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Introduction

The following study looks at the academic performance of black students and how variations in their social context can trigger high or low achievement. In order to analyze the differing outcomes in student performance, I look at their social context on the basis of 3 contextual categories: (1) home characteristics (e.g., parent background, number of guardians, and/or locale) (2) schools characteristics (e.g., enforced school policies, school location, and/or class size) (3) student behavioral characteristics (e.g., student report cards, attentiveness, and/or attendance). Also, this study considers the potential of using factors among high performing students to impact low performing students as they are applied.

The following outline presents the proposed direction of the study:

Literature Review

- An explanation of the goals of this study.
- A 3-part review of information weaving key elements of past research together to substantiate the background this research is based on. The 3 parts will be reviews of past studies speaking on the contextual influence of homes, schools, and individual student behaviors.

Methodology

- Operational definitions of “high achievement” and “low achievement” based on a set of responses selected directly from the NELS dataset.

Analysis

- A comparison, of measures of home, school, behavior descriptive and correlations. I will also use a binary logistic regression model to

Discussion

- A review of the finding from the NELS dataset.

Conclusion

- Potential solutions will be suggested relating to the comparative differences in the context of high/low performing students. The implications of policy influence will be spoken about here.

Literature Review

Current Context/Background

The outcomes in achievement of black students do not happen in a vacuum. It is worthwhile to observe the social, cultural context in which these students co-exist and perform above and below average. This study looks at family background of the students, the characteristics of their schools, and the behavioral patterns of the students. The following categories focus more on low achieving Black students. This is because there is extensive research available (both qualitative and quantitative) discussing the realities of this group. However, there is limited information discussing the realities of high achieving Black students. Thus, there is an emphasis on circumstances of the low achieving students.

Family/Student Background

Research on poverty status of families and teenagers between 2005 and 2007 show that 21.8% of Black families live below the poverty level, according the American Community Survey. 7.2% of these families are married-couples and 19.1% are female-headed households with no husband present. For Black families with teenagers between 15-19 years of age, 35.1% are in married-coupled households, 7.2% are in male-headed households with no wife present, 18.4% are in female-headed households with no husband present and 4.5% are in non-family households. Researchers such have argued that the high achievement of black in schools can increase if mechanisms are put into place to influence the circumstances of poverty (Rothstein, 2004). This

would include that availability of stable housing, year-round schooling, robust medical care and early childhood education.

School Characteristics

The educational system, as we see it today, has been partly influenced by of the Supreme Court *Brown v The Board of Education* (B v BoE) decision. Some view the B v. BoE decisions as the great “equalizer” putting an end to segregation and racial stratification in schools. Many researchers have argued that the average poor performance of black students in school can be attributed to their historically stymied access to resources. Due to stipulations put in this Supreme Court decision that allowed states and local districts to avoid acting immediately, major efforts to equalize access to resources produced marginal results. Bold efforts of policies such as No Child Left Behind (NCLB) have been pushed to aggressively close the achievement gap. Such policies have undoubtedly led to the following high-pressured/high-stakes teaching and administrative environments. Currently NCLB has been trumped by the Race to the Top (RTTT) initiative by the Obama Administration. Schools that have applied for and won funding will see a shift in their statewide school characteristics. The consequences of not meeting high stakes performance measures include displaced children attending inadequately equipped and crowded schools.

Student Behavior

There are many studies that use of high-level disciplinary action with black students. Current research on the behavior of black students tends to center around the use of disciplinary action for bad behavior rather than acts of encouragement to further

engage students in the learning process. Studies also take into account behavior in terms of student dropouts, and student attitudes.

For instance, a look at data from the National Center for Education Statistics (NCES) shows that there is a gap between the “status dropout” rates of white and black students between 1972 and 2006. Even though the data shows that the gap has been closing, this pattern has not been consistent. Another study suggests that middle class blacks do not study as hard as white children and these same black students tend to be more disruptive in class. Also attitudes towards learning among black students are less pronounced given the rates at which they are rewarded; a sense of apathy develops, as the payoff for hard work is seemingly minimal (Rothstein 2004). One might agree with these statements by pointing out the lack of relevance students might feel when assumptions of disruptive behavior overshadow a call for substantive teacher student engagement.

Often misdiagnosed, many students find themselves in special education classrooms under the category of “emotionally disturbed” or ED because of what instructors may consider to be disruptive behaviors/disabilities (Skiba 2008). As it relates to school discipline and disruptive behavior, research shows that male students tend to have more disruptive behavior than female students. The variance in gender relations displays how boys are uniquely judged in the class environment; this “bad” behavior speaks to the likelihood of black boys being singled out as delinquents more than black girls.

Black students tend to be disproportionately targeted more than white students. (Skiba 2004). Many question whether the race of the students plays a role in the

judgment taken up by instructors. Of 10 times, counselor/teacher judgments and exam scores are the only measure through which black students are assessed and placed in school course tracks (Oakes 2005). This may be worrisome considering that levels of aggression and achievement have been measured by how black students physical walk. Students displaying the type of walk resonating with the cultural style were perceived by instructors as being more aggressive and lower and achieving (Neal 2003). Researchers saw such students prescribing to African American culture as having more need for special education services.

Lastly, the study on how cultural assumptions negatively impact how black students perform on test has several implications on the performance of black students. The study found that the cognitive skills of black students are seemingly hampered when the threat of conforming to a cultural stereotype is at hand. When the threat is not an issue, black student attain higher scores on diagnostic proficiency tests.

Synthesis

King, Houston, and Rene look at schools failure to address inferiority. The major purpose of this research is to observe how white supremacy ideology is used to inform education practices and policy making as it works to the disadvantage of non-European Students. The methodology of the research was based on non-obtrusive qualitative finding analyzing previous findings and government documents. The main variables are primarily educational practices/policies in the form of laws. Secondly, the resulting circumstances of these actions in the form of unequal access to educational resources are observed. The basic unit of analysis is laws and regulations. The findings show that non-European subjects are considered to be inferior as a result of educational policies

informed by white supremacy ideology. The authors conclude that how students are taught is more important than what students are taught; much more has to be done to facilitate this process. I am in accordance with these authors and wonder how efforts have been taken to influence how students are challenged to employ critical thinking of information presented to them. This study is useful as it relates to understanding the school context and how students feel as they process information and respond to family background influences.

In “It’s Going Good: Inner-City Black and Latino Adolescents’ Perceptions about Achieving an Education” Kaplan looks at how it is that social scientists hear the voices of teenagers; what they think, know, and believe about their school experience/education. “Can inner-city children aspire to achieve and transcend the limitations of their objective probabilities?” The methods of investigation are based on macro-level qualitative research; participant observation using samples and focus groups to administer questionnaires. The major variable is the perspective of the students as defined by their thoughts on strategies for change. The study population was teenagers of Latino or African American descent. A Youth Empowerment Program was used to gauge student perspectives. The findings had shown that students had a more positive outlook to school despite not actually performing better academically; the students felt more challenge to perform better. According to Kaplan, “This study shows most of all that we need to listen to children. If we do, we may be pleasantly surprised by how much they conform to the right norms and values of those around them.” This study encourages me question what is more important – the conformity of children to the standards of culture or educational attainment based on a substantive and inclusive

curriculum. Although related to the school setting, this study is relevant as far as understanding the behavioral dynamics of high and low achieving black males; variations in their perspectives can show how they conform to norms of success.

The focus of Entwisle's and Alexander's' research is a review of how out-of-school social structures influences associated with poverty, ethnicity, and family type complicate early school adjustment. This is all taken into account in an examination of educational stratification. The researchers are asking the question, how educational stratification occurs. The methodology used is unobtrusive, qualitative research; historical data analysis conducted. Also, in terms of school performance, a panel study using what is known as the BSS (Beginning School Study) is employed based on a stratified random sample. The major variables are described through what the researchers call "risk factors"; they serve as indicators of social inequity amongst children. These include economic standing, minority groups membership, and/or living in a single parent residence. The unit of analysis consists of African-American and White-Americans in the first grade from Baltimore. The findings of the research show that patterns of performance in the early years can persist over time. Also, the bureaucratic structures and the status of teachers can have influence over time. In their final words, the researchers say that they believe schooling at the ages for 3-7 to be important for advancing children's development in the later years of schooling. This study is relevant to the extent that it suggests how life outside of schools influencing high/low performing black male students; the focus here can be on family background (i.e. whether or no the student's family is in poverty).

In “Independent Black Institutions”, Lomotey looks at the need for models of educational systems geared toward reinforcing cultural identity as a launch pad in the early childhood education of African American children. Essentially, he argues that in developing a sense of self, as a child’s esteem increases, so does his/her academic performance. Referencing theoretical/empirical frameworks, Lomotey offers a type of cost-benefit analysis as he looks at the observable results of students who learn within the context of African-Centered Curriculums. Observing the performance of students from Independent Black Institutions (IBI) and comparing them to the performances of public school students, he saw better results from the former. Lomotey sees this process as being important during the early years of schooling with indicators of success being strong social relations with families, teachers, and friends. He sees continued implementation of African-Centered Programs as critical to fostering high self esteems amongst black students. This study speaks to how the school context can influence the performance of high/low performing black students.

In his research on social capital, Coleman asks how two main “intellectual streams” (economics and sociology) can address structure and agency theoretically through the conceptual tool of social capital. Thus having social capital as a tool, it serves as the theoretical framework for his methodology. In his analysis, he looks at dropout rates in high schools. Coleman uses dropout rates as his main variable; he determines rate change based on amounts of social, cultural, human, and financial capital available to families. His study population consists of high school between grades 10-12. The findings of his research have shown that those parents who lack social capital and human capital tend to have the higher dropout rates. Coleman

concludes that the agents of social capital do not gain its full benefits. This study is relevant as far as it considers the influence of a family's cultural background and how they influences school performance; this can speak to the experience of high/low performing black students.

Tyson conducted a study called "Notes from the Back of the Room: Problems and Paradoxes in the Schooling of Young Black Students". The purpose of her study is to examine the process of social reproduction of mainstream norms that reinforce the instances of social inequality. Essentially she is asking the following the following: "(1) how and why teachers participate in practices and policies that may undermine minority students' academic achievements, (2) how elementary students respond to these practices and policies and (3) the implications of the first and second items for academic performance at the elementary levels"(p. 326). Tyson uses qualitative ethnographic research to observe how teachers respond to behaviors of their African-American students and vice versa. Her basic units of analysis are African-American students and their teachers from all black high schools where one is a Black Independent School (BIS) and the other is a public high school. In he findings, she discusses how there are similarities between the student treatment in both the public school and the BIS with an African-Centered curriculum. She found that in both schools, having students conform to social norms superseded building self-esteem. Tyson points out the pressure placed on students to conform to norms that bar them from being stereotyped. Lastly she points out the unin10ded consequences that come as a result of exaggerated emphasis on how to behave. In concluding she points out how regardless of the type of schooling environment, there exist agents that influence conformity to the cultural norm; black

teachers find themselves in a balancing act attempting to affirm self-esteem and warding off socially suffocating ubiquity of the dominant culture. This study is quite relevant as it pertains to observing student behaviors and the school context. There are implications of what can be said for high/low performing black students in terms of conformity and discipline in class.

In the his research on “Functional and Conflict Theories of Educational Stratification”, Collins attempts to determine whether Technical Function Theory or Conflict Theory best explain stratification as it relates to hiring qualified employees. He critiques both theories and offers an explanation as to why Conflict theory is more exhaustive. Also, he purposefully shows how aspects of Technical-Function theory can be integrated into the framework of Conflict Theory. Furthermore, Collins’ premises contain explanations of how the role of elite status culture is sublimated into the criteria for proper education. His research strategy uses empirical findings to indicate instances where class status takes precedence over where technical skill should be more important. Overall, his research methodology employs a theoretical comparative analysis. The major variables of his research are cultural status, represented in terms of status class and education. Generally, Collins says that incentives for attaining higher levels of education are packaged with a class status upgrade. In conclusion, Collins points out the advantage of Conflict Theory as being more in depth relative to Technical Function Theory. He criticizes Technical Function Theory for its lack of abstraction in accounting for the relevance of class status. This study can be used to explain the influence of background and how that in turn influences the schooling context of high/low performing black students.

In “Using data to close the achievement gap: How to measure equity in our schools”, Johnson suggests the importance of equalizing the experiences that students have in the school environment. She suggests doing this by having schools perform data-based self assessments. This is a relevant source because it speaks to the problems of the school environment lacking a means of proper evaluation. As far as providing solutions for educational equality, this strategy can be useful as far as it entails observing in10tions with actual outcomes. This research is relevant as far as it focuses on the school context, its structure, and how it influences high/low performance black students.

In his research on cultural capital and school success, DiMaggio looks at the importance of cultural capital in affecting the grades of students in U.S. High Schools as opposed to indicators that look at family background. In relation to educational equality, this information is useful as far as assessing how culture (perhaps school culture) influences who performs better or worse in schools. As far as providing a solution for educational equality, DiMaggio suggests the importance of first using the right research methods to help in finding the correlation with grades. This research is useful because it looks at the home and student behavior factors influencing high/low performing black students.

In discussing problems facing black students, Tyson talks about the issue of cultural socialization in the classroom. In efforts to encourage high achievement, teachers in African-American schools fall short when they spend more time disciplining deviant behavior as opposed to building on self-esteem. This information is useful for providing solutions for educational equality in how it suggests what should not be the

practice of teachers. This research can speak to the school context influencing high/low performing black students.

In “Closing the Achievement Gap, Educational Leadership”, Haycock suggests that there is a need to close the achievement gap for low-income minority students. To do so, these fundamental changes must come from: (1) the standards (2) more challenging curriculums, and (3) good teachers. Haycock makes a comparison of achievement patterns amongst African-American, Latino, and white students. This report is useful because it attempts to provide a viable solution to closing the gap through influencing school structure. This research focuses on the school context is can be relevant for explaining the circumstances of high/low performing black students.

In “Steady Gains and Stalled Progress”, Ferguson looks at the evidence from the National Assessment of Educational Progress Long Term Trend Assessment (NAEP-LTT) that show decreases the achievement gap between black and white students. This data is quite useful as far as providing information on what has happened to the achievement gap at certain points in time. This study is useful as far as it offers a data to encourage questioning of how key variables have to be in place to further close the achievement gap. Furthermore, this research is relevant to the circumstance of high/low performing black students to the extent that it looks at influence in school schools.

Muller, Riegle-Crumb, and Schiller write about race, social class and academic achievement. Using the AHA and from the ADDHEALTH dataset, this study looks at the influence of the context under which African-American American are educated. This is used as a baseline for understanding how achievement levels. The results of this

study may lead one to implicate solutions relating to eliminating race-based course placement, as it is an indicator of lower achievement. This research can speak to how the school context can influence high/low performing black students.

In “Keeping Track: How schools structure in equality”, Oakes looks at the trends of tracking within schools and monitors how it facilitates educational inequality. She looks at the relations between students and teacher within High School classes of different tracks (low, average, and high). This book is useful for finding solutions for inequality. There are implications about the success that can come from “de-tracking” classrooms. Oakes focus on what happens within schools has implications about how high/low performing black students are influenced.

Theoretical Synthesis

Given the review family background and the influence of social and cultural capital, one might suggest of high/low performing black students that circumstances of cultural and social norms of various families come in to “competition when in a given environment. In a sense, students voluntarily and involuntarily inherit character traits that are more acceptable in some settings and less accepting in others. This frequent need to barter has influence on how high/low performing black students perceive their surrounds. For instance, for a black boy to acknowledge his blackness in the school setting, if his intentions are to perform well in school, he may hold the notion that he must “act” white to perform well. W.E.B. Dubois speaks on the reality of what he calls “double consciousness.” This concept speaks to how post slavery African Americans lived one life and home amongst black people but followed a completely different

schema in the world of white Americans. The concept of double consciousness can apply to today.

Given the review on schools and the influence of social and cultural capital, it is evident that high/low performing black students are highly influenced by the biases of school, teachings, tests, policies, and social/cultural characteristics. Students are subjected tracking by teachers who hold assumptions about the drive of black students based on their judgment-based prescriptions. Black male students are more of 10 targets of disciplinary action rather than accolades. Examinations such as NAEP (National Assessment of Educational Progress) fail to account for the differences in experiences of black male students in comparison to other students thus influencing their disconnectedness to the school experience. These overall all have massive impact on how black students perform. The black students who benefit are presumably to the students who fall in line with the schemas/templates etched out for them in the school setting through tracking and labeling (aside from their own natural abilities).

Given the review on student behavior and the influence of social and cultural capital, one might suggest that high/low performing black students have a difference in behavior in relation to how they are they prefer to spend their time. Many students who build networks with individuals affiliated with high performance in school and home may likely feel more concerned with doing well while other students who feel disconnected from school, because it does not seem to readily present opportunities (rather more obstacles), may be swayed away from the educational aspect of the school experience.

The Study

The Research Questions

How is it that the social institutions surrounding us influence our ability to perform well in school? This study looks at the how the performance of students is influenced by their social environments. In particular, it looks at how social context in the form of home, school, and behavior characteristics have an effect on how well students do on standardized reading tests. Acknowledging the educational divide along the lines of race, this study places a particular focus on the performance of black students. There is likelihood that unique factors relating to how black student perform will be noteworthy. All black students do not perform on the same level so there is also a likelihood of finding wide spectrum of students performing at various levels.

For this study, the key factors that of particular interest will be how high performing student perform. This study will consider the characteristics of high performing black students from their home, school, and behavioral attributes. Comparing the findings of high performing students to the findings of low performing students can offer an opportunity to suggest recommendations on how the performances from students with lower achievement can potentially see improvement. Overseeing and questioning reoccurring patterns within their social context can possibly shed light on what can be done differently at home amongst parents, in school amongst teachers and in the action of students to increase self efficacy.

The fundamental question of this study is “what can we learn about the environments of high performing black students to leverage higher academic performance amongst black students who do not do as well”? By no means is this an

attempt to provide a “silver bullet solution” more than it is an effort to revisit research efforts to see how structure of particular environment yields a certain outcome amongst its agents.

Methods

The data used for this study comes from the 1988 National Educational Longitudinal Study (NELS). According to the National Center for Education Statistics (NCES), NELS is a nationally representative sample of eighth grade students who were surveyed. The Total dataset surveyed over 12,000 students across the country. This survey consists of questions asking students about the following: “school, work, and home experiences; educational resources and support; the role in education of their parents and peers; neighborhood characteristics educational occupational aspirations; and other student perceptions.” Following 1988, follow up studies were conducted in 1990, 1992, 1994, and 2000. This study does cover the gambit of questions asked by teachers, parents, or administrators in the follow up studies.

The 1988 NELS data was chosen for several key reasons. This study only focuses on eighth graders of the base year, 1988. This sample of student is a group transitioning from junior high school to high school. This is significant as it allows students to be surveyed before they face the effects of high school such as the questionable stratification of students into academic tracks. This data can be used for observing “educational processes and outcomes”, “student learning”, and student’s “equal opportunity to learn”. Prior to deciding on this dataset, the National Longitudinal Study of Adolescent Health (ADD Health) and the National Assessment for Educational Progress (NAEP) were considered. The usability of the NELS dataset took precedence

over others involving complex transformations (ADD Health), sample size (NAEP), and overall accessibility raw data.

The target group of the study is high performing black students. This group is defined as black students who perform above the average (median) on standardized reading or math exams. The comparison group of the study is low performing black students. This group is defined as the students who perform below average on standardized reading and math tests. The high performing black students will be compared to the low performing black students. The combined sample size for both groups is rough 8.7% of the entire dataset.

Sample Descriptive

Differences between High/Low Performing Students in Reading

Home

Home characteristics for both high and low performing black students show that surveyed students who perform above average have a higher socioeconomic status than students who perform below average. Both groups are more likely to grow up in neighborhoods that are racially homogenous; this is more likely for below average performing students than above average performing students. The below average students has a higher percentage of men than the above average students. The majority of both groups live in households where their guardians are working. However, the below average students come from households where approximately double the percentage of parents are employed and disabled.

Home characteristics for high performing black students show that majority of these students (88.8%) live in households where their mother's were "currently working"

during the taking of the survey. 64.48% of the black students grew up in neighborhoods where others were of the same race. They deviate from the mean by 32.2. More in comparison to half (54.5%) of the students taking the survey were already living in two family households than students who are living in single parent homes. There is less than 1% residing in father only households and nearly 30% come from mother only households. Most of the above average students responding were women; only 37.5% were men.

