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The University of Southern Mississippi

THE IMPACT OF THE NO CHILD LEFT BEHIND ACT  
AND SCHOOL CHOICE ON STUDENT ACHIEVEMENT

by

Wendy Ruddell Pettett

Abstract of a Dissertation  
Submitted to the Graduate School  
of The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

May 2012

## ABSTRACT

### THE IMPACT OF THE NO CHILD LEFT BEHIND ACT AND SCHOOL CHOICE ON STUDENT ACHIEVEMENT

By Wendy Ruddell Pettett

May 2012

The No Child Left Behind (NCLB) act, signed into law in January 2002, established a decade of test-driven school reform in an attempt to increase student achievement and reduce the student achievement gap. The state of Georgia created the Criterion Reference Competency Test (CRCT) to align with the guidelines of NCLB. This study examined longitudinal student achievement data on eighth grade math CRCT in 25 middle schools from 2002–2007 and 2008–2011 in a large suburban school district in Georgia.

The study found that all subgroups increased in student achievement from the onset of NCLB in 2002–2011. Furthermore, the study found a statistically significant difference between White and Black and White and Hispanic student achievement as measured by eighth grade math CRCT using mean scale score, and *exceeds* proficiency standard. This study indicates that even though Blacks and Hispanics have made greater gains overall than Whites from 2002–2011, the minority student gains were not great enough to compensate for the large preexisting achievement gap as measured by mean scale score and *exceeds* proficiency standard.

Interestingly, the *meets* proficient category indicates a reverse achievement gap between Black and White students for 2002–2007 and no statistical difference between White and Hispanic students. Moreover, no achievement gap was demonstrated for any

subgroup for *meets* proficiency for 2008–2011. The achievement gap has closed for minorities in the *meets* category, while the achievement gap is still large in the *exceeds* category between Whites and Blacks and Whites and Hispanics. Minorities must make greater gains than demonstrated in the *exceeds* proficient category for the achievement gap to close in a statistically significant manner. It also demonstrates that minorities are overrepresented in the below basic category and underrepresented in the *exceeds* or advanced proficient category.

A statistically significant difference was found between choice receiving schools and choice sending schools and between non-school choice participating schools and choice sending schools. There was no statistical difference between non-choice participating schools and choice receiving schools. The study indicates that MCSD has reduced the number of failing schools, which is the opposite of national trends.

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A Dissertation  
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## CHAPTER I

### INTRODUCTION

The purpose of public education in the United States developed in response to the need of the government to develop citizens that would (a) be autonomous; (b) support the concept of self-governance; (c) develop political tolerance; (d) respect diversity; (e) have morals; (f) meld into a common culture; and (g) become economically upwardly mobile (Brown, 2004; Center on Education Policy, 2005; Godwin & Kermerer, 2002; Kober, 2007; Rose, 2009). Public school advocates believed that public education would benefit the nation through the reduction of crime, poverty, and inequalities in American society (Abowitz, 2002; Brown, 2004; Kober, 2007; Tyack, 1999; Tyack & Cuban, 1995). However, the creation of public schools in the United States was not a foregone conclusion and took many years before fruition (Kober, 2007; Ravitch, 2010a; Tyack, 1999).

The United States Constitution and the Bill of Rights were partially based on English Common Law and John Locke's theories of individual rights (Stephens, 2002). The writers of the Constitution of the United States established the new government to have limited power and to be under local control (Sehr, 1997; Stephens, 2002). This concept supported the idea that citizens would provide their own education. The first schools in the United States were mostly private, church sponsored, charity schools, or a local school organized by parents who financed the institution (Bast, 2009; Kober, 2007).

Thomas Jefferson was greatly influenced by the writings of John Locke on individual freedom (Stephens, 2002), but he also believed that the establishment of public schools would promote the ideals of the new nation. Thomas Jefferson and Benjamin

Franklin supported public education in the belief that an educated public would promote the ideals of the new nation, and produce citizens that could self-govern with honesty, compassion, and integrity (Rothstein & Jacobsen, 2006). Congress finally agreed to enact the Land Ordinance in 1785, thereby providing partial revenue to purchase land for the first public school (Kober, 2007; Rothstein & Jacobsen, 2006). It would take 50 more years before a network of public schools were established across the nation (Kober, 2007).

### *Equality and Access*

Equality and access to education has been an issue for schools in the United States for many years (Abowitz, 2002; Feinberg & Lubienski, 2008; Godwin & Kermerer, 2002; Kober, 2007; Lubineski, 2001). Before the establishment of the common school in the 1830s, students' access to education was limited by geography and wealth of their parents (Kober, 2007). The establishment of the common school, promoted by John Dewey and Horace Mann, was one method used to equalize access to education and to prepare children to be moral, literate, and productive citizens (Abowitz, 2002; Brown, 2004; Kober, 2007; Tyack, 1999; Tyack & Cuban, 1995). John Dewey advocated that public education would decrease parental prejudice and build a sense of community comprised of diverse learners that respect individual differences, increase the individual's standard of living, and maintain a democratic society (Dewey, 1916, 1966; Godwin & Kermerer, 2002). Furthermore, common-school advocates promoted the idea that a universal public education would eliminate crime, and reduce poverty and class conflict (Kober, 2007; Lubineski, 2001). Access to education was generally established by the

early twentieth century through the founding of the common school, but educational equality was far from evident (Kober, 2007).

Due to many students receiving a sub-standard education, the legislative branch became involved through the passage of laws to equalize education and promote better instruction (Kober, 2007). One of the methods used to equalize school quality and student achievement was applied through mandatory busing of students to racially balance schools in the 1970s (Godwin & Kermerer, 2002; Kober, 2007). Mandatory busing was instituted to improve student achievement scores and access to facilities and resources. Many school districts also distributed highly qualified teachers throughout the school district in an effort to increase equity in teacher quality. As schools have met the mandate of racial integration, mandatory busing has been replaced with non-mandatory systems of school choice (Godwin & Kermerer, 2002).

