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Collin Cousins
Macalester College

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**Title: Resegregation in Minneapolis Public
Schools: Tipping Points for Academic Success**

Author: Collin Cousins

Resegregation in Minneapolis Public Schools: Tipping Points for Academic Success

Author:
Collin Cousins
Macalester College
collincousins@gmail.com

Advisors:
Erik Larson
Macalester College
larsone@macalester.edu

Khaldoun Samman
Macalester College
samman@macalester.edu

Resegregation in Minneapolis Public Schools: Tipping Points for Academic Success

Abstract: What happens to achievement gaps in middle school test scores when the racial compositions of schools change? Existing research indicates that academic achievement on standardized tests is negatively related to high concentrations of non-white students in schools, and disproportionately affects non-white students. To explore this, I conducted a two-fold approach of analyzing school characteristics and student test scores from Minneapolis public schools between 1998 and 2004, and interviewing administrators from four different Minneapolis schools that used the MBST test between 1998-2004 in order to better understand the context of the processes that occurred to produce the results. I explored how school characteristics affect eighth grade MBST (Minnesota Basic Standards Test) pass rates among both white and non-white students in the Minneapolis school district. My data are unique because they include controls for stable but unmeasured school characteristics, and they examine trends independent of district funding. I found that certain low white concentrations had significant and large correlations with lower test scores for both non-white and white students, even while controlling for school characteristics and time

In June of 1996, I was finishing second grade at Fulton elementary school in Southwest Minneapolis. I vividly remember my Jewish second grade teacher reading a Roald Dahl book to our class, and explaining how although she appreciated his stories, it was important to understand the harmful nature of Dahl's prejudice towards Jews. This prompted a lesson about tolerance, diversity, and how the United States was a country that prided itself in fighting discrimination. The lesson resonated with us because my second grade class was an integrated group of children from many backgrounds.

However, in June 1996, while the Minneapolis school district was teaching me about integration, it was simultaneously enacting a plan that would resegregate its schools. I

witnessed firsthand the change in Minneapolis schools as all of the grades below mine became more and more homogenously “white¹,” and the name of our school changed to Lake Harriet Community School after my sixth grade year. The name change from Fulton to Lake Harriet Community school symbolized the greater changes happening district-wide.

Recently the Minneapolis School Board unanimously approved the ‘Changing School Options’ plan, which will create three transportation zones for Minneapolis high schools (Minneapolis 2009d). This plan will limit students to attending schools in their transportation zones. Because of Minneapolis’ severe socioeconomic and racial neighborhood segregation, this plan will stratify the socioeconomic and racial characteristics of the schools (Charles 2003; Frey and Myers 2000). I’m curious how this change might affect students’ academic achievement, and I believe there are interesting parallels between the current ‘Changing School Options’ plan and Minneapolis Public School’s change to community schooling in middle and k-8 schools in the 1990s.

I do not propose that it is *necessary* for schools to have certain percentages of students of a certain race or socioeconomic status, for students to succeed academically

¹ The social construct of “race” drives this paper, but I do not mean to argue for its objective reality. The quotation marks around the terms “black”, “white”, “non-white”, and “race” are intentionally there to inform the reader that I, as the author of this text, do not assume the reality of, or give credibility to, these terms. This paper intends to explore the real experiences and consequences associated with “racial” terms and identities, but by no means claims that these identities reflect a broader truth or pattern. When I use “racial” terms, I am reflecting on the self-imposed, other-imposed, and cultural identification of humans based on ideas of “race.” Hopefully, this paper will illuminate the consequences of this identification on student achievement. The question that is driving my research is as follows: If “race” is not real, but the experience of “race” is real, then what are the implications for educational policy if “racial” concentrations in schools affect academic achievement?

and/or socially. However, I am interested in the relationship between how different percentages of populations within schools are correlated with academic achievement on standardized tests, and about whether this segregation of students might create tipping points of decreased academic achievement. Specifically, I am curious about how segregated education affects the achievement gap between “white,” and “non-white” students. Before beginning my project, I hypothesized that integrated environments might benefit students from a variety of backgrounds, but research on this was limited. To better understand this, I explored the students’ academic achievement after the Minneapolis school district’s change to community schools in the 1990s.

In order to understand one way that these busing changes could have affected academic achievement, I researched school-wide pass rates for the Minnesota Basic Standards Test (MBST) from 1997 to 2004, the seven years following the community school policy change. The MBST is administered to eighth graders to test basic math and reading skills, and passing it was a prerequisite for graduating high school during that time. In this paper I look specifically at how students pass rates correlated with “racial” compositions in schools, and I study MBST *math* pass-rates because of existing research on the “racial” and socioeconomic math achievement gap describing the large achievement gap between white and non-white students (Castambis, Beveridge, and View 2001; Kelly 2009). I separately analyze school-wide MBST math pass-rates for students identified as white and for students identified as non-white to understand how racial composition affects students’ differences in achievement.

In order to better understand the context my results, I followed up the analysis of MBST test scores by interviewing four participants who were principals of middle or K-8

schools that administered the MBST between the years 1997-2004. I selected four administrators to in order to capture the diversity across Minneapolis schools: a school that experienced an increase in students of color, a school that experienced a decrease in students of color, and one open school and one standard school, which both maintained similar demographics. I interviewed these participants about what they believed to be the challenges and benefits associated with the change to community schools, and subsequently what they thought about the new 'Changing School Options' plan. I also asked them what they thought about the role of demographic diversity in schools. These interviews provide context to the processes that may have led to patterns revealed in the quantitative analysis, and they also provide important ideas for discussion and further research.