Home characteristics for low performing black students show that they tend to come from families of lower socioeconomic (SES) status according to the NELS SES composite (-.617). 77.9% of these black students grew up in neighborhoods that are racially homogenous. Nearly half of the students (45.6%) are men. A little over 81% of below average performing students live in family households where the guardians are working. The majority of these students come from two parent households (40%). Following this, most students live in single parent households headed by their mothers 36%. The fathers are significantly absent with a little under 2% of students living in father only households.

School

School characteristics for high performing black students include average class sizes of about 17 students per teacher, schools primarily located in urban areas and roughly 62% of enrollment in schools of less than 800 students. The majority of the students in the sample come from schools that offer between 31% to 50% free lunch. Also a large portion of these students attend schools that offer no free lunch as well (18.1%). Furthermore, most of the students are from schools where between 61% and

100% of the school is minority. An overwhelming majority of their teachers are white Non-Hispanic (74%) followed by black Non-Hispanic (25%). In 66% of these classes, teachers spend less than one hour maintaining discipline and order amongst students. About 44% of these teachers believe it accurate to say that their students have a priority for learning. They usually complete 80% to 89% of their text books and 76% at 10d public schools.

School characteristics for low performing black students include average class sizes of about 17 students per teacher, schools primarily located in urban areas and roughly 69.5% of enrollment in schools of less than 800 students. The majority of the students in the sample come from schools that offer between 51% to 75% free lunch. About roughly 20% of students perform below average whether is school is between 21% or 100% minority. An overwhelming majority of their teachers are white Non-Hispanic (66%) followed by black Non-Hispanic (32%). In 61% of these classes, teachers spend less than one hour maintaining discipline and order amongst students. About 42% of these teachers perceive their student's priority to learn as being neutral. They usually complete 80% to 89% of their text books and 93% at 10d public schools.

School characteristics for both high and low performing black students show that these students have about the same student to teacher ratio; about 7.5% more low performing students learn in urban areas with roughly similar enrollment. Low performing students find themselves having more free lunch program available. Both groups have teachers who are predominantly white. Teachers have more confidence in the ability of high performing students than lower performing students. Teachers spend around the same time on discipline with both groups and about the same percentage of

the text book is covered with both groups. Lastly, there are about 17% more low performing students in public schools while there are 9.3% more high performing students in Catholic schools.

Behavior

Behavior characteristics for both high and low performing black students show that above average students have higher grade point averages. Most students in both groups do not participate in summer programs but more below average performing students do not participate. Of students who participate, there are more who are high performing and more who are officers in their own programs. In both groups, the majority of students respond that they spend up to 5 hours a week doing homework. There is more of a normal distribution of hours spent watching television among low performing student than among high performing students. More low performing students watch more than 5 hours of television during the week days than high performing students.

Behavior characteristics for high performing black students show that their average grade point averages are 3.1. 62% of these students do not participate in summer programs and 37% of them participated as members and only .4% participated in summer programs as officers. Most students spend up to 3 hours (20%) or up to 10 hours (20%) doing homework during the week; 37% of students spend up to 5 hours during the week doing homework. About 3.5% claim to only 2 hours of homework and again, about 3.5% claims to spend 21 or more hours doing homework. Almost 4% of students responded that they watch less than 1 hour of television during the week. There is a skewed distribution of students who watch more television. About 21% of

students respond that they watch between 3 to 4, 4 to 5, or 5 hours and up of television during the week.

Behavior characteristics for low performing black students show that their average grade point averages are 2.6. 72% of these students do not participate in summer programs, 24.9% of them participated as members, and 2.6% participated in summer programs as officers. Most students spend up to 5 hours (40.3%) doing homework during the week. About 2.6% claim to spend 0 hours of homework and about 1.75% claim to spend 21 or more hours doing homework. 2% of students claim that they do not watch television during the week. The largest share of students (29%) responded that they watch more than 5 hours of television during the week.

Differences between High/Low Performing Students in Math

Home

Home characteristics for high performing black students show that these students have a socioeconomic status (SES) index measure of .15 (positive). They grew up in neighborhoods where about 60% of the people were of the same race. 44.3% of the student respondents were male. 92.6% of the students came from families where the guardian(s) were currently working only about 5.5% were unemployed and about 2% were retired/disabled. A little over half (51.9%) of the students come from households run by both a mother and father; about 31% of the respondents lived homes only ran by the mother. Father only homes are a rarity, constituting only 2.3% of this group.

Home characteristics for low performing black students show that these students have a socio-economic status (SES) index measure of -.51 (negative). They grew up in

neighborhoods where about 3 quarters (75%) of the people were of the same race. 43.6% of the student respondents were male. 82.2% of the students came from families where the guardian(s) are currently working only about 11.1% were unemployed and about two 6% were retired/disabled. A little under half (42.9%) of the students come from households run by both a mother and father; about 35% of the respondents lived homes only ran by the mother. Again, father only homes are a rarity, constituting less than 2% of this group.

Home characteristics for both high and low performing black students show that high performing students come from families of higher socioeconomic status than low performing students. Low performing students grew up in more racially homogenous neighborhoods than high performing students. Both groups have a gender breakdown whereby a little less than half of the respondents are male. High performing families have settings where about 10% more of parents are currently working. Less low performing live in two parent households and about 5% more live in single parent, mother only homes.

School

School characteristics for both high and low performing black students share many similarities. Both students groups have the same student to teacher ratio, they 10d to at10d school in urban areas, they both have non-Hispanic white teachers as their majority, their teachers spend around the same amount of time maintaining discipline, and the percent coverage of school textbooks are about the same. Lastly, both groups 10d to go to public schools. The main differences between the two groups are the

percentage differences in the offerings of free school lunches and the percentages of the students in their schools that are minority.

School characteristics for high performing black students include average class sizes of about 17 students per teacher, schools primarily located in urban areas and roughly 64% of enrollment in schools of less than 800 students. Most frequently, students come from schools that offer between 31% to 50% free lunch. 16.5% of these students attend schools that offer no free lunch as well. Most frequently, students are from schools where between 21% and 40% of the school is minority. An overwhelming majority of their teachers are white Non-Hispanic (73.6%) followed by black Non-Hispanic (25%) as in the reading category. In 68% of these classes, teachers spend less than one hour maintaining discipline and order amongst students. About 44% of these teachers believe it accurate to say that their students have a priority for learning as in the reading category. 31.4% of teachers usually complete 80% to 89% of their textbooks and the majority of students attend public schools (76%)

School characteristics for low performing black students include a 17 to 1 student to teacher ratio. Most of these students are in schools located in urban areas (36.7%); overall there is an even distribution of low performing black students in rural, urban, and suburban students from this sample. Between 51% and 75% of students have the highest frequency of free lunch in school. The highest frequency of students in this sample (22.4%) is in schools that are 91% to 100% minority. However, there is an even distribution of students who are in schools that are 61% to 90% minority (21.5%) and 41 to 60% minority (22.2%). Like the high performing students, an overwhelming majority of the teachers are non-Hispanic whites (67.3%) followed by non-Hispanic black

(31.3%). 62.2% of teachers spend their spend less than 1 hour of class time maintaining discipline. As with reading scores, 40.8% of teachers believe it to be neutral that their students place a priority on learning. Most frequently, students cover between 80% to 89% of textbooks in school. Lastly, the vast majority of low performing students at 10d public schools.