### *School Choice*

School choice is presented as the remedy to the imbalance between Dewey's mantra of the common good and Locke's advocacy of individual rights and choice (Ravitch, 2010a). Many people feel that our educational system has become too centralized and has left the public voice behind (Abowitz, 2002; Chubb & Moe, 1990; Feinberg & Lubienski, 2008). Based on Milton Friedman's theories of market economics, the school choice movement advocates for schools to be treated as a consumer good and to let market forces determine which schools survive and prosper (Chubb & Moe, 1990; Friedman, 1955; Friedman & Friedman, 1990). Friedman was a strong proponent of market-based economics, and he advocated that the government should fund schools but not be involved with the day-to-day operations (Friedman, 1955,

2005; Friedman & Friedman, 1990; Ravitch, 2010a; Viteritti, Walberg, & Wolf, 2005). Friedman believed that less government involvement would lead to economic and political freedom and to greater prosperity (Friedman & Friedman, 1990). He proposed that individuals and society would equally benefit and prosper by limiting the role of government through the voluntary exchange of goods and services (Friedman & Friedman, 1990; Viteritti, 2010; Viteritti et al., 2005). His market theories serve as the basis for the school choice movement.

School choice is a concept that has been applied primarily as a method to equalize school quality and to increase student achievement (Godwin & Kermerer, 2002). School choice has also been used to provide a specialized education, boost racial integration, ease over-crowding, and to provide opportunities to students in failing schools (Colvin, 2004). Advocates for school choice believe that competition between school models will encourage risk taking, promote innovation, increase student achievement, and eliminate the student achievement gap (Friedman, 2005; Zimmerman et al., 2009). On the contrary, critics of the choice movement charge that choice will increase segregation by race and ability. They argue that it will be detrimental to public schools due to the reduction of financial resources and the flight of motivated families to non-public traditional schools (Frankenberg & Siegel-Hawley, 2010; Gamoran, 2007; Lacireno-Paquet, Holyoke, Moser, & Henig, 2002; Zimmerman et al., 2009).

School choice can be applied in a variety of ways, which include (a) residential relocation; (b) magnet schools; (c) charter schools; (d) vouchers; (e) tax credits; (f) open enrollment; (g) intra or inter district school choice; and (g) public school choice as dictated by the guidelines of No Child Left Behind Act of 2001, 20 U.S.C. § 6319



(Godwin & Kermerer, 2002; Lubineski, 2001; NCLB, 2008). Over a million children are educated in charter schools, two million children are home-schooled, and thousands of students in 46 states are attending schools based on open enrollment efforts of the local district (Feinberg & Lubienski, 2008). Online schools are increasing, and school vouchers are used by 150,000 students (Stover, 2009). Furthermore, the United States government is promoting school choice through the increased funding of charter schools through legislative action and grants (Duncan, 2009; National Alliance for Public Charter Schools, 2010). Additionally, legislative action such as NCLB requires students to be given school choice if their designated Title I public school fails to reach Adequate Yearly Progress (AYP) for two years (NCLB, 2008).

*No Child Left Behind (NCLB)*

The NCLB Act requires all students to meet standards in reading and math by the school year 2013-2014. The act also requires student testing each year in grades third through eighth grade and once in grades tenth through twelfth (U. S. Department of Education, 2007a). Additionally, school improvement must be demonstrated in every grade for multiple demographic groups. The main strategy of the NCLB Act is to increase student proficiency through school accountability based upon student-disaggregated test results (Stecher & Kirby, 2004; U. S. Department of Education, 2007b). The primary goal of NCLB is to hold schools accountable for the adequate progress of all students toward the goal of reading and math proficiency regardless of the race, economic status, language, or disability of the student (Ravitch, 2010a; U. S. Department of Education, 2007a).

Furthermore, other factors such as graduation rate, school attendance, and the percentage of students that take the test on the designated day are used to gauge if the school has made AYP (Hess & Finn, 2004). Each state develops content standards and establishes the absolute bar required to demonstrate attainment of Adequate Yearly Progress on the state developed tests (Stecher, Vernez, & Steinberg, 2010; U. S. Department of Education, 2007a). Student achievement results disaggregated by subgroups are a major accountability component of the NCLB Act, but the subgroup must total 40 or more students to be measured for AYP.

The purpose of NCLB is to offer a better educational opportunity to students in failing schools and to encourage failing schools to improve through competitive pressure, funding, and sanctions (Colvin, 2004). Additional requirements of NCLB include: (a) the guarantee of a highly qualified teacher in each classroom; (b) paraprofessionals must have two-years of college or pass a competency test; (c) states must adopt science content standards by 2005—2006 and implement science assessments by the 2007—2008 school year; and (d) Title I schools must receive corrective action if they do not meet the student achievement target as dictated by NCLB (U. S. Department of Education, 2007b).

NCLB designates four stages of identification: (1) not making Adequate Yearly Progress (AYP); (2) needs improvement status; (3) corrective action; and (4) restructuring (Stecher et al., 2010). The provisions of the NCLB also state that Title I schools that do not meet AYP for two years will have to adopt a two-year improvement plan, invest in professional development for teachers, and allow parents the authority to transfer their children to another school within the district. Under this law, the district is instructed to pay for the transportation costs of the students that choose the transfer

option. The priority for transfer will be given to the lowest-achieving, low-income students (Georgia Department of Education [GDOE], 2009).

If the school does not make AYP for three years, families may obtain tutoring from private providers, and the school district will have to bear the cost (Stecher et al., 2010). Title I schools failing to meet AYