American and Latino communities which work in close collaboration with Duke University Project H.O.P.E. staff and Duke student tutors. Due to the intervention of these tutoring programs, at-risk Durham students have improved their report card grades and End of Grade testing scores.

This model demonstrates the value of working with community-based after-school programs to improve the academic achievement of at-risk students.

Project H.O.P.E. uses the Logic Model developed by the W.K. Kellogg Foundation as the framework for its evaluation procedures. In developing the Logic Model, research was conducted examining similar data collection efforts such as those recommended by the Harvard Family Research Project and 21st Century Learning Centers. Data collection in both community centers and public school settings can be a complex, difficult task, which the Logic Model flexibly addresses through the use of a variety of data collection procedures. Project H.O.P.E. uses End of Grade test scores, student report card and attendance data to establish quantitative parameters for its documentation. This documentation is allowing us to track both individual student performance and aggregate student performance across the five community centers. In addition, surveys were conducted with Duke University student tutors, Project H.O.P.E. students and Durham Public School teachers to get indications of student and staff satisfaction with the after-school programs.


In 1994, the Duke-Durham Partnership Initiative began with the objective of improving the relationship between Duke University and its surrounding community. This collaborative effort sought to improve the quality of life for constituents in the twelve neighborhoods and seven schools surrounding Duke University. Since 1994, five elementary and two middle schools have participated in the Duke-Durham collaboration. The elementary schools are E.K. Powe, George Watts, Forest View, Lakewood, and Morehead-Montessori. I investigate whether the Duke-Durham partnership has translated into quantifiable academic achievements and an improved learning environment for the five beneficiary elementary schools. This research seeks to answer: What is the value added from participating in the Duke-Durham Partnership versus other programs designed to increase student achievement?

The initiation of substance use is a significant public health problem in adolescence, which peaks during the middle school years. Several theoretical frameworks offer explanations for such use among this age group, and empirical evidence suggests an inverse, bi-directional link between academics and substance use. The purpose of this study is to investigate two factors (parenting practices and ethnic identity) that may moderate these relations. These factors may be particularly salient for African American youth. I first will run a pilot study to examine these relations using NIDA Program II data through the Transdisciplinary Prevention Research Center. The current Program II data have self-report of grades as a measure of academic achievement. In order to utilize a more objective measure of academic achievement, I would like to link the existing dataset with seventh and eighth grade reading level scores from the North Carolina Education Research Data Center. By using these data, I will be able to determine if parenting practices related to academics and ethnic identity serve as a buffer in the relations between achievement and substance use. I then will use this knowledge to develop questions addressing academic motivation and engagement, to determine if this same moderation can occur.


School choice is currently one of the most debated issues in education policy. Advocates for school choice argue that introducing market-like policies will change the structure of public education and result in more efficient, effective schools. Opponents of school choice argue that it will result in racially and economically homogeneous schools and that it will increase the education gap between the economically advantaged and economically disadvantaged. In controlled choice, families rank their preferred schools within a zone and the district assigns students based on those rankings and its policy to maintain balance between the schools. This policy is a compromise between open school choice and the more traditional, court-ordered, student assignment based on school proximity and racial balance.

From 1994-2000, the Winston-Salem/Forsyth County School District (WS/FCSD) implemented a controlled choice attendance plan. This project will analyze the impact of the plan on different groups of students, including low-income students, thus guiding future efforts to improve education policy.

The research questions are: (i) Did a school district's school choice attendance policy result in economically and racially homogeneous schools? (ii) Did racial
and economic homogeneity at the school level impact the educational outcome of low-income students?


Extant literature, while sparse, suggests that the relationships between such peer evaluations and status-relevant behaviors such as aggression and academic involvement and achievement may not be invariant across racial-ethnic groups. Studies have demonstrated that preference is associated with both concurrent and later academic achievement among elementary school children but that this relation changes as youth transition into middle school and early adolescence. Too, several studies suggest that peer-perceived popularity is a risk factor for adolescent academic disengagement, especially among the subset of popular youth who are also aggressive. However, in the few studies that have examined these constructs among homogenous minority-group samples or among heterogeneous samples that also allow for cross-group comparisons, the relationships between popularity, aggression and academic disengagement are not as clear cut. The proposed study utilizes the racially-balanced Program II school-based sample of grade 7-9 students to examine peer-perceived popularity and social preference, or liking, aggression, and academic involvement/achievement. Whereas the prog II data set is rich in peer nomination and network data, it does not have a consistent measure of academic achievement and we currently rely upon participation in academic subject clubs as our measure of academic involvement. Working with the North Carolina Education Research Data Center will allow the authors to construct a measure of academic achievement at several time-points with the use of EOG scores for math and English and to more accurately operationalize academic involvement for the purposes of the study.


The aim of the project is to determine the source of racial disparities in school discipline. Previous education literature indicates that black students are much more likely to receive out-of-school suspensions, conditional on socioeconomic status and offense type. The overarching theme in the public discourse and education literature suggests that racial bias on the part of school administrators is to blame for the aggregate differences in punishment across race. Most research to date on school discipline has used data aggregated at a district, state, or national level. Using aggregated data to analyze punishment choices within schools ignores any variation in disciplinary policy across schools.

The data available at the North Carolina Education Research Data Center will allow us to examine disciplinary decisions within schools, eliminating any bias
which might arise from varying school disciplinary practices. Doing this, we can
determine if the aggregate differences in school discipline across race are a
result of racial bias or differences in school punishment policy. If racial
disparities are a result of school policy, then why do schools serving high
proportions of black students use more severe punishment? To answer this
question we will use the theory of rational choice to explain school behavior,
focusing on the deterrent and incapacitation effects punishment has students.

The data required to answer these questions is housed in a number of databases
at the North Carolina Education Research Data Center. In order to complete the
analysis we will need access to student test score data, student disciplinary data,
school-level data, and district level data.

Lauen, Douglas and Helen Ladd. “Narrowing Gaps or Rationing Opportunity? The
Within-School Distributional Effects of State and Federal Educational
Accountability Policy.”

Since 2002, the federal No Child Left Behind (NCLB) Act has required every
U.S. public school to test all students annually in grades 3-8 and holds each
school accountable for their students’ achievement. An emerging concern about
NCLB and the state accountability programs that preceded it is that educators
may focus attention on students close to the proficiency targets to the detriment
of students at other parts of the test-score distribution. The possibility that high-
stakes testing may lead to rationing education rather than to an expansion of
opportunity for all students provides the motivation for this study.

This empirical study uses rich student-level achievement data over time from the
state of North Carolina to examine how accountability affects student
achievement growth at different points in the achievement distribution. The
availability of consistent test score data over time allows for careful modeling of
student gains in test scores. With the use of student fixed effects that account
for time invariant characteristics of students such as their ability, we estimate
models to examine whether accountability has lead to higher gains for students
in the middle of the pre-test-score distribution than for students at other points of
the distribution. The study examines the effects of the accountability policies
that affect schools under the national NCLB policy as well as under the state’s
accountability program that preceded the federal program. The fact that the two
programs rely on different approaches for judging the effectiveness of schools
provides a particularly rich policy setting for this study.