Behavior

Behavior characteristics for high performing black students show that their average grade point averages are 3.3. 63% of these students do not participate in summer programs and 36% of them participated as members. Most students spend up to 5 hours (34%) or up to 10 hours (19%) doing homework during the week; 12% of students spend up to 20 hours during the week doing homework. 5.6% of students responded that they watch less than 1 hour of television during the week. There is a normal distribution of students who watch more television. Within 3 categories 20% to 21% of students respond that they watch between two to 3, 3 to 4, or 4 to 5 hours television during the week.

Behavior characteristics for low performing black students show that their average grade point averages are 2.7. 70% of these students do not participate in summer programs and 27% of them participated as members. Most students spend up to 5 hours (40.5%) doing homework during the week; a littler more than 2% report that they spend no time studying and 2% also report that they spend 21 hours and up studying. 5.9% of students responded that they watch less than 1 hour of television during the week. There is a left skewed distribution of students who watch television; more students report watching more hours of television than less progressively.

Behavior characteristics for both high and low performing black students show that high performing students maintain higher grade point averages. Less low performing students participate in summer programs than high performing students. Overall, more high performing students spend more time doing homework during the week. There is a great spread of high performing students who watch television during the week whereas a higher concentration of low performing students watches more television during the weekdays.

Reading Analysis

Summary

For black students who performed above average on reading standardized tests, the most important variables of influence from their social context (home, school, and behavior) are the following:

- Socioeconomic status of student's family
- The percentage of the neighborhood of the same race that grew up with you
- Student sex
- Father only household
- Urbanicity of school - Urban
- Students from schools with 0% free lunch
- Students in classes that cover 60-90% and 80-100% of textbooks.
- Students who attended private schools that are religions other than Catholicism

Variables such as (1) hours spent studying during the week, (2) not watching television during the week, and (3) participation in summer programs were expected to have significance and did not. This outcome can be explained partly by the number of cases used in the Binary Logistic Regression Model. Of the 1041 black students only 48.2 percent of the cases were selected (n=501) because of responses that were unaccounted for. This includes data missing on the race of the teachers, percentage of the textbook covered in class, and whether or not students were involved in summer programs.

Iterative Maximum Likelihood

The maximum likelihood that the observed independent variables will predict the observed dependent variables increases after 5 iterations. In other words, the odds of given home school and behavior characteristics predicting the above average scoring of black students on standardized reading tests increases in likelihood as the $-2 \times \text{Log-Likelihood}$ increases. 18.1 represents the differential increase in $-2 \times \text{log likelihood}$ from 500.3 to 518.4 (starting from step 1 to step 16 and after each respective fifth iteration, see the “Iterative History” table). This estimation is worth consideration given that the sample size was reduced by almost half (from 1041 to 501 or 48.1%).

Model Summary

From the base model to step 8 the full regression model’s goodness of fit fractionally improves by with the Cox & Snell R^2 decreasing by .006. The Nagelkerke R^2 improves upon the Cox & Snell R^2 by increasing R^2 and showing a differential decrease from its base model to step 16 by .009. This shows the improvement in the model’s ability to predict the extent that social context influences performance on reading tests. These model statistics are Pseudo R^2 . Little may be said about the effect size of the social context on reading performance using the R^2 statistics in the model summary. R^2 figures for Binary Logistic Regressions are not considered as much revealing in terms of causality given that it does not exactly offer researchers the percentage of variance that is explainable by the model.

Omnibus Test of Model Coefficients

Overall, adding the given predictor variables of social context is statistically significant in showing whether students perform above or below average on standardized reading tests. However, there is only significance for the model. Observing the Omnibus Test table of the last block after the sixteenth step shows that chi-square (127.3) is significant at .000. Chi squared at the last step of the model is not significant (.114) nor is it significant at the initial step. The insignificance represents an acceptance of the null hypothesis (independent variables of social context are not capable of predicting above/below average performances). However the significance of the overall model shows that the null hypothesis can be rejected and that social context can help predict above/below average scoring outcomes; this binary logistic model is a good fit.

Hosmer and Lemeshow Test

The model of this study maintains a goodness of fit given that the chi-square result is not significant. This means that social context variables and binary logistics model used to analyze it are in correspondence. At the sixteenth step and third block of this model, a chi-square decreases by 7.2 to 6.3 with an insignificant p-value increasing by .677 to .889. Furthermore, we have a well fitting binary logistic regression model given that our p value is greater than .005. We do not fail to reject the null hypothesis showing sameness between the observed and expected values (above and below average reading scores) on the Hosmer and Lemeshow Test Contingency Table.

Contingency Table

As mentioned, the non-significance of the chi-square figure shows that the binary logistic regression model is a good fit. This is because the non-significant chi-square for the given contingency tables tells us that expected frequencies for students performing either below or above average on reading tests are practically no different from observed frequencies. The limits of the sample size prevent us from testing the goodness of fit any further (although the sample size is adequate).

Classification Table

The Classification table shows us how accurate our model is at predicting whether or not students perform above average. Overall our model is better at predicting cases where students perform below average than it is at predicting when student perform above average. This model accurately selects cases of above average and below average performing students 76% of the time. The 49.7% of the time, the model avoids false positives (incorrectly picking a case as below average when it is above average). However 88.7% of the time the model avoids false negatives (incorrectly predicting above average in cases that should be below average).

Variables in the Equation

The odds of performing above average on standardized reading tests as opposed to below average are increased by a factor of 2.484 if a student's family socioeconomic status is increasing. In other words, black students with increasing socioeconomic status are almost 3 times as likely to score above average on reading

standardized tests. This is all given that other predictor variables in the model are controlled.

The odds of performing above average on standardized reading tests as opposed to below average decreases by a factor of .988 if a black student grew up in a neighbor of the same race as her own. This means that growing up in a more homogenous neighborhood decreases the odds of performing above average on reading tests by 98% while controlling for all other variables of social context in the model.

The odds of black students performing above average on standardized reading tests rather than below average increase by a factor of .528 while being male. In other words, these black male students are less than half as likely to perform above average on standardized reading tests with all other variables being controlled for in the model. Black female student's odds are almost twice as likely (1.8) to perform above average on standardized reading tests.

Performing above average on reading tests whiles coming from families composing of only fathers has an odds ratio of .114 with all other predictor variables being controlled. However, this odds ratio is not significant with a p value of .080. This means that for the given model, family households where only the father is present has no bearing on whether students perform above or below average on standardized tests.