To frame this story, I begin by analyzing the history of desegregation in Minneapolis Public Schools in the 1970s, and the change back to community schools in the 1990s. This history and analysis will provide a framework from which to engage my own study of academic achievement and school characteristics in Minneapolis middle and K-8 schools between the 1997-2004. The study will then outline my methodology and results, and then synthesize these results through my interviews. The paper will conclude with an discussion regarding implications, further research, and discussion.

Literature review

Current levels of school segregation in the United States are severe. Despite differing conclusions regarding busing, segregation, and academic achievement, most scholars agree that current levels of segregation in schools are similar to, if not greater than, in the 1970s (Massey and Fischer 2006). I interviewed the four principals to understand the racial experience of students, and better understand the context of student experiences. There is consensus at all levels of education that black and Hispanic students show substantial gaps on standardized tests (Bali and Alvarez 2004). There is a racial academic achievement gap, and the common assumption is that this is due to the strong correlation between poverty and identifying as black (Caldas and Bankston 1997; Myers, Kim, and Mandala 2004). However, by conducting interviews and running regressions for student, teacher, and school characteristics, this paper explores how racial experiences are being created by student characteristics, socioeconomics, schools, and teachers. For example, how a school itself may be unintentionally reinforcing the internalization of race through untrained and unaware teaching.

There is a lot of research on “race” and student achievement that connects the effects of “race” with poverty. This is an important place to begin while analyzing “race” and student achievement. Scholarship since the 1960s connects individual family’s socioeconomic status to students’ academic achievement (Caldas and Bankston 1997). Furthermore, Caldas and Bankston III (1997) found that if students are at, or below the poverty level, their academic achievement suffers regardless of “race”, which led them to hypothesize that the influence of “race” might exist because “black” students have a higher percentage of poor peers among their classmates. However, this research does *not*

provide evidence that there is no independent effect of race. Furthermore, Caldas and Bankston III (1997) conceded that much of the correlation between the positive affect of attending a school with a high percentage of wealthy peers *could* also be partially explained due to race, but didn't elaborate into how or why. The discussion regarding race and student achievement is dominated by the question of how the cultural attributes of the students and student peer groups affect their academic achievement. Caldas and Bankston III (1997) argue that peer groups are the strongest factor in determining student academic achievement. This reasoning is based on the belief that a decline in social capital among minority students helps explain declining test scores (Myers et al. 2004). The research regarding the social capital decline suggests that there is a strong tie between the personal experience of race and academic achievement, but again does not explain where exactly this experience comes to play. It is due to this research that I control for poverty while measuring the affect of race on academic achievement.

There is research on Minneapolis Public Schools that already explores the effect of race, separate of poverty, on student achievement, by controlling for students receiveing free and reduced lunch while analyzing the relationship between race and test scores. Myers et al. (2004) researched the racial test score gap on the MBST in Minneapolis between 1996 and 1998. They used individual students' test scores as their unit of analysis, and found that the effects of school poverty on test scores were small, and that race dominated the results. However, their student-level analysis is weaker than my school-level analysis, because schools funding is dependent on group pass rates and policy intervention is focused on the school level. Myers et al. (2004) concluded that race is important because there was a significant race effect even while controlling for school

poverty and other variables. Low achieving black students were found to be in segregated and low-ranked schools, and this lead Myers at al. (2004) to ask what it was about those schools that is serving black students so poorly? They called for school level research on the wellbeing of black students, and the role of school qualities, such as class size and teaching methods, in black student's educational experiences (2004). Such research can account for changes within a school overtime, and also for differences between schools.

There is a consensus that higher minority concentrations are correlated with lower academic achievement, the question remains whether the lower achievement is a result of challenges that students are bringing to the classroom or, how teachers are teaching to students based on the teacher's *ideas* of challenges that students are bringing to the classroom. Although quantitative research does not answer this question, it can suggest patterns consistent with examples from my interviews. Caldas and Bankston (1997) found that teachers and other educators might indirectly relate the influence of peers on student achievement to their own perceptions of student peer groups. If an educator thinks the potential of a certain group of students is particularly weak, they might simplify curriculum and lower expectations, which leads to lower outcomes (1997). This concept is called *stereotype vulnerability*, and provides the hypothesis that black students score lower on standardized tests due in part to teacher expectations and instruction (Steele 1995). Caldas & Bankston III (1997) suggest that there is a possible percentage, for example, having 30% white students, at which this stereotype vulnerability could be rendered irrelevant. However, I do not believe in a 'magic' number regarding this complex construct, instead I believe there is a more complex relationship between societal diversity and the internalization of race by teachers themselves. Moreover, if a

school's racial characteristics substantially differ from the community at large, perhaps it would affect educational attainment; therefore the results might vary city to city.

Research suggests that some challenges regarding "race" may have to do with teacher's cultural understanding. Henry Codjoe (2001) found that most Canadian teachers lacked education in race relations, cross cultural understanding, and black history, which led them to have insufficient appreciation for the challenges facing black students. He suggests that "Since racism permeates every aspect of our lives, race must be taken into account in developing a meaningful theory of social reproduction through schooling" Codjoe (2001:367). This provides a compelling argument for teacher's awareness of cultural and racial issues being linked to student success, and how this can reduce stereotype vulnerability. I engaged these issues while discussing teaching and administrative challenges with the four principals, and this discussion contextualized Codjoe's findings and theories regarding the way that students are taught.

Research indicates that there are greater trends regarding the quality of education that non-white students receive, that go beyond teacher awareness. Studies have found that students in minority-dominated schools were found to receive lower quality education than their peers in white dominated schools (Orfield and Eaton 1997; Fischer and Massey 2006). Although it is generally understood that individual and peer, racial and socioeconomic status affects academic achievement, this research indicates that socio-economic status also negatively affects the way that students are taught. Douglas B. Reeves (2003) researched and outlined the successful ways of addressing this challenge and Reeves (2003) found evidence of schools containing 90% students of poverty and 90% students identified as non-white, with 90% of their students meeting

academic standards. The ninety percent cut-off's were percentages that reflected research regarding poor academic achievement associated with schools with high concentrations of poverty and students of color (2003). This study was done twice, and both times the 90/90/90 schools employed similar strategies (2003). Although this evidence indicates that the achievement gap could possibly be reduced within the schools, without integration, my interviews provide discussion for why there is an importance to diversity in schools that supersedes academic achievement.

History of Minneapolis Public Schools

In June of 1996, Minneapolis Public Schools enacted a plan to create community schools around the city, greatly reducing student busing. This plan was the final move in a citywide debate regarding desegregation and busing. In 1971, Minneapolis Public Schools began desegregation by joining Hale and Field schools; this desegregation was prompted by the citizens of Minneapolis suing the Minneapolis School District for the desegregation of Minneapolis schools (Drew 1995a). In 1972, US District Judge Earl Larson ordered desegregation, and by 1982, almost all city schools were brought into the desegregation plan (1995a). In the early 1990s the district considered metro-wide desegregation, which caused a backlash from the suburban state legislature regarding busing and integration, which prompted the citywide plan for community schools².

² Much of this support for the community school plan came from a task force of 24 suburban republican state representatives who made it clear that they supported community schools without worrying about racial balance (Hotakainen 1995a). Representative Barb Sykora R-Excelsior headed up the task force, saying that the school board should emphasize student achievement over racial balance. She publicly stated, "Learning does not depend on racial balance (1995a)."

This plan conditionally allowed schools to exceed racial limits that were put in place as a result of the 1973 desegregation ruling (1995a). The desegregation rules that were in place stipulated that schools could have up to 15% more students of color than the district average, meaning that Minneapolis Public schools could have up to 76% minority students in a given school. This guideline poses At the time, there were nine schools with 80-85% students of color (Blake 1995). In 1995, a quarter of the Minneapolis School District's 60 schools were themed magnet choices, and 95% of the students were bussed (Drew 1995b).

Reports of rising minority enrollment and stagnant minority test scores caused two very different results in 1995. One was a call for community schools, and the other was a class action suit filed by the Minneapolis NAACP³. The Minneapolis school district ended up establishing community schools by creating attendance areas around 60% of the district's elementary schools (Hotakainen 1995b). The plan for community schools gave many families sending their children to kindergarten the option of enrolling in a close-to-home community school for at least six years (Drew 1995c). By 1996, the plan for community schools began to take effect. Students living in a community school attendance area received a guaranteed spot in the school, and students who did not have a guaranteed spot would be free to try to get into other community schools (Washington 1996). The Minneapolis NAACP argued that the plan was unfair because there were not

³ In 1995, the Minneapolis NAACP brought a class action suit against the state of Minnesota for avoiding its responsibility to provide Minneapolis public school students with a good education (Drew 1995a). The suit brought by the NAACP focused on two main points: the right to adequate education, and equal protection under the law. The Minneapolis NAACP was concerned that the new community school policy violated the 15% desegregation rule. The NAACP was afraid that this new policy would create a two-tiered school system of poor/minority schools and rich/white schools (1995a).

community schools in attendance areas with high concentrations of poor and minority students (1996).

The district responded that it established community schools in areas that were less densely populated because schools in those areas could more easily absorb the incoming students. District spokeswoman Ginny Craig argued that the city fringes were less concentrated, making it easier to implement community schools, and that the district “tried to compensate by giving [core-area-students] a lot of choices of which schools they can attend (1996). However, the fact was that overwhelmingly poor and non-white core-area students did not have access to the community schools, which tended to serve the more affluent white students living on the fringes of the city. Before community schools, there were only 4 out of about 60 Minneapolis elementary schools that had students of color making up more than 90% of the student body, but by 1998, there were 16 (O’Connor 1998). The schools in the white parts of town were getting whiter. By 2004, 28 of the 64 elementary schools had a minority populations that were over 80%, and 21 of these schools were made up of more than 90% students of color (Minneapolis 2008). This extreme segregation must be taken in the context of a 73% district-wide minority population. This population percentage matches well with the 10% and 20% independent variable cut-offs I used for white students, schools with 80-90% students of color would be well over the district average. Under the old 15% rule, almost 1/3 of the district’s schools would have been in violation of the desegregation guidelines.

Advocates for community schooling argued that implementation of community schools could save the district \$3-6 million dollars per year because of reductions in busing costs, and that the 15% formula was no longer workable because of the high

minority percentages in Minneapolis schools, compared to when the rule was created (Drew 1995b). However, there was never an explanation of why busing was no longer workable, or an explanation regarding the possible consequences of increased segregation. Therefore, I focused my research on the consequences of this plan for community schools, in terms of student achievement. I wanted to explore how the change to community schools affected student achievement for both “white” and “non-white” students.

Methods

I used two methods to gather data. The primary method researched white and non-white school-wide MBST pass rates over seven years. The secondary method was interviewing principals of Minneapolis K-8 and middle schools to better understand how the quantitative patterns may have emerged. I researched eighth grade test scores in Minneapolis Public Schools between 1997 and 2004, because it was in those years that the school district’s demographics changed the most radically, and the interviews provided a discussion and context from which to engage my results. Minneapolis is an ideal city to research because of the well-known housing segregation, which subsequently contains huge potential for school segregation (Charles 2003; Frey and Myers 2000). Furthermore, it was a natural experiment to analyze student achievement in regards to racial concentrations. The schools remained virtually the same, as the student body within the district shifted dramatically, allowing me to measure the effects that students had on each other.

The data I analyzed regarding school characteristics and school-wide pass-rates were obtained through an existing data set based on publicly available data. I combined

this with data from Minneapolis Public Schools that contain sub-group pass rates by school for both sections of the MBST as well. The quantitative data begin in 1997, because that was the year following the change to community schools, and my unit of analysis was one school in one particular year. Furthermore, containing my research within the Minneapolis Public School District allowed me to control for district-wide policy changes. This is important because although the first data set has information regarding school-wide test scores, I was most interested in achievement gaps between “racial” groups. To measure achievement gaps accurately, it is important to have information regarding how specific groups tested in each school for each year. I obtained this data through a request for research I sent to Minneapolis Public Schools.

I analyzed two dependent variables: the percentage of students within a school who passed the MBST math test who were self-classified as white, and the percentage who self-classified as non-white. I used these two variables to understand how each component of the racial achievement gap responds to changes in social context.

The independent variables in this analysis are all school-level measures, similar to the dependent variables. I analyzed these variables due to existing research linking academic achievement and the importance of teacher characteristics, enrollment, poverty, mobility, and racial composition (Bali and Alvarez 2004; Caldas and Bankston III 1997; Castambis, Sophia and Beveridge 2001; Myers, Kim, and Mandala 2004) To control for how teachers might affect test rates, I analyzed the influence of average years of teacher experience and the percent of teachers for whom a Masters is their highest degree. To control for student effects, I analyzed the eighth grade average daily attendance rate, percent of students taking the math test who were eligible for free/reduced lunch, percent

of students taking the math test who were enrolled on Oct. 1st of that year, if the percentage of white students taking the math test was 10% or less, and if the percentage of white students taking the math test was 20% or less⁴. The dummy variable for white students breaks the problem of racial collinearity with poverty, and is used because of existing research and theory regarding academic achievement and race, that hypothesizes that there may be an independent effect of race (Caldas and Carl Bankston III 1997; Codjoe 2001; Kelly 2009; Steele 1995).

While the above analysis measures between-school effects, I also include a model that incorporates a fixed effect for each school. This model allows for accounting for schools being inherently different from each other, and that those differences could affect student pass rates. In these fixed effects models, a variable for each school in the data set nets out the effect of these stable school characteristics, allowing me to test whether changes in school-level characteristics from year to year are associated not with pass rates between schools, but within schools. Therefore, I can look at a dependent variable such as percentage of non-white students, and see how it correlates with: average years of teacher experience, number of first-time teachers, percentage of students white, etc.

I interviewed four participants who were principals of middle or K-8 schools that administered the MBST between the years 1997-2004. I chose these participants because they were administrators of schools that all experienced the change to community schools during the time of changing demographics. Principal A was the principal of a Minneapolis elementary school that experienced an increase to more than 90% non-white

⁴ The 10% and 20% numbers came after running a number of tests for the percentage of white students, and finding that 10% and 20% were the percentages in which the variable for race became statistically significant.

students and students in poverty after the change to community schools. Principal B was the principal of a middle school that experienced slight increase to about 60% non-white. Principal C was the principal of a K-8 open school that experienced a slight decrease to about 40% non-white students. Principal D was the principal of a K-8 school that experienced a decrease to less than 10% of both non-white students and students in poverty after the change to community schools.

I engaged the principals in a guided conversation in which they talked about their schools, their experience as administrators in these schools, their experience with the change to community schools, the issue of diversity relating to race, and the ‘Changing School Options’ plan. These interviews provide context for the quantitative student test score results by describing experiences of administrators in four different schools that experienced the change to community schools. Furthermore, they provide questions and ideas for further research on teaching, diversity, and education. The principals described intangible benefits of diversity that are lost when schools become highly segregated, along with factors regarding school and teacher characteristics that I could not measure with my data.

Analysis

I separately analyzed the pass rates for white and non-white students. The dependent variable for my first test was the percentage of white students in a school who passed the MBST math section. In the second test, the dependent variable was the percentage of non-white students in a school who passed the MBST math section. I hypothesized that the percentage of white students in a school would correlate positively with the percentage of students who passed the MBST in both tests. I ran five models for

this test to try to see how the independent variables affected the dependent variable. In each model, new independent variables were added to the test. In *model one*, I tested the independent variables for teacher characteristics. In *model two* I added 'grade eight daily attendance' and 'percentage of students in math eligible for Free/Reduced lunch' (FRL). In *model three*, I added the variable for 'percent white students'. In *model four*, I added 'percent of students in math enrolled Oct. 1' to control for enrollment stability. In *model five* I introduced the fixed effects variables for years and schools.