Macartney, Hugh. “Motivated Agents in Education: The Impact of Accountability

During the past decade, school accountability has been a central focus of
educational policy in the United States. In an effort to increase the public’s faith
in the education system and improve student learning, policymakers have
embraced a variety of reforms, including standardized testing and monetary incentives for teachers and schools. Yet such reforms may create distortions which undermine their effectiveness. Under a stronger accountability regime, teachers may become de-motivated, they may focus their attention on those students expected to improve the most while neglecting others, and they may migrate to schools with the highest perceived payoff, leading to allocative inefficiencies and more unequal outcomes within the education system.

In this research, we will explore the ways that accountability reforms affect the behavior of teachers, with a view to identifying possible refinements to existing policy. Specifically, we will focus on the high-stakes testing environment that North Carolina established and implemented for the 1996-97 school year. Under this accountability system, each teacher who works at a school satisfying specified growth targets in terms of student achievement receives a monetary bonus. Using North Carolina data on teachers, schools and students, our goal is to assess the impact of these performance based payments on the decision of teachers to remain in a given school and on their effort choice across classes and within the classroom. Unlike much of the prior literature that analyzes the consequences of high-stakes testing, we will construct a measure of teacher quality (or motivation) based on the effect individual teachers have on their students’ performance pre-reform. With this measure in hand, we will then analyze the effect of the introduction of high-powered incentives on the sorting of teachers of different qualities across schools, both in the short- and long-term. We will also assess whether bonuses reduce the intrinsic motivation of teachers and result in certain teachers shifting effort toward specific students in their classroom.


In a variety of important domains, there is considerable correlational evidence suggestive of what are variously referred to as social norm effects, contagion effects, information cascades, or peer effects. It is difficult to statistically identify whether such effects are causal, and there are various non-causal mechanisms that can produce such apparent norm effects. Lab experiments demonstrate that real peer effects occur, but also that apparent cascade or peer effects can be spurious. A curious feature of American local school configuration policy provides an opportunity to identify true peer influences among adolescents. Some school districts send 6th graders to middle school (e.g., 6th-8th grade “junior high”); others retain 6th graders for one additional year in K-6 elementary schools. Using administrative data on public school students in North Carolina, we have found that sixth grade students attending middle schools are much more likely to be cited for discipline problems than those attending elementary school, and the effects appear to persist at least
through ninth grade. A plausible explanation is that these effects occur because sixth graders in middle schools are suddenly exposed to two cohorts of older, more delinquent peers.


The benefits that smaller high schools afford students have been researched and are well documented. Student participation in extra-curricular activities, as well as their feeling of community and connectedness to the school, increases in smaller schools (Meier, 1995, Sergiovanni, 1994, Walsey, Fine, King, Powell, Holland, Gladden, and Mosak, 2000). The academic achievement gap between affluent and low-income students decreases in small high schools (Howley and Bickel, 2000), and violence decreases with size (Raywid, 1999). Administrators of high schools have found that small schools are more democratically managed (Meier), and most cost efficient, if judged by the graduation rate, (Stiefel, Berne, Iatarola, and Fruchter, 1998).

If smaller high schools offer benefits for students and administrators, do they benefit teachers as well? One way to answer this question is to examine how teachers in different sized high schools think about their working conditions. This study will investigate the relationship between high school size and teachers' perceptions of working conditions in their schools. Working conditions are defined as use of time, facilities and resources, leadership, empowerment and professional development. The North Carolina Professional Teaching Standards Commission Working Conditions of Teachers Survey will provide data on teachers' perceptions. The data will be analyzed using high school size and the 39 items on this survey. This project will examine the relationship between high school size and teachers' perceptions of their working conditions.


Dropping out of school has been presented as a serious problem affecting gifted students, with some authors suggesting that 20 percent or more of dropouts could be gifted (e.g., Rimm, 1995; Robertson, 1991). Longitudinal data from North Carolina were used to investigate high school dropout rates among gifted students (N = 7916) who had participated in a regional talent search program as 7th graders. In contrast to some prior estimates, results indicate that dropout rates among this particular gifted population are extremely low. Dropout rates among all gifted subgroups, as well as across this entire population, were below one percent. Gifted students differ from the general dropout population in being less likely to report dropping out due to attendance problems and more likely to drop out to attend a community college. Limitations of the findings are discussed, and implications for gifted education policy and practice are offered.

Underachievement has been a widely discussed topic in the gifted education literature, but research to date has been primarily qualitative in nature and has focused primarily on intra- and interpersonal characteristics of individual students rather than on the overall extent of the phenomenon in question (Kaskaloglu, 2003; McCoach & Siegle, 2003). Underachievement is “a severe discrepancy between expected achievement (as measured by standardized achievement test scores or cognitive or intellectual ability assessments) and actual achievement (as measured by class grades and teacher evaluations)” (McCoach & Siegle, p. 157). This definition suggests that underachievement may be described using evidence of high ability together with evidence of correspondingly lower-than-expected performance in the classroom. Therefore, this study seeks to quantify the prevalence of academic underachievement among a population of students identified as highly academically able, by combining data collected by the Duke University Talent Identification Program (Duke TIP) with student-level data from the North Carolina Education Research Data Center (NCERDC). Duke TIP data will enable prediction of expected achievement, while NCERDC student-level data will provide records of actual achievement as well as additional relevant demographic data. Documenting the prevalence of underachievement among academically able students will help determine future research directions, both at Duke TIP and within the broader field of gifted education. Additionally, information about the scale and scope of this problem may be applicable to future educational policy decisions affecting gifted students.

Mickelson, Roslyn, Linwood Cousins, and Brian William. “Closing the Race Gap in Math and Science Achievement Through Improving Parental Involvement in the Course Selection and Placement Process.” Project funded by the National Science Foundation.