Black students attending schools in urban settings are more likely to perform above average on standardized reading tests by a factor of 1.545. In other words, the odds of urban black students above average on standardized tests is more than half as likely given that all other social context variables in the model are controlled for.

In schools that do not offer free lunch programs, the odds of black students performing above average on reading test increases by a factor of 3.137. That means that these students are 3 times as likely to perform above average given that other variables in the model are controlled. Students in free schools with free lunch programs odds of performing above average are .319. This finding however is highly significant with a p value of .001.

Black students whose classes have covered 60% to 69% of the textbook in their courses are more likely to score above average on reading standardized tests with an odds ratio 7.012. Covering this much of school textbook can account for these students performing above average. As more of the textbook is covered however (between 80% and 100%), the percentage of the book covered only accounts for above average scores nearly twice as much with an odds ratio of 1.873 (80% to 89%) and 1.856 (90% to 100%). The higher the percentage of the book that is covered, the less significant the odds ratios are in explaining student's ability to perform above average.

Black students who perform above average on standardized reading tests odds increase by a factor of 4.292 when they attend private schools that are other than catholic. In other words, black students being in non-catholic religious school makes them more than 4 times more likely to perform above average on standardized reading tests. However, this explanation is hardly significant with a p value of .099.

Variables not in the Equation

The behavioral social context variables of the third block in the binary logistic regression did not fit into the equation. By the 16th step, the following variables list as having now significance: (1) summer programs student participated in, (2) hours spent

doing homework during the week, (3) and the hours spent watching television during the weekdays. The very least significant variable in explaining how black student perform on standardized reading tests was students not watching television during the weekdays.

Correlations

Of the home school and behavior social context variables that made it to the through to the last step/block of the model, there were no strong correlations between any of the variables that were of significance. The strongest correlation worth considering the barely moderate negative correlations between the dummy dichotomous variables observing the percentage of textbooks covered in class. All the other variables were not significant and had weak associations.

Overall

This binary logistic regression model will be able to improve predicting how social context can influence above average performance on reading tests. In addition to home characteristics, the addition of school and behavior context helps improve the predicting the odds of students scoring above average. We reject the null hypothesis and say that there is a goodness of fit for the models ability to predict outcomes mirroring the observed outcomes. The necessary specificity and sensitivity of present in the binary model in order to predict above average performance half of the time and below average performance three fourths of the time. Most importantly, the discover that 10 of the 78 variables the make up social context narrows down to 10 significant variables the

explain a portion of black student performing above average on standardized reading tests.

Math Analysis

Summary

For black students who performed above average on math standardized tests, the most important variables of influence from their social context (home, school, and behavior) are the following:

- Socioeconomic status of student's family
- The percentage of the neighborhood of the same race that grew up with you
- Father only household
- The percentage of the school with free lunch
- Student's priority on learning (teachers perception)
- Percentage of text book covered in school
- School Control
- Percentage of students receiving remedial math help
- Time spent doing homework during the weekdays
- Time spent watching television

Variables such as (1) participation in summer programs, (2) time spent doing homework during the week, and (3) time spent watching television were omitted from the regression model*. This outcome can be explained partly by the number of cases used in the Binary Logistic Regression Model. Of the 1041 black students only 48.2 percent of the cases were selected (n=501) because of responses that were unaccounted for. This includes data missing on the race of the teachers, percentage of

* Dichotomous dummy variables were created amongst the multinomial variables resulting in a subset of variables being significant while others are not significant.

the textbook covered in class, and whether or not students were involved in summer programs.

Iterative Maximum Likelihood

The maximum likelihood that the observed independent variables will predict the observed dependent variables decreases after 20 iterations in the third block after behavioral characteristics are added. In other words, the odds of given home school and behavioral characteristics predicting the above average scoring of black students on standardized math tests increases in likelihood as the $-2 \times \text{Log-Likelihood}$ increases. 6.5 represents the differential increase in $-2 \times \log$ likelihood from 348.8 to 354.4 (starting from step 1 to step 20 and after each respective twentieth iteration, see the “Iterative History” table). The $-2 \times \log$ likelihood is smaller for math than it is for reading as well as it’s differential from the first step to the last step.

Model Summary

From the base model to step 12, the full regression model’s goodness of fit fractionally improves by with the Cox & Snell R^2 decreasing by .016. The Nagelkerke R^2 barely improves upon the Cox & Snell R^2 by increasing the R^2 and showing a differential decrease from its base model to step 12 by .018. This shows the improvement in the model’s ability to predict the extent that social context influences performance on math tests. These model statistics are Pseudo R^2 . Little may be said about the effect size of the social context on math performance using the R^2 statistics in the model summary. R^2 figures for Binary Logistic Regressions are not considered as much revealing in terms of causality given that it does not exactly offer researchers the percentage of variance that is explainable by the model.

Omnibus Test of Model Coefficients

Overall, adding the given predictor variables of social context are statistically significant in showing whether students perform above or below average on standardized math tests. However, there is only significance for the third block (behavioral characteristics) and overall model. Observing the Omnibus Test table of the last block after the twelfth step shows that chi-square (16.405) is significant at .003. Chi squared at the last step of the model is significant (.000). The step chi-square is (-.055) is not with a p value of .815. The insignificance represents an acceptance of the null hypothesis (independent variables of social context are not capable of predicting above/below average performances). However the significance of the behavioral characteristics block and overall model shows that the null hypothesis can be rejected and that social context can help predict above/below average scoring outcomes.

Hosmer and Lemeshow Test

This binary logistic regression maintains a questionable goodness of fit even though the chi-square result is not significant. This means that social context variables and the model used to analyze it are in correspondence. At the twelfth step and the third block of this model, a chi-square increases by 2.6 to 7.9 with an insignificant p-value decreasing by .281 to .437. This can be due to the fact that there are multiple dummy variables that are components of the same variables. Those variables are school control (public or catholic school) and hours spent doing homework during the week. However, we have a well fitting binary logistic regression model given that our p value is greater than .005. Also, we do not fail to reject the null hypothesis showing sameness between the observed and expected values (above and below average math scores) on the Hosmer and Lemeshow Test Contingency Table.

Contingency Table

From step one to step twelve, the predictability of the model slightly worsens but it is still relatively accurate and not significant. A non-significant chi-square figure shows that the binary logistic regression model is a good fit. This is because the non-significant chi-square for the given contingency tables tells us that expected frequencies for students performing either below or above average on math tests are practically no different from observed frequencies.

Classification Table

The Classification table shows us how accurate our model is at predicting whether or not students perform above average. Overall, this model's accuracy in predication mirrors the model of for social context's influence on reading scores. This model more accurately predicts cases where students perform below average than cases where student perform above average on standardized math tests. It accurately selects cases of above average and below average performing students 85.3% of the time. 97.1% of the time, the model avoids false positives (incorrectly picking a case as above average when it is below average). However 25.3% of the time the model avoids false negatives (incorrectly predicting below average in cases that should be above average).