The control variable of 'teachers with masters degrees' was important because there is substantial literature regarding the importance of teacher training in educational achievement. Furthermore, all of the principals that I interviewed stressed the importance of teacher training. Principal B argued, "Good teaching is the most important thing to have in a school" (Principal B, Interview, March 15th, 2010), indicating that an emphasis on teacher training and education was important. Principal D said that "There can never be enough teacher training," and that professional development should always be a priority (Principal D, Interview, March 22nd, 2010). Both of these statements are strong and definitive statements from administrators, and along with existing research, provide reason to be curious about the effect of teacher training on student academic performance.

Controlling for the fixed effects between-school differences and controlling for the percentage of students receiving free and reduced lunch was also supported by the interviews. Each principal described the unique challenges and characteristics about their particular school, which was especially evident for Participant C's open school. This information strongly supported the benefit of controlling for between-school

characteristics with a fixed effects model. For example, as is seen in the high Somali population at Participant B's middle school, schools become magnets for certain neighborhoods with specific immigrant groups and specific challenges, which can affect the performance of students. Furthermore, all four of the participants described the importance and issues associated with having high percentages of students in poverty, which supports controlling for the percentage of FRL students. Therefore, even though poverty and race are intimately connected in the United States, it is important to also control for student poverty.

Results

I found racial concentrations to have a significant correlation with MBST math test scores for both white and non-white students while controlling for other variables. The introduction of a fixed-effects model that controlled for differences between schools increased the variation explained for both tests. Enrollment stability and average daily attendance rate were found to correlate with higher test scores for only non-white students after controlling for all other variables.

“White” Pass Rates

The regression analysis for white pass rates is shown in Table 1. *Model one* shows an increase in the percentage of teachers with Masters degrees correlating positively with the percentage of white students passing the exam. *Model two* showed this effect holding while controlling for attendance rates and family poverty. These two variables showed consistent between-school effects until the introduction of fixed effects, demonstrating that they are related to differences between the schools themselves. However, the two student characteristics are also associated with exam performance variation, and they

decrease the effect of Masters degrees by about one third. *Model three* demonstrates that racial concentration has significant effects independent of poverty concentration or attendance rates. Controlling for all the other variables, schools with less than 10% white students show a ten percentage point decrease in pass rates of white students. *Model four* demonstrates that student mobility has minimal effects, although controlling for it led to diminished effects for the other variables.

Model five introduced fixed effects variables for each of the schools, controlling for differences between schools. The introduction of the fixed effects model increased the percentage of the variation in pass rates that was explained from 38.5% explained to 58.6%. With this addition, the standard errors were altered, so even though some of the variables lost statistical significance, it is important to be aware of their effects (Allison 2009). The teacher characteristics and family poverty variables had decreased coefficients, suggesting these characteristics could be associated with between-school differences. The coefficient for attendance rate rose, suggesting that attendance may indeed be associated with year-to-year variation within a school.

Most importantly however, the coefficient indicating if a school contains 10% or less students identifying as white increased in size and remained statistically significant. This indicates that when a school crosses that “threshold” of 10% or less white students, the passage rates for students identifying as white decreases by approximately eighteen percent. This suggests that there is something in the interaction between the idea of race and students’ pass rates that exists apart from poverty. Furthermore, tests for collinearity show no major problems for white or non-white pass rates.

“Non-White” Pass Rates

Model one showed that an increase in the percentage of teachers with Masters degrees correlates positively with the percentage of non-white students passing the exam. *Model two* showed this effect holding while controlling for attendance rates and family poverty, which again remained significant until the introduction of the fixed effects. *Model three* demonstrates that while controlling for all of my other variables, schools with less than 20% white students show a six percentage point decrease in non-white student pass rates. *Model four* again shows that student mobility has minimal effects, although it accounts for some of the effects of the other variables.

Model five introduced fixed effects variables for each of the schools, testing for characteristics that change particular schools' pass rates from one year to the next. With the introduction of the fixed effects model, 64% of the variation in pass rates was explained. With this addition, again the standard errors were altered, so even though some of the variables lost statistical significance, they remain informative. With this addition, the variables for the percentage of teachers with Masters degrees and concentration of family poverty both lost statistical significance, and saw decreased coefficients. This indicates that, like in Test 1, the percentage of teachers with Masters degrees and concentration of family poverty may be intrinsically related to school-specific characteristics.

However, *Test 2* is different because enrollment and attendance remain statistically significant and have increased coefficients, even after controlling for unmeasured stable school characteristics. This demonstrates that for non-white students, attending schools with stable enrollment and stronger daily attendance is related to higher math MBST pass-rates. This result was supported by the interviews in which all of the

participants stressed attendance stability as important. Principal C described how the most vulnerable families are often the most highly mobile families, and that even though many parents wanted to stay at the school, they chose to leave when they had the opportunity to move to a safer neighborhood (Principal C, Interview, March 18th, 2010). Most importantly however, attending schools with a white population of 20% or less is also correlated with a six percentage point drop in test scores for non-white students

Discussion

My analysis showed that when a school has a small white population of 10% or less, white students tend to score lower on the math portion of the MBST. I found that non-white students tend to score lower on the math portion of the MBST when a school has a population of 20% or less students who classified as white. Furthermore, higher school-wide eighth grade daily attendance rates and school enrollment stability are both correlated with higher test scores for non-white students.

The change to community schools in Minneapolis Public Schools concentrated white students in certain K-8 and middle schools and non-white students in others. My analysis of the math portion of the MBST between 1998 and 2004 shows that changes in the racial composition of schools are associated with tipping points of minority concentrations beyond which both white and non-white pass rates fall substantially. These results are net of any effects of changes that I tested for in poverty, teacher quality, student attendance, and school characteristics. My results provide evidence for a change in academic achievement that occurs when white concentrations fall below 10-20%. However, as I indicated previously, there is compelling research to suggest that this decline in achievement is not only related to the issues brought to school by the students,

but also related to the way that students are taught. This suggests that student's academic experiences may be related to their interaction with racial identification.

The findings of lower test scores correlating with low concentrations of white students concurred with my interviews with the four different principals. All four principals agreed that high concentrations of non-white students presented challenges for a number of reasons, including teacher training and expectations, parental engagement, and issues connected with poverty. The four principals agreed that it is important to have training and dialog regarding race, especially when there is a large change in school demographics. Teachers often need extra support when dealing with new and different types of students from different cultures and backgrounds.

Both the interviews and my results indicated that teacher training is important to academic success. Principal A argued that race plays an important role in how teachers teach to students. Principal A described that when the district made the change to community schools, "Subsequently everyone [was] thrown in a school and asked to get kids to perform at high levels, and there was no vehicle or systematic approach in the district to have conversations about race (Principal A, Interview, March 15th, 2010)." Furthermore, Principal A believed that the issue of race has consequences for students apart from their performance, "Because of the association with whiteness and success, success is not always related to the performance of [non-white] students (2010)." This supports my hypothesis that my results need to be taken in the context of the teaching as well as the students. Principal A also talked specifically about how staff members deal with race at A's own school, "White staff members struggled and are still struggling with the race issue, I believe this is because people are afraid to have controversies around

racism (2010).” This is a fascinating admission that calls into question the precision of demographic educational evaluation of students. How accurate are evaluations of student academic achievement separated into demographic groupings, if the teachers teaching those students are heavily influenced by ideas of race?

Principal C from the open school, and Principal D from the school with the high percentage of white students, both discussed the need for better teacher training in different ways. Principal D agreed that professional development dealing with diversity “should always be a priority, a focus (Principal D, Interview, March 22nd, 2010).” Principal D said that they believed that staff and professional training dealing with diversity has decreased over the years, especially from where it was in the 1970s (2010). This is troublesome in the context of the huge increase in the diversity of students in Minneapolis schools that has occurred since then. Open school teaching, as in Principal C’s school, is another way to look at different teacher training. Principal C, argued that although open school teaching is very hard, the flexibility and conscious development of social skills it encourages are essential to engaging diverse student body, “Better academic work comes if social skills are developed (Principal C, Interview, March 18th, 2010).” This struck me as indicative of the need for strong teacher training to accompany huge changes in demographics and school policy. This observation provides fascinating context in regard to my results and the history of the Minneapolis shift to community schools, which showed a huge change in school demographics without an equally large increase in professional development.

Apart from saving money, one of the main arguments for ‘community schools’ was that it would better facilitate parental engagement. However, an increase in equitable

parental engagement is unlikely in the highly segregated and stratified city of Minneapolis. Principal D described how in D's increasingly white school, "Academic rigor became more important...there were more parental expectations (Principal D, Interview, March 22nd, 2010)." Principal D also posited that this engagement might not be distributed equally with the new segregated school system, "It may be that parent that are engaged might just become more engaged (2010)." Given the context of my results, I wonder how the accumulation of advantages that occurs with "whiteness" and parental engagement, detrimentally affects the academics of "non-white" students at a certain point. Principal A asked, "What political power do schools with non-white parents have to write their own destiny (Principal A, Interview, March 15th, 2010)?" This pointed question provides an interesting context from which to engage my results, and issues regarding race, social capital, and parental engagement.

Finally, there are issues regarding the association between race and poverty, and the way that the association manifests itself in the needs of students. Principal B described the challenges of having high concentrations of students in poverty, which is strongly correlated with high concentrations of non-white students, "Without huge concentrations of needy students, it's easier to focus on students that need help (Participant B, interview, March 15th, 2010)." In our society, there are all sorts of challenges associated with the classification of race, and these challenges appear to be exacerbated with huge racial imbalances in schools. Principal C described how the open program, specifically, at C's school, partially addressed this issue: "In an open school there is a real recognition that social curriculum is fundamental to a strong academic curriculum. How we interact and take care of ourselves, others, and the environment is

central to our mission (Principal C, Interview, March 18th, 2010).” Ignoring the social context that acts on students, specifically race, does a disservice to students not only socially, but also academically.

Explanation

Why does the concentration of students who self-classify as white positively affect test scores, and why at particular levels? Existing research is inconclusive, but from research and my interviews, I hypothesize that this relationship is the result of a systematic culture of prejudice and poverty that is intrinsically related to ideas about race in American society, and which results in students’ experiencing schools in racial ways. My data analysis found that there were tipping points associated with high non-white concentrations in schools and lower academic achievement. The context provided by my interviews indicated that these tipping points may be the result of social capital associated with race and poverty, and the inability of schools to effectively teach to non-white students. Research regarding individual and peer socio-economic effects on academic “achievement” argue that the social capital that is associated with high SES students can be passed on and/or denied to their fellow students (Caldas and Bankson III 1997). The socio-economic stratification in American society is linked to race in a number of ways, and it could be argued that the stratification is intrinsically necessary for the definition of the racial construct itself. Furthermore, these findings are exacerbated by analyses that demonstrate lower academic achievement for black students because of teacher prejudice (1997). This is summed up elegantly in what Principal A said to be one of the most important questions for teachers and administrators, “Do you believe that kids of color can learn? (Principal A, Interview, March 15th, 2010)” This question of prejudice is at the

heart of my study, and could possibly help explain to the correlations I found between concentrations of white students and test scores.