The Math/Science Equity Project investigates an area where school structured opportunities to learn math and science intersect with specific aspects of students' family background: race and social class differences in parental involvement in the high school math and science course selection and placement process. Family background differences are related to both opportunities to learn math and science and achievement outcomes in these areas. This topic is important because the race gap in higher-level course enrollments and academic achievement remains one of the most intractable and perplexing puzzles facing educators, parents, and students. On the national level, the overall achievement gap has been narrowing since the 1970s, although in the last decade the rate of closing has slowed. The gap is especially problematic in math and science achievement. Overall gains in National Assessment of Education Progress (NAEP) scores have not closed the race gaps in math and science achievement or differences in course-taking patterns.
Our research intervenes in precisely the juncture between parental involvement— as it is shaped by race, social class, and gender dynamics— and school processes, specifically secondary math and science course selection and placement. There are three central purposes or goals of the project. First, MSEP enhances and expands African American parental involvement by developing parents' human capital (knowledge, skills, and strategies for effectively managing their children's educational careers) and their social capital (networks, trust, etc). This is our short-term goal. Second, MSEP creates a community capacity for healthy collaborations with the schools serving African American children by developing the social and organizational infrastructure for African American parental involvement. This is our midrange goal. Finally, MSEP expects to increase enrollment and success of African American students in higher-level math and science courses. Greater enrollment of African American students in higher level math and science courses will close the race gap in math and science track placements and, ultimately, in math and science academic outcomes. This is our long-term goal. We request data from the North Carolina Educational Data Research Center to assess the degree to which our intervention has been able to effect these anticipated changes.

Mickelson, Roslyn Arlin and Bobbie Everett. “Pathways to an Equitable Future or to the Stratified Past? Tracking and Occupational Preparation in CMS.”

This project will be a case study of the development and implementation of the Career Pathways policy in the Charlotte-Mecklenburg Schools, the state of North Carolina’s largest and most diverse school system. Since 2001, North Carolina has mandated that every student enroll in one of four high school Pathways: Career Prep, College/Tech Prep, University Tech Prep, or Occupations for learning disabled students. Once in a Pathway, students are constrained to enroll in certain kinds of electives consistent with their Pathway choice. Pathways shape their future educational and occupational trajectories in critical ways. Mickelson & Everett pose the following research questions: 1) Do Pathways represent a return to comprehensive curricular tracking of the past or are they a different phenomenon? 2) Do they expand or narrow postsecondary opportunities for high school graduates? 3) Do Pathways transform or reproduce race, class, and gender stratification within public education? 4) What are the political and social forces behind the development of NC Pathways policy? Mickelson & Everett draw upon North Carolina Department of Public Instruction enrollment data to examine the extent to which Pathways stratify students within and across schools in the district by race, gender and social class. In addition, the authors interview key actors and policy entrepreneurs involved in the development and implementation of Pathways policy. They analyze archival documents and public records to look at the political and social forces behind the development of Pathways policy. Mickelson and Everett expect that the NC Pathways will intersect with more common forms of tracking that differentiate courses into AP, honors, advanced and regular levels of the core curricula. They also expect to find that Career Pathways arose in response
to pressures from employers to better prepare the future work force. The authors evaluate the extent to which the Pathways are a response to the standards and accountability pressures of North Carolina's ABC policy and the federal NCLB law. The findings from this article will clarify the extent to which contemporary forms of curricular tracking offer students pathways to equitable futures or a road to the stratified past.


This article describes neotracking, a new form of tracking in North Carolina, that is the outgrowth of the state's reformed curricular standards, the High School Courses of Study Framework (COS). Neotracking combines older versions of rigid, comprehensive tracking with the newer more flexible within-subject area curricular differentiation to form an overarching, multilevel framework for high school curricula. The Course of Study Framework, requires 8th graders to select one of three Courses of Study prior to entering high school: Career Preparation, College Tech Preparation, or College/ University Preparation. The COS reform was instituted, in part, to facilitate reaching North Carolina's twin goals of equity and excellence for all students. The purposes of this article are to investigate if neotracking facilitates or hinders reaching these goals; if there is a relationship between district and school demographics, students' racial backgrounds, and their COS assignments; and if between- and within-school variations in COS placements result in greater or less race and social class stratification in opportunities to learn. Using aggregate data on COS enrollments among 2005 high school seniors in the entire state of North Carolina and the Charlotte-Mecklenburg Schools, we evaluate COS enrollment patterns by student, school, and school system characteristics. Results indicate that although a majority of students across North Carolina enroll in the College/University Prep COS, the variations in enrollment reflect the race, ethnic, and social class stratification in North Carolina. Students in affluent NC school districts are significantly more likely to enroll in the top COS than those living in less affluent school districts. COS enrollments vary by students' race and ethnicity, too. Likewise, COS enrollments are related to the racial composition of a high school's student body. Neotracking tends to reproduce race and social class stratification of opportunities to learn, resulting in the worst of both worlds: the majority of North Carolina's high school graduates are prepared neither for higher education nor for the workplace— one of the very problems that the accountability movement and the NC Course of Study program was intended to address.

Enhancing equality of educational opportunity and improving academic achievement are the twin goals of U.S. educational reform. No Child Left Behind (2002) (NCLB) approaches these aims with market-inspired reforms. Among its many provisions, NCLB gives families the opportunity to transfer their children from low low-performing schools to high high-performing ones. Advocates of school choice consider a student's opportunity to transfer to be a central component of equality of educational opportunity. Drawing from a case study of school reform in Charlotte, North Carolina, this article examines the implementation and early outcomes of NCLB's voluntary transfer option for the Charlotte-Mecklenburg School (CMS) district. In For the 2004-05 school year, only 658 of the 8200 eligible students (8%) accepted last minute transfers to new schools. Fully 92% of the eligible families did not exercise their choice to exit from their low performing schools. Moreover, even if eligible students attempted to transfer from low performing to high performing schools, the massive overcrowding of high performing schools made them unable to accept any transfer students. In CMS, opting out is not a choice for students in low performing schools. The experiences of CMS illustrate how larger social, economic, and political contexts constrain the implementation of standards-based reforms like NCLB in general, and, in particular, the limitations of the transfer option for improving academic achievement and educational equity.


Childhood lead poisoning remains a critical environmental health concern. Low-level lead exposure has been linked to decreased performance on standardized IQ tests for school-aged children. This study seeks to determine whether blood lead levels in early childhood are related to educational achievement in early elementary school as measured by performance on end-of-grade testing. Educational testing data for fourth grade students from the 2000-2004 NC Education Research Data Center were linked to blood lead surveillance data for seven counties in NC and then analyzed using exploratory and multivariate statistical methods.

The discernible impact of blood lead levels on end-of-grade testing is demonstrated for early childhood blood lead levels as low as 2 μg/dL. A blood lead level of five is associated with a decline in EOG reading (math) scores that is roughly equal to 15% (14%) of the interquartile range, and this impact is very significant in comparison with the effects of covariates typically considered profoundly influential on educational outcomes. Early childhood lead exposures appear to have more impact on performance on the reading rather than the math portions of the tests.
Our emphasis on population level analyses of children who are roughly the same age linked to previous (rather than contemporaneous) blood lead levels using achievement (rather than aptitude) outcome complements the important work in this area by previous researchers. Our results suggest that the relationship between blood lead levels and cognitive outcomes are robust across outcome measures and at low levels of lead exposure.


Much concern and soul searching goes into a parent’s decision when to start his or her child in school. This is especially true for children born between August 1 and October 15. Among the many factors influencing the success young children experience during their early years of schooling are the social and economic background of the child’s family and personal characteristics such as age, sex, race, degree of academic readiness, and degree of maturity. The educational theories and policies that have been developed over time have also changed public schooling. So as parents search for the best decision for their children they face many of the same questions that have been asked in early childhood education for years. After reviewing the history of kindergarten, after a look at the various theories, after a look at the curriculum changes over the years and after a look at school readiness, a parent may be no closer to making a better decision. Parents who decide to wade through the multitude of contradictory research on age and schooling may find that making a decision becomes even more difficult. Hopefully, the results of this dissertation will guide parents in making a more informed decision about when to start their child in school. This dissertation will attempt to determine if a problem exist when a child’s birth date falls close to the cut-off date for entry into kindergarten. North Carolina has a cut-off date of October 16 for entry into kindergarten and legislation will not allow most North Carolina counties to start school before August 25.


In an era of high-stakes testing in schools, concern regarding the impact of grade retention has become integral to policy debate. Some scholars (e.g., Byrd, Weitzman and Auinger, 1997; Meisels and Liaw, 1993) have found that retained students subsequently had more behavioral problems that those who were promoted. Peer contagion theory suggests that retention policies will also influence students who were not retained. We hypothesize that retained students will influence their peers’ behavior and that rates of problem behaviors will be higher in schools with a higher percentage of retained students.
Retention can affect behavior in schools through effects on the age composition of school peers. Furthermore, some evidence suggests an independent effect of age on behavior. Developmentally, older students are more susceptible to peer influence and are more likely to engage in negative behaviors. Thus, we hypothesize that schools with high rates of students who are older than their grade peers also will have higher rates of problem behaviors.

Using administrative data for all middle school students in North Carolina during the 2000-2001 school year, we examine the relationships between peer grade retention, old for grade status, and disciplinary infractions in school. Given the association between retention and dropping out of school (see e.g., Jimerson, 1999; Alexander, Entwisle and Dauber, 2003; Rumberger and Larson, 1998), we focus this study on middle school students who are too young to drop out. Our school-level analyses include multiple behavioral outcomes, and controls for school characteristics that may contribute to reported disciplinary action rates, including ethnic composition, school size, and parental education levels. In models defining peer influence at the school level, we estimate the impact of aggregate characteristics and presence of retained students and old for grade students on rates of problem behaviors documented in school suspension and expulsion records.


This analysis determined the impact of SERVE's Professional Learning Team (PLT) initiative, as implemented at Pilot-Test(pseudonym) Middle School, on students' reading scores on the End of Grade Tests that are administered annually by the North Carolina Department of Public Instruction. Professional Learning Teams were implemented at Pilot-Test Middle School in April 2001. In the spring of 2001 the Pilot-Test School District adopted a policy that focused on increasing students' reading scores, and reading comprehension became an intense system-wide focus. To address this focus, administrators provided all teachers with ongoing professional development to help them successfully incorporate research-based reading instruction in all content areas.

Students in Pilot-Test Middle School performed consistently higher than students of comparable ethnicity, gender, family income level, and pretest reading and math scores from other North Carolina schools. There is little question that something that occurred in the school during the study had an unusually large impact on reading achievement. This fact is consistent with the hypothesis that PLT played a major causal role in the results, and that is important: had we found no differences between predicted and actual mean achievement (which has happened in several of our evaluations of non-SERVE programs), we would have concluded that PLT was ineffective. Only further research in which the program is tested experimentally in many sites can
conclusively demonstrate that PLT per se has a causal connection to achievement. The findings of this study, however, strongly suggest that such research is merited.

Newmark, Craig M. *Toward an Expanded Evaluation of North Carolina Charter Schools.*

Research suggests that students attending charter schools do not progress academically any faster than students who attend regular public schools. In fact, at least two studies of charter schools in North Carolina find that charter school students perform worse than students who attend regular public schools. These findings seem to have three possible explanations: parents of charter schools students are making poor decisions in sending their children to charter schools; existing research underestimates the academic performance of charter students; and charter schools perform well on other aspects of education that parents consider important. This proposed research will examine the second and third possibilities.


This study will examine the relationship between grade configuration and the achievement of eighth grade students on the North Carolina end of grade tests in reading and mathematics. A key issue is how to determine the organizational grade span structure that will improve and maximize student achievement. Specifically, the developmental scale scores in reading and mathematics of eighth grade students who attended a K-8 or 6-8 grade configured school from 2003 to 2005 is the focus of this study. Schools are held accountable for the performance of their students on the end of grade tests. Therefore, group mean developmental scale scores are important to educators for this reason. Student progress is measured based on the increases or decreases in mean developmental scale scores.


This study will provide Eckerd Youth Alternatives (EYA) with information about key educational outcomes for youth exiting an EYA program in North Carolina between fiscal years 2000 and 2003. Data on youth exits provided by EYA will be matched with data managed by the North Carolina Education Research Data Center to examine how many EYA youth re-enroll in public school and pass End of Grade and End of Course exams. Although the key findings of this report can not be generalized to indicate effectiveness of North Carolina EYA programs overall, they will provide important information about
the educational status and success of youth re-enrolling in public schools upon successfully completing an EYA program in North Carolina.


Power for sample size in a longitudinal study of a cluster randomized trial depends upon the proposed analytical model, the outcome measure, and the level at which it is analyzed. These decisions follow from the specification of the research question and hypothesis. For studying the power needed to examine the effect of a whole-school intervention program, we conducted a sensitivity analysis on three multilevel models representing realistic alternatives and selected the most appropriate model for the program parameters, the effect consistent with our theory of change, and practical limitations that constrain the number of schools that can be sampled.


Researchers conducting non-experimental studies of panel data often attempt to remove the potentially biasing effects of individual heterogeneity through the inclusion of fixed effects. I evaluate so-called “Value Added Models” (VAMs) that attempt to identify teachers’ effects on student achievement. I develop falsification tests based on the assumption that teachers in later grades cannot have causal effects on students’ test scores in earlier grades. A simple VAM like those used in the literature fails this test: 5th grade teachers have nearly as large effects on 4th grade gains as on 5th grade gains. This is direct evidence of non-random assignment. I use a correlated random effects model to generalize the test to more complex estimators that allow for tracking on the basis of students’ permanent ability. The identifying restrictions of these estimators are again rejected. Teacher assignments evidently respond dynamically to year-to-year fluctuations in students’ achievement. I propose models of this process that permit identification. Estimated teacher effects are quite sensitive to model specification; estimators that are consistent in the presence of (some forms of) dynamic tracking yield very different assessments of teacher quality than those obtained from common VAMs. VAMs need further development and validation before they can support causal interpretations or policy applications.

**Roukema, Ronald. The Impact of the Support Our Students (SOS) After School Program on the Achievement of Middle Grade Students At-Risk of Academic Failure. (North Carolina State University, Doctoral Thesis)**

This study investigates the impact of an after-school intervention, called Support Our Students, on student achievement. Two tailed $t$ tests will be used to compare
the means of participating students' growth to a stratified group of non-participants on the North Carolina End of Grade test (EOG) for 1999-2001.