Variables in the Equation

The odds of black students scoring above average on standardized math tests is twice as likely to be explained the more a student's socioeconomic status increases while other social context variables are controlled. Simply put, black students who live better, score better on math standardized tests. This finding is highly significant at a level of below .001.

The odds of black students performing above average on standardized math tests decreases as the neighborhoods in which they grew up becomes more black. Thus, students perform better growing up in neighborhoods that are less racially homogenous. Also, they are 1.01 times as likely to perform below average growing up in neighborhoods that are the same. Even though this is significant at a level of .001, the statistic means that the racial make-up of where students grow has nearly no effect on their performance.

Black students who only live with their fathers are less likely to perform above average on standardized tests. However, this variable shows no significance and the standard error is too high to claim that father-only family composition may have an effect on student math scores. House composition unexpectedly, mother only households did not find its way into the model.

Schools that offer 11% to 20% of their students free lunch at school are almost twice as likely to have black students who perform above average on standardized math tests. This statistic fails to be statistically significant at both the .001 and it barely misses being significant at the .05 level (.065). Thus, free lunch offered in schools and the percentage over is shown to have no bearing on the above average performance of black students in math tests.

Teachers who perceive their students as being neutral about their priority on learning have blacks students who are about half as likely to perform above average in standardized math tests. This statistic is significant at the .05 level with a p-value of .045. These students are 22 times as likely to perform below average. Essentially, one may infer that teachers who believe that their students are neutral about their priority to

learn is a partial explanation for why they do not perform above average on standardized math tests.

Classrooms that cover about half their textbooks have black students who are nearly six times as likely to perform below average on standardized math tests. Their odds of performing above average decreases by a factor of .170. The given odds are significant at the .05 level with a p value of .012. One can infer that covering only have the textbook in school is not enough to help student perform above average.

The odds of black students scoring below average on standardized math tests is 10 times as likely if they attend public schools. These odds are 20 times as likely if black students attend catholic schools. These statistics of school control for public and catholic school are highly significant at the .001 level, both with p values of .000. Thus being in either Catholic or public schools effects how students perform on standardized math test but the effects of catholic schools seems to be a bigger size of the impacts seemingly comes from being in catholic schools.

The odds of students performing above average on standardized math test increases by a factor of 1.017 with higher percent of students taking remedial math courses. This is fails to be statistically significant at both the .05 and .001 levels with a p-value of .158. This means that taking remedial math courses does not help explain why some black students may perform above average.

Students who spend between half an hours to two hours per on homework are .172 times as likely to perform above average on standardized tests. Students who spend two to 3 hours are .330 times as likely and students who spend up to 5 hours are .458 times as likely to perform above average on standardized tests. Studying between

one to nearly two hours is not significant ($p = .098$). Studying more than two to nearly 3 hours and studying up to 5 hours is significant at the .05 levels with respective p values of .005 and .012.

Black students who spend less than an hour during the week watching television decrease their odds of performing above average on standardized math test by a factor .221. In other words, these students are 5s time as likely to perform below average in these tests. One might believe that the less television student's watch, the more likely they are to score higher. These results can potentially be skewed because of students reporting an inaccurate number of hours they spend watching television. With a p value greater than .05 this particular finding is not significant.

Variables not in the Equation

Not all social context variables made it into the equation. Of the home characteristics, the least significant variables to be left out are the following: (1) employment status of parents being "retired", (2) family composition being mother/father, and (3) the employment status of parent being "working". Of the school characteristics, the least significant variables to be left out are the following: (1) school enrollment up to nearly 800 students, (2) the percentage of the school that is minority, and (3) the urbanicity. Lastly, of the behavioral characteristics, the least significant variables to be left out of the equation are the following: (1) summer programs joined, (2) hours of homework student does during the week, and (3) the time the student spends watching television.

Overall

This binary logistic regression model will be able to improve predicting how social context can influence above average performance on math tests. The addition of the school, and behavior characteristics blocks to the home blocks improve the model's predictability while eliminating variables that are not significant. We can argue that there is a goodness of fit and therefore reject the null hypothesis and the final stages of the model that social context does not effect scores on standardized math tests. The specificity/sensitivity criterion of the binary model can predict above average performance a quarter of the time and below average performance 97% of the time. The overall correct prediction percentage of the model is 85% where toward more often, below average predictions are correct more often. Most importantly, is the discovery that 13 of the 78 variables that make up social context narrows down to 10 significant variables to explain a portion of black student performing above average on standardized math tests.

Discussion

Overall, we discover that there are elements in the social context that can influence how black students perform in school. In particular, there exist factors in the environments of the home, school, and student behavior that impact their scoring ability on standardized tests. Creating a group of high or low performing students respectively based on above/below average scoring in both reading and math tests, we find that there are many points of similarity and difference about each environment and how it influences how well they do. One of the main purposes of this study is to discover what factors have the most significant effect on high performing students in order to offer suggestion on how they can make a difference in helping low performing students improve.

In this study, the most significant factors that explain higher performance on reading tests among black students are socioeconomic status (home factor), percentages of the textbooks covered (school factor), and the percentage of free lunch being offered in schools. In terms of mathematic tests, higher performance is partly explained by socioeconomic status (home factor), the percentages of free lunch offered in schools (school factors), and the hours spend working on homework (behavior factor).

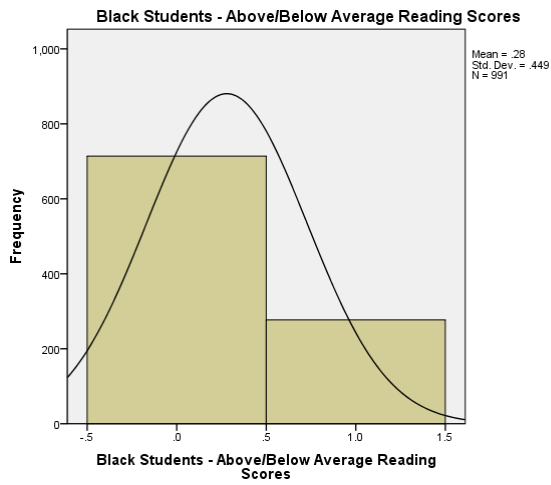
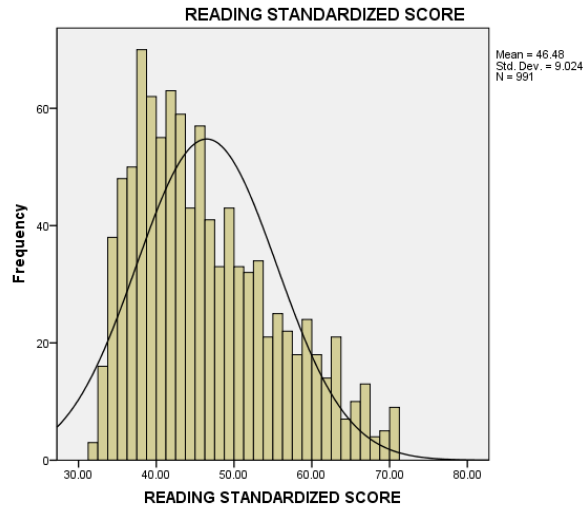
Among low performing students, the significant schools factors that likely lead to lower scoring in reading are socioeconomic status, racial homogeneity of the neighborhoods students grew up in, school control (i.e., whether a school is public or catholic) and the hours spent doing homework. In terms of math test scores, the major

factors are socioeconomic status (home factor), the percentage of free lunch offered (school factor) and the amount of time doing homework during the week.