It may be possible to reduce or eliminate this racial effect by changing characteristics within a school. Douglas B. Reeves (2003) study about 90/90/90 schools found that it is possible to create an increase to 90% of students meeting academic achievement standards in schools with 90% non-white students and 90% poverty. In the 90/90/90 schools, there is a strong focus on achievement, and the core focus of this academic achievement was in reading, writing, and math skills. The schools do not settle for low grades, a low score means more work, feedback, and opportunities for improvement (2003). The focus on writing allows teachers to create more in-depth responses to student work, because it is easier to diagnose issues in a writing response than a multiple-choice test. Assessment is in the form of constant, thoughtful, and accurate, feedback, which includes teacher collaboration. Teachers share grading with each other to reduce biases and provide students with the most accurate assessment possible (2003). Collaboration is also seen in curriculum, as teachers emphasize interdisciplinary education. This means that what is learned in math can also be emphasized in physical education, music, and art (2003).

Reeve's 90/90/90 idea shares many similarities with what Principal C described as C's open school curriculum The Responsive Classroom. This curriculum, along with more stable school demographics, may explain Principal C's experience of being "pretty immune to district changes (Principal C, Interview, March 18th, 2010)." However, there is evidence that these changes might not be the sole source of the success. Reeves saw gains in academic achievement in schools with radically different poverty and racial

demographics, indicating that many of the keys to success lie with teachers and leaders, or in the case of Principal C, curriculum (2010; Reeves 2003).

The Supreme Court language of the 1970s called for busing to end segregation in the name of diversity. Therefore, I asked all four of the participants what they thought of the role of diversity in education and educational policy. All four principals agreed that diversity in education is increasingly important in today's world, and that there is not enough emphasis on it. Principal A argued, "If you don't have access to diversity, you don't have those same opportunities to mold tolerance and accepting attitudes (Principal A, interview, March 15th, 2010)," and in regard to the resegregation of Minneapolis schools, "We've taken away the only opportunity schools have to do that (2010)." Principal D echoed those same words, arguing that "The value of being in a public school is for young people to have experience with a variety of cultures... this experience can help eliminate fear and racism (Principal D, interview, March 22nd, 2010)." Therefore, when young people go to schools without that kind of diversity, they may miss out on those opportunities to engage issues of fear, racism, and tolerance, which will all become more important as our world becomes increasingly globalized and interconnected.

According to the principals I interviewed, diversity also holds tangible benefits, and all described their thoughts on these benefits based on their personal experiences as administrators. Principal B said, "I wish the demographics could remain where they are [40% White], it's harder to do things with a whiter population (Principal B, interview, March 15th, 2010)." Principal B defended this statement by arguing for the educational and social benefits of having different languages, cultures, and ideas in the school, and

that these elements of diversity provide important venues for learning and social skill building. Principal D described how the loss of diversity affected the teachers as well as the students: “It was disappointing for some staff members that diversity was lost [after the change to community schools] (Principal D, interview, March 22nd, 2010).” The overwhelming sense from the interviews was that having a diverse student body along with district support provides important social and academic benefits for students. Furthermore, it is through diversity in public education that we grow to be thoughtful and accepting citizens.

Limitations and Further Research

There are some important limitations to my results. First, passing-rates on the relatively simple MBST provide evidence only for a minimal level of student academic achievement, and measuring academic achievement through standardized testing may be problematic. Furthermore, academic achievement itself may not be a good measure of life-success for students, especially given what my interviewees described as an association between whiteness, success, and normalcy. Given that social networking is important in life opportunities, the segregation of students in high school might have more subtle effects that are not reflected in my results (Bali and Alvarez 2004; Caldas and Bankston III. 1997; Castambis and Beveridge 2001; Massey and Fischer 2006). I would recommend following this research up with an engaged ethnographic observational study of classrooms in Minneapolis public schools to better understand what happens in the classroom. It would also be interesting to do a longitudinal study comparing the academic and employment success of students from schools with different teaching curriculum, training, diversity, and district support.

Policy Implications

The 'Community School' plan in the 1990s eliminated the need for schools to comply with the guideline that no school could have more than 15% more students of color than the district average. After most of the Minneapolis District's "racial" demographics had changed in 2004, 28 of the 64 elementary schools had a minority population that was over 80%, and 21 of these schools were made up of more than 90% students of color (Minneapolis 2008). My analysis found that lower math MBST pass-rates were associated with schools of high non-white concentrations. In light of the composition changes associated with the Community School Plan, this is a troubling statistic, which indicates that the plan had detrimental effects on students of all races.

Given this history, I am concerned about the effects of the recently approved 'Changing School Options Plan' for Minneapolis Public Schools. The Minneapolis School Board approved this plan through unanimous vote in September 2009 to save 7.5 million dollars and more effectively educate students (Minneapolis 2009b). To do this, Minneapolis Public Schools is creating three regional zones for high school transportation. Students are given the option to open enroll in the school of their choosing, provided there is space *and* that they provide their own transportation (2009b). Students currently attending community schools outside of their zone will only be allowed to continue at their current school if they can provide their own transportation *and* if there's room (2009b).