To conduct the research I acquired the assistance from the Edstar Research to attain a complete list of all students participating in the SOS program that were in 6th grade in 1998-1999 and scored a level I or level II on their math/language arts EOG. The identifiers included were county, ethnicity, socio-economic status, gender, and EOG scores for math and language arts for the 1998-1999 school year 1999-2000 school year and the 2000-2001 school year. With the assistance of the North Carolina Education Data Center located at Duke University I will obtain the stratified group of students that were level I or level II that did not participate in the SOS program.

Results of this study will provide educational leaders with documentation on after school programs as a method of addressing the needs of students at-risk of academic failure. It also serves to raise awareness of the larger issue of discovering interventions for the large number of students projected to fall short of student accountability and promotion standards in the years to come.


This proposal discusses estimation of peer effects, with a focus on Limited English Proficient Students (LEP) and the different effects they have on educational outcomes of natives. Specifically, the goal is to test if LEP students affect certain groups, based on race and gender, in a heterogeneous way. The immediate obstacle with identification is the sorting behavior of natives across schools that make casual indifference difficult. The source of “exogenous variation” used to identify these effects is the changing composition of LEP students with a school across adjacent grade levels. Beyond looking at a black-box effect, I will also identify an “endogenous” effect, which refers to the behavioral adjustment of an individual to the behavior of another social group. I will test if these endogenous effects are also different for race and gender groups. This focus will increase our understanding of the mechanism through which peer effects are taking place, thus aiding policy makers with the integration of LEP students into public schools and the optimization of school resources. This is of particular importance to North Carolina and the South due to the continuing surge in immigrant population.

Schulte, Ann. “School-level Outcomes for Children in Special Education.”

The goals of this proposed project are to increase our understanding of the measurement characteristics of several different options for reporting school-level special education achievement outcomes, and to determine the predictors of schools' reading outcomes for children in special education. Using the
datasets supplied by the NC Education Research Data Center (NCERDC), the stability of school-level special education reading outcomes across multiple years will be calculated with four different reporting options discussed in the education research and policy literature. A second set of analyses will examine the predictors of school-level reading outcomes for special education in a single year in order to: (a) estimate the proportion of variance in special education reading achievement that can be attributed to school effects, (b) determine predictors of school-level outcomes in special education, and (c) investigate the extent to which reporting options that do not correct for student entry characteristics and other sources of bias mask true variation in school-level outcomes for students in special education.


For my Master’s Project, I will conduct a preliminary evaluation of the first year of an ongoing program called Student U. Student U. is a learning initiative designed to improve educational opportunities for disadvantaged students in Durham. The program has two missions. The first is to empower Durham middle school students to believe they can excel in an academic environment. The second is to motivate high school and college students (the program instructors) to pursue careers in public education or become advocates for children.

The main purpose of the preliminary evaluation of Student U. will be to determine which aspects of Student U. were successful. I will operationalize success in the first year by examining how well the program worked toward its mission. The second purpose of the evaluation will be to determine which components of Student U. were not successful. I will use this information to recommend changes to the program. In addition to conducting the preliminary evaluation, I will determine how Student U. should plan ahead in order to conduct more rigorous evaluations in future years.

In order to determine which aspects of the program were successful, I will mostly be using a pre-post design and data collected by program staff. However, in order to construct a comparison group for the test score outcome measures, I would like to obtain access to the NCERDC test score data.


This study is a longitudinal investigation examining the effect of teachers obtaining National Board Certification has upon student achievement. Teachers from grades three through five who obtained certification in the Middle
Childhood Generalist area will be studied over a three year period comprising
the year before, the year during and the year after certification to examine the
trend in student achievement as measured by North Carolina End-Of-Grade
tests. The purpose of the longitudinal design is to concentrate on the
professional development component of National Board Certification. Based on
the premise that National Board Certification enhances teacher effectiveness (as
measured by student achievement), this design examines the extent to which
teachers become more effective at increasing student achievement as they move
through the certification process. Using a matched pairs design, a similar group
of non-certified teachers (based upon degree, certification, and teaching
assignment) will be compared to certified teachers to examine the student
achievement trends of non-certified teachers in relation to certified teachers. It
is hypothesized that that certified teacher group’s student achievement scores
will trend upward at a greater rate than the non-certified group.

Smerdon, Rebecca and Jennifer Cohen. “North Carolina Math and Science Pipeline
Study.” Project funded by the National Science Foundation.

The Urban Institute (UI) is pleased to submit this data request to the North
Carolina Education Research Data Center (NCERDC). The data we are
requesting would be used to conduct a study that explores the impact innovative
high schools in North Carolina have on students’ progression and persistence
through the mathematics and science pipelines as compared with traditional high
schools. We propose to use North Carolina’s longitudinal, student-level data
available from NCERDC to track rates of end of course proficiency through the
mathematics and science pipelines both before and after the implementation of
innovative reform efforts. We will determine if three types of high school
reform approaches prolific in North Carolina and across the country are more
effective at improving underrepresented students’ rates of successful course
content mastery than traditional high schools using several rigorous statistical
techniques. These high school types are Early College High Schools,
replications of model high schools (e.g., Talent Development, High Schools
That Work), and high schools transforming into theme-based small learning
communities (including Science Technology Engineering and Mathematics
[STEM] schools). In addition to analyses of the data available from NCERDC,
we plan to administer surveys and conduct site visits in a sample of schools for
an in-depth understanding of the policies, programs and practices in place in
these schools and how they affect students’ progression through mathematics
and science pipelines in these schools.

The Urban Institute has extensive experience with and capacity to analyze
longitudinal data. In particular, the Urban Institute is currently partnering with
NCERDC in the creation of the national Center for Analysis of Longitudinal
Data in Education Research (CALDER), funded by the U.S. Department of
Education, and sees this project as an extension of this current collaboration and
expertise. The work proposed in this document is funded separately by a grant to the Urban Institute from the National Science Foundation.


In 2001, the Charlotte-Mecklenburg school district (CMS), under court ordered desegregation since 1971, was deemed unitary and their desegregation requirements were lifted. That same year, The No Child Left Behind Act (NCLB), designed to improve student, teacher and district accountability was instituted. These two changes created an increased focus on education policy issues relating to student achievement and equity in CMS.

The following study explores the impact of school funding, teacher quality and student school assignment in CMS on students disaggregated by race, gender and SES, to ascertain how these factors influence educational achievement. As student (individual) factors are nested in school (institutional) factors, I will employ hierarchical Linear Modeling (HLM) to analyze the data. HLM allows me to control for individual characteristics such as homework and television hours, and focus on the impact of institutional changes on test scores of students. I will follow students who were enrolled in Charlotte-Mecklenburg schools from their fourth grade year (1998) through their eighth grade year (2002). Children who entered or left CMS during this time will be excluded to reduce influences from other districts.