For both reading and math standardized tests, black students seem to share practically all of the same variables. This essentially suggests that home, school, and student behavior differences are not much between high and low performing students. However, the data shows that in these same areas, high performing students are more likely to grow up in a less homogenous neighborhood. One might suggest the possibility of putting low achieving students in new environments to see what the result can be. Socioeconomic status cannot readily be changed, but this study suggests that low performing black students might benefit from moving up the social ladder to help them perform better in school. Lastly, school low performing students may benefit from spending more time studying and less time watching television to perform more like high performing black students.

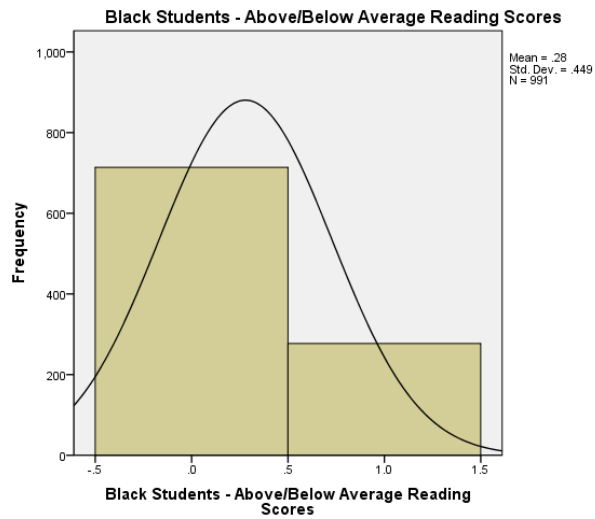
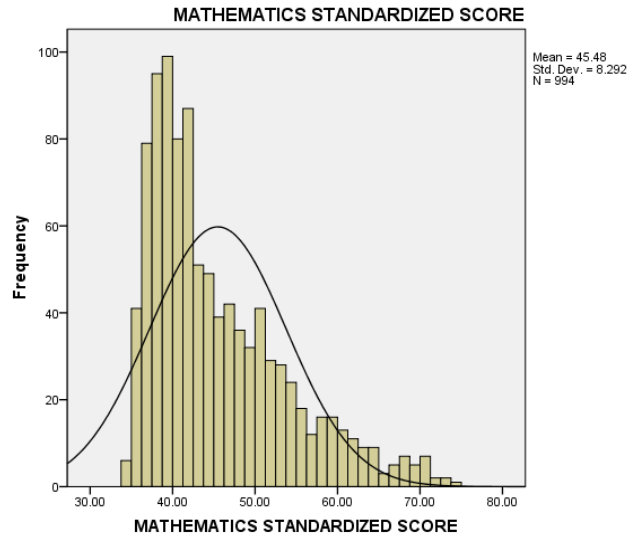
Further research in this area may benefit from observing how policy plays a role in shaping the home and the school environment and how that directly effects how well black students perform in school.

Graphs/Tables



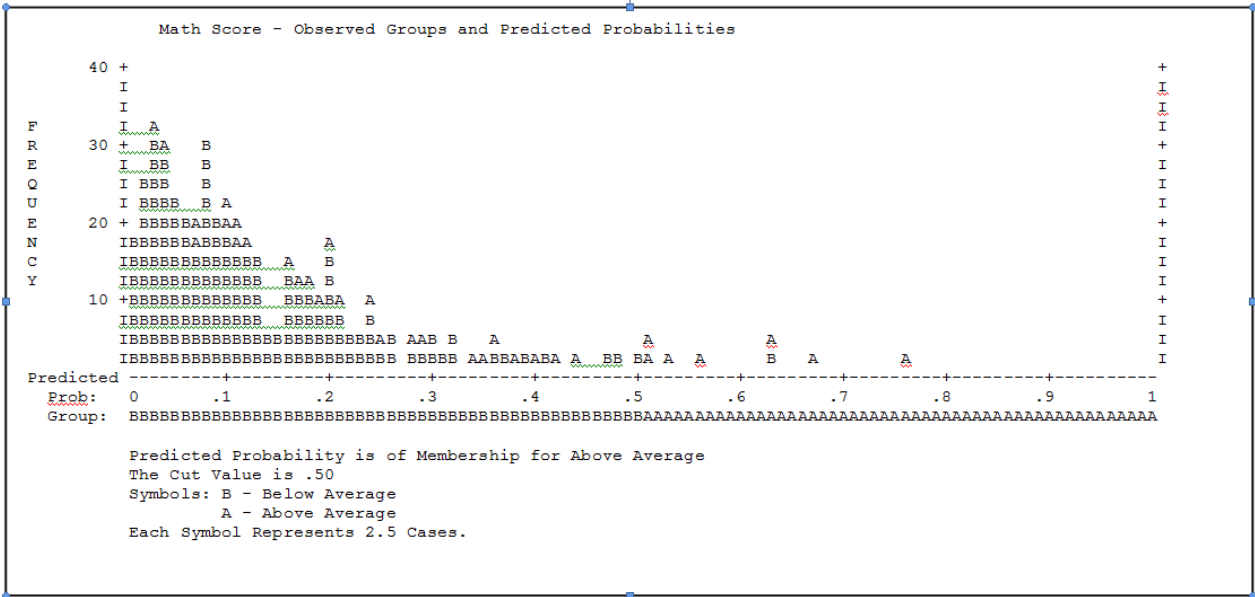
Black Students - Above/Below Average Reading Scores

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below Average	714	68.6	72.0	72.0
	Above Average	277	26.6	28.0	100.0
	Total	991	95.2	100.0	
Missing	System	50	4.8		
Total		1041	100.0		



Black Students - Above/Below Average Math Scores

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below Average	867	83.3	87.2	87.2
	Above Average	127	12.2	12.8	100.0
	Total	994	95.5	100.0	
Missing	System	47	4.5		
Total		1041	100.0		



Classification Table^a

Observed		Predicted		
		Black Students - Above/Below Average Math Scores		Percentage Correct
		Below Average	Above Average	
Step 1	Black Students - Above/Below Average Math Scores	Below Average	Above Average	96.4
		404	15	25.3
	Overall Percentage	62	21	84.7
Step 12	Black Students - Above/Below Average Math Scores	Below Average	Above Average	97.1
		407	12	25.3
	Overall Percentage	62	21	85.3

a. The cut value is .500

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