Principal D described how personal transportation worked at D's school, which was a highly desirable school in a wealthy/white neighborhood, during the change to community schools, "We had a few families of color who transported their children on

their own... The high rigor of our school was important to them (Principal D, Interview, March 22nd, 2010).” However, this did not continue for long, “This [private transportation] is much more difficult to do now because it’s so hard to get in to [D’s school]. This is because the students in the community have top priority. There are too many neighborhood families, and no transportation for those outside the community (2010).” This anecdote calls into question whether families in poor neighborhoods are behind the idea of neighborhood schooling. Principal C saw this issue as a conflict between the district goals of providing a safe and excellent education for all students and the reality of housing segregation in Minneapolis. Principal C also said, “I often see people who do not live in safe neighborhoods, and want to send their kids to schools in safe neighborhoods (Principal C, Interview, March 18th, 2010).” This is another example of parents actively fighting against the district changes. Principal C argued that “Diversity is essential for maintaining a healthy school community (Principal C, Interview, March 18th, 2010).” However, how can this be achieved without the district/state/community actively seeking diversity in the schools?

Housing segregation in Minneapolis, as well as historical changes in racial composition with the zoning for K-8 and middle schools suggests that racial populations would become concentrated in high schools due to the ‘Changing School Options’ plan. Principal A addressed this directly by arguing “Segregation will be unavoidable with [the new plan], because in Minneapolis, communities are segregated because of housing values. White schools will get whiter, and every school will become a reflection of the community (Principal A, interview, March 15th, 2010).” My analysis of math MBST scores for eighth graders suggests that this student concentration could have a deleterious

effect on the test scores of non-white students when white concentrations drop below 20%, and for white students when concentrations drop below 10%, unless other educational actions are taken in concert with this change. The Minneapolis school district has 70.2% students of color, and 29.8% white students (Minneapolis 2009a). Therefore, given the history of desegregation and the implications of my research, I believe that it is imperative to reconsider this plan, and continue to keep diversity as a priority and integral part of public school education.

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Table 1: Percentage of “White” Students Within School Passing the MBST Math Exam (1998-2004)

Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Avg. Years of Teacher Experience	-.232 (.128)	-.148 (.114)	-.079 (.116)	-.069 (.116)	-.012 (.115)
Percent of Teachers with A Masters Degree	.679*** (.125)	.429*** (.117)	.333*** (.122)	.247† (.134)	-.040 (.155)
Eighth Grade Daily Attendance	---	.845*** (.183)	.845*** (.183)	.709*** (.203)	1.060 (.757)
% Students Eligible For Free-Reduced Lunch	---	-.331*** (.066)	-.301*** (.067)	-.342*** (.072)	-.087 (.142)
10% or Less “White” Student	---	---	-10.814* (4.506)	-8.344† (4.771)	-17.816** (6.49)
% Students Enrolled on Oct. 1	---	---	---	.210 (.138)	-.218 (.247)
Fixed Effects	No	No	No	No	Yes
R-Squared	.165	.352	.376	.385	.586

†p<.10, *p<.05, **p<.01, ***p<.001

Table 2: Percentage of “Non-White” Students Within School Passing the MBST Math Exam (1998-2004)

Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Avg. Years of Teacher Experience	-.034 (.080)	.048 (.076)	.074 (.076)	.091 (.075)	.059 (.063)
Percent of Teachers with A Masters Degree	.328*** (.085)	.211** (.081)	.153† (.085)	.060 (.091)	.105 (.090)
Eight Grade Daily Attendance	---	.345*** (.082)	.279** (.088)	.085 (.114)	2.328*** (.470)
% Students Eligible For Free-Reduced Lunch	---	-.223*** (.046)	-.178*** (.051)	-.233*** (.054)	.003 (.087)
10% or Less “White” Student	---	---	-5.546* (2.746)	-3.170 (2.846)	-6.067† (3.417)
% Students Enrolled on Oct. 1	---	---	---	.251** (.096)	-.336† (.147)
Fixed Effects	No	No	No	No	Yes
R-Squared	.099	.250	.269	.299	.640

†p<.10, *p<.05, **p<.01, ***p<.001

Table 3: Descriptive Statistics For Percentage of “White” Students Within School
Passing the MBST Math Exam (1998-2004)

Independent Variable	Mean	Standard Deviation
Avg. Years of Teacher Experience	13.1282	13.98584
Percent of Teachers with A Masters Degree	35.6796	14.37593
Eighth Grade Daily Attendance	91.3760	7.88725
% Students Eligible For Free-Reduced Lunch	61.0629	21.42731
% Students “White”	30.9673	17.61766
% Students Enrolled on Oct. 1	130.5031	100.12175
% Pass MBST Math	74.7	

Number: 159

Table 4: Descriptive Statistics For Percentage of “Non-white” Students Within School Passing the MBST Math Exam (1998-2004)

Independent Variable	Mean	Standard Deviation
Avg. Years of Teacher Experience	13.7042	15.29315
Percent of Teachers with A Masters Degree	35.7577	14.40794
Eighth Grade Daily Attendance	90.3048	12.88406
% Students Eligible For Free-Reduced Lunch	59.9166	23.00071
% Students “White”	31.1840	18.71254
% Students Enrolled on Oct. 1	127.3497	98.54419
% Pass MBST Math	30.99	

Number: 163