I expect to find that none of the institutional factors alone are significant in increasing educational outcomes for students, but rather, student achievement depends on a combination of increased funding, economic balance and qualified teachers. Furthermore, I expect that the institutional effects will vary by cohort.

Southworth, Stephanie. Consequences of the End of Race-Based Student Assignment in the Charlotte-Mecklenburg Schools. (University of North Carolina – Charlotte, Master’s Thesis)

From 1971 through 2002, the Charlotte-Mecklenburg school district operated under a court order to desegregate its schools. The district was declared unitary in 2002 and in the fall of 2002 CMS began a new student assignment plan based on parental choice. In the proposed study, Southworth will examine the end of mandatory desegregation as a result of the unitary status decision, and the implementation of school choice in the Charlotte-Mecklenburg School district. Southworth will use data from the North Carolina Education Research Data Center to analyze the effects of unitary status on the racial and economic composition of the schools and the achievement levels of the children attending those schools. She will compare the changes in segregation in CMS from the 1996/1997 school year through the 2002/2003 school year, the year after the
school choice implementation. This study will explore the effects of choice on equity in schooling for white and black children and children from disparate socioeconomic backgrounds.


The No Child Left Behind Act stems from a neoclassical market based model that proposes that markets and competition will produce a competitive education system. This paper focuses on the School Choice and Title I provisions of NCLB. Using descriptive and HLM analysis, we found that school choice in practice increased segregation levels in Charlotte-Mecklenburg elementary schools. Additionally we found that after controlling for parental education, students in more segregated schools had lower end of grade test scores than those in desegregated schools. Students in Title I schools had significantly lower test scores in two of the three years studied. Thus, we found that increased funding and lower student pupil ratios is not enough to combat concentrated poverty in schools. Although it is difficult to produce true outcomes because there is not a true free market the results of this study indicate that the neoclassical model increases segregation in schools and has detrimental effects on the test scores of students left in the segregated schools.


Previous research has assumed that the process of dropping out of school in the ninth grade is the same as dropping out of school in later grades. In this paper, we test whether dropout rates and the reasons for which dropouts leave school are consistent across grade levels in high school. We argue that factors that push and pull students out of school vary during the high school career, and that this process differs for students of various ethnic and gender groups. Using newly available data on all public school children in North Carolina, we compare dropout rates and reasons across grade levels and ages for all public school children, for ethnic groups, and for gender groups. We find that the highest dropout rate for the entire population and for Blacks, Hispanics, and Native Americans, as well as for male students, occurs in the 9th grade. Furthermore, 9th graders and students aged 16 and younger are more likely than more advanced and older students to be thrown out of school for disciplinary reasons: this pattern is particularly pronounced for ethnic minority students and suggests that high schools “purge” themselves of unruly students at the earliest possible time. The significant variation in dropout rates and reasons that we find by grade level and age, as well as the high dropout rates in the 9th grade indicates that
more than one dropout “process” may influence teens to leave school, something neglected by studies that concentrate only on 10-12 graders.


Extra-curricular activity participation depends, in part, on the opportunities students have to join clubs. In this paper, we assess the impact of activity availability on student participation. According to the dominant status model, those characterized by “dominant” statuses participate more in volunteer roles. Thus, this theory predicts that where more activities are available, the same teens will become involved in more activities. Other models focus on the availability of opportunities for participation and suggest that if activities are plentiful, more teens will participate. We also address whether the relationship between activity availability and participation varies by type of activity offered. Having collected data on activity availability from public high schools in North Carolina, we have classified the activities available to students into several different types, among them sports, vocational, service, and arts activities. We link this school-level data to student-level survey data on extracurricular activity participation from all ninth-grade students in the state. We compare the differences in activities offered to participation rates.

Stearns, Elizabeth and Elizabeth Glennie. 2005. _When and Why Dropouts Leave School._

Teens may leave school because of academic failure, disciplinary problems, or employment opportunities. In this paper, we test whether the reasons dropouts leave school differ by grade level and age. We compare dropout rates and reasons across grade levels and ages for all high school students, for ethnic groups, and for gender groups. Across all students, 9th graders have the highest dropout rate, and this pattern persists for Blacks, Hispanics, and Native Americans, and for male students. Dropout reasons vary by age, grade, ethnicity, and gender as well. Ninth graders and students aged 16 and younger are more likely than advanced and older students leave school for disciplinary reasons. Older male students are more likely than younger males to leave school for employment. The significant variation in dropout rates and reasons by grade level and age indicates that multiple dropout “processes” may influence teens to leave school.


Developed through 15 years of research funded by the National Institutes of Health, the Lexile Framework for Reading is a scientific approach to reading
measurement that can be used to match readers to text because both reader ability and text difficulty are placed on the same scale—the Lexile scale. This approach allows educators to manage reading comprehension and encourage reader progress using a research-based scientific approach. Tens of thousands of books and tens of millions of articles have Lexile measures, hundreds of publishers Lexile their materials and all major standardized tests, including the North Carolina End-of-Grade tests, can report student reading scores in Lexiles. This session will provide an overview of Lexiles and can help educators maximize their effectiveness in reading instruction through the use of tools already at their disposal. New research leading to a comparable supplemental metric for mathematics, called the Quantile Framework, will also be introduced.

**Thompson, Charles, Gary Sikes, and Linda Skurla. “A Program of Research on Instructionally Effective Districts.” Project funded by Spencer Foundation and Hewlitt Foundation.**

This study will investigate the role of school district leadership in improving student performance and closing gaps in achievement by ethnic and socioeconomic subgroups of students. For the past two to three decades, school districts have generally been regarded as irrelevant or as actual impediments to the improvement of student learning in the United States. But an accumulating body of case research now suggests that with the right leadership, districts can contribute substantially to the improvement and equalization of student outcomes.

The central hypothesis of the proposed study is that high and equitable student performance is achieved district wide principally through the exercise of coherent, instructionally-focused district leadership. Such leadership harmonizes a variety of administrative controls, capacity building measures, and resource concentration processes with professional community and accountability to bring about a pervasive unity of purpose. Paradoxically, it may even be said that effective district leaders use formal organizational structures and instruments to create and sustain professional community. Reciprocally, professional community helps mobilize will, capacity, and resources in the service of district goals.

To explore and test this hypothesis, we will begin with a qualitative examination of a small number of strategically-selected districts across three states (Michigan, North Carolina, and Texas). The qualitative phase will help us to refine the preliminary theoretical account on which our hypothesis is based, an account derived from the accumulating case evidence and related analytic perspectives. It will also help us develop and validate instruments for use in a broader quantitative phase aiming at generalization of our findings and more definitive testing of our theory.
This study assessed the influences of certain school, teacher, and student characteristics on middle school teachers’ job satisfaction in the four largest urban school systems in North Carolina. The focus was on the influence of school variables (student achievement on end-of-grade reading and math tests, school size, and teacher turnover rates); teacher variables (years of teaching experience, licensure status, educational level, and attendance patterns); and student variables (percent of minority and percent of economically disadvantaged students proficient in reading and math) on teachers’ job satisfaction. The main hypothesis was that school, teacher, and student variables influenced teachers’ job satisfaction. This research utilized Frederick Herzberg’s motivation-hygiene theory wherein the context and the content of a teacher’s job determine his or her job satisfaction. This theoretical framework guided the selection of the North Carolina Teacher Working Conditions Survey (2002) as the instrument to examine middle school teachers’ perceptions of their work environments: time to plan lessons and work with colleagues, principal leadership style, participation in professional development, condition of facilities and resources, meaningful inclusion in school decisions, and leadership’s acknowledgement of teacher’s decision-making skills. Based on Herzberg’s motivation-hygiene theory, the satisfaction of school employees provide information on the organizational effectiveness of the middle schools. Middle school teachers were chosen as the population for this study because of the trend of lower middle school achievement on state end-of-grade tests in reading, writing, and math (North Carolina School Report Cards, 2002). Also, very few middle schools in the four school districts chosen for this study made Adequate Yearly Progress (AYP) in 2002-03. In reviewing the aggregate results of the North Carolina Teacher Working Conditions Survey (2002), a higher percentage of middle school teachers were less satisfied with several aspects of their working conditions: school leadership, time, and facilities.


In most public high schools in the United States, whites and students from higher socioeconomic (SES) groups are overrepresented in upper level courses, including advanced placement, honors, international baccalaureate, and gifted classes, while students of color and lower SES students are underrepresented in these courses. This pattern is troubling for a number of reasons, but perhaps most so because it creates inequities in opportunities to learn that may significantly contribute to group differences in cognitive achievement. The objective of this study was to understand the consistent pattern of underrepresentation of black students in higher-level courses in high school. If students can choose their own path of coursework, why are black students more
likely than whites to choose lower-level courses? Our analysis of interview data from North Carolina public school students and existing data from the North Carolina Department of Public Instruction suggests that differences in early gifted identification by race help to shape this pattern. Students who were identified as gifted expressed more confidence in their abilities and were nearly 100 percent more likely than non-gifted students to enroll in an AP course in high school even after controlling for parent education, previous achievement and race. The underrepresentation of black students among North Carolina’s gifted population appears to contribute to their underrepresentation in rigorous courses in high school. Thus, the state’s gifted program has the effect of facilitating the mobility of some students while restricting that of others.


For two decades the acting white hypothesis—the premise that black students are driven toward low school performance because of racialized peer pressure—has served as an explanation for the black-white achievement gap. Fordham and Ogbu proposed that black youths sabotage their own school careers by taking an oppositional stance toward academic achievement. Using interviews and existing data from eight North Carolina secondary public schools, this article shows that black adolescents are generally achievement oriented and that racialized peer pressure against high academic achievement is not prevalent in all schools. The analysis also shows important similarities in the experiences of black and white high-achieving students, indicating that dilemmas of high achievement are generalizable beyond a specific group. Typically, high-achieving students, regardless of race, are to some degree stigmatized as “nerds” or “geeks.” The data suggest that school structures, rather than culture, may help explain when this stigma becomes racialized, producing a burden of acting white for black adolescents and when it becomes class-based, producing a burden of “acting high and mighty” for low-income whites. Recognizing the similarities in these processes can help us refocus and refine understandings of black-white achievement gap.


The current study is an attempt to investigate the racial achievement gap by focusing on two popular school programs: gifted programs, advanced placement (AP) courses. Our goal is to understand the role of these programs in the context of the racial gap in academic achievement by examining the performance of students from 3rd grade to 12th grade. In this study, we focus on four specific steps where these school programs can influence students’ academic performance.

We use administrative data covering all public school students in the state of North Carolina to estimate the relationship between classroom peer characteristics and student achievement. Basic OLS estimates with school fixed effects suggest a strong positive relationship between peer ability and individual achievement. This effect disappears when we restrict our sample to the subset of schools that appear to randomly assign students to classrooms, based on the distribution of student observed characteristics across classrooms. In both the full and apparent random assignment samples, however, we find a significant positive link between the degree of dispersion in the peer ability distribution and individual achievement. This effect is present for math test scores but not reading, and appears to be of similar magnitude for students at all points in the ability distribution. The results suggest that mixing elementary students of varying ability levels within classrooms unambiguously improves school output and social welfare.


The purpose of this report is to provide the North Carolina Department of Public Instruction (NCDPI) with information about teachers’ responses to School-wide Positive Behavioral Support (PBS) and key educational outcomes on students in North Carolina elementary schools implementing School-wide (PBS). A web-based survey of teachers at eight elementary schools implementing School-wide positive behavior support according to national criteria was administered to assess teacher response to School-wide PBS. Data from the North Carolina Education Data Center was used to assess student outcomes related to academic performance, school suspensions, and teacher turn-over rates in the eight study schools compared with 264 NC elementary schools that had started School-wide PBS.


The achievement gap between minority and white students has become a major policy issue because of the No Child Left Behind Act. Charter school programs aim to better serve and raise achievement scores of students who are failing in the public school system. However, current research is inconclusive as to whether charter schools raise achievement and help minorities more than whites. This research uses achievement scores over several years to test whether charter schools in North Carolina, California, Florida and Texas are more effective than regular schools at closing the achievement gap. The results of the lag and gain
score analyses show that the charter school effect varies by state. The charter school effect is positive for Hispanic reading achievement in California, positive for Hispanic math achievement in Florida, negative for white and Hispanic reading achievement in Texas and non-significant in North Carolina.

**Weingarth, Gretchen. Concentration of Poverty and Student Achievement: A Study of the Wake County Public Schools.** (Harvard University, Senior Honors Thesis)

In 2000-2001, Wake County implemented a reassignment plan to improve the performance of its schools. An important element of the reassignment plan was an effort to equalize the concentrations of poor students among its schools. Students who qualified for the free-lunch or reduced-price lunch program were considered to be poor, and school attendance areas were redrawn to minimize differences among schools in the share of students who were poor, or poverty concentration. In this project, Weingarth will examine how the Wake County reassignment plan affected student achievement. She will determine which schools experienced large and small changes in poverty, and in which direction. She will determine how achievement changed among four populations of students: poor “stayers” (students who were not themselves reassigned although their school changed), poor “movers” (students who were reassigned), non-poor stayers, and non-poor movers. The primary measure of achievement will be the scores of third through eighth graders on the North Carolina End of Grade (EOG) Tests. Wake County's reassignment plan is very worthy of investigation because it has produced some of the only clear, policy-driven variation in the concentration of poverty among schools. We hope that this study will provide information that is useful not only to the Wake County schools themselves but useful also to other districts in the United States. Our initial hypothesis is that the reassignment plan may have improved average achievement by improving achievement substantially among poor students who would otherwise be taught in an environment where poverty was prevalent.

**Wheeler, Justin. “Examining Principal Effectiveness and Principal Distribution in North Carolina.”** Master's Project.

Although scholars disagree about the mechanisms through which school leaders influence student learning, they concur that an effective principal is at least a precondition for a high-performing school. A similar recognition of the importance of teachers has led to increased efforts to establish relationships between teacher characteristics and student achievement and a growing concern with the distribution of teachers across different types of schools. Comparatively little is known about what principal characteristics are correlated with effective leadership and how effective principals are distributed.

The purpose of this project is to examine the relationships among potential indicators of principal quality in North Carolina and to describe the current distribution of principals in the state in light of what is learned about these
relationships, particularly as it affects high-need schools. The analysis will rely on school- and personnel-level data for the years 1998 to 2004 housed at the North Carolina Education Research Data Center. In the first stage of the analysis, regression will be used to test the relationship between principal qualifications and teachers’ subjective judgments of school leaders as reflected in the 2002 and 2004 Teacher Working Conditions Surveys, controlling for school attributes such as enrollment and the percentage of students eligible for free- or reduced-price lunch. A similar analysis will be performed using a value-added measure of the principal's impact on the average qualifications of newly hired teachers at that principal's school. The assumption is that one measure of a principal's effectiveness is his or her ability to attract and retain highly qualified teachers.

The second stage of the project will involve a descriptive analysis of the distribution of principals in North Carolina in terms of the measures of principal quality examined in the first stage as these vary with school characteristics such as enrollment, educational profile, urbanicity, racial make-up, and percentage of students on free- or reduced-price lunch.


This study examined the effect of highly qualified teachers on student achievement in high school Algebra 1 in North Carolina as measured by mean scores on the End-of-Course (EOC) Examination. The purpose of the study was to determine if there is a significant difference between achievement levels of students with a highly qualified teacher and the achievement levels of students with a non-highly qualified teacher in high school Algebra 1 in North Carolina. The two years of this study, 2003-2004 and 2004-2005, were prior to the June, 2006 deadline under No Child Left Behind which required that school systems hire highly qualified teachers. During the years of this study both highly qualified and non-highly qualified teachers were permitted emergency, temporary, lateral entry and provisional licenses to teach. After June 2006 provisional, temporary and emergency licenses were granted.

In this study an analysis of variance was conducted to determine if the achievement levels of students with highly qualified teachers were statistically different than students with a non-highly qualified teacher. All data relating to teachers highly qualified status and student’s academic achievement was collected from the database at the North Carolina Education Research Data Center (NCERDC) at Duke University after seeking and obtaining approval from East Carolina University’s Institutional Review Board.

annual meeting of the North Carolina Association for Research in Education (NCARE), Hickory, NC.

Although North Carolina has held growth as the central focus of its accountability program for a decade, it has never taken full advantage of the accumulating longitudinal data to study the developmental nature of growth during the elementary and middle school years. This paper begins to address this compelling research issue. This paper provides a developmental analysis of growth in North Carolina to demonstrate the functional form of growth in grades 3-8 and how that growth has changed over time. A multilevel longitudinal model for growth was used to characterize student growth in reading and mathematics from the end of third grade to the end of eighth grade in North Carolina for five successive cohorts of students. Results provide definitive mathematical characterizations of individual developmental growth for students during this segment of the life-span.


The purpose of this study is to investigate the relationships between race socialization, race identity, and achievement outcomes in African American families. Race socialization messages teach African American youth about cultural pride and prepare them for racial discrimination. These teachings can be transmitted implicitly and explicitly. One of the most prominent themes in race socialization is that of obtaining a good education in order for African Americans to achieve equality. For the current study we will collect youth data about what messages parents transmit to middle schoolers about what it means to be African American and how these messages are related to achievement, self-esteem, self-reliance, race identity, and perceived discrimination. Race socialization, race identity, and achievement will be examined in middle school adolescents (6th, 7th, 8th grades) in varying contexts. Furthermore, data from parents about their perceptions of their child's school race climate and race socialization messages transmitted will be obtained. These topics are important in understanding the psychological well-being and educational outcomes of African American youth.


The Teach for America (TFA) program selects graduates from the most competitive undergraduate institutions and, after a short intensive training program, places them as teachers in the lowest-performing schools in the country. The few studies that have examined the effectiveness of TFA have focused on the elementary and middle school level. The findings have been
somewhat mixed by grade level, subject and comparison group, but the studies with the strongest designs show some positive effects on student learning relative to traditional teachers.

The research here is based on the first study that examines TFA effects in high school. We estimate TFA effects with a rich longitudinal dataset from North Carolina that allows us to examine student test performance over time and to link students to their teachers. Looking at years 2001-2006, we focus on 23 school districts that have at least one TFA teacher in any of these years. We conduct a series of student and school fixed-effects models that take advantage of multiple end-of-course exam scores for students.

We find that TFA high school teachers have a positive effect relative to other high school teachers, including other teachers who are certified in-field. The findings are particularly strong for math and science teachers. Moreover, the findings suggest that the TFA effect exceeds the impact of additional years of experience. The findings are informative to policy debates on teacher recruitment and retention, as we discuss in the concluding section of the paper.

**Yun, Taesik. “Making Data-Driven Improvements to Teacher Working Conditions.” Master's Project.**

Over the past decade, the working conditions of teachers in public schools have received considerable attention, in part because of the increase of teacher turnover rates. Teachers leave their schools for various reasons, some of which are related to the working conditions associated with the school. North Carolina public schools need to hire over 10,000 teachers each year, but the state's schools of education meet approximately one third of its need, with only two thirds of the new qualified graduates filling teaching positions in North Carolina. Recently, policy-makers have focused on teacher retention, with the idea that improving teachers' working conditions is crucial for schools, districts and states to attract, develop, and retain effective teachers to deliver high quality education.

In May 2002, Governor Easley launched the Teacher Working Conditions Initiative, in which teachers, principals, and other licensed personnel responded to a survey on working conditions. The survey was designed to provide information at the school, district, and state level about how teachers perceive their working conditions in these five areas: Time; Facilities and resources; School leadership; Teacher Empowerment; and Professional development. Although the working conditions initiative provides North Carolina schools and districts with a unique opportunity to make data-driven decisions about improving teachers' working conditions, the results of the survey have not been widely disseminated beyond school leaders who may not have the time and capacity to act on that data. In this project, I will focus on creating a tool kit to
help communities and schools better understand their data and act on the survey results. With this toolkit, systemic approaches to reform are greatly enhanced.

Updated March 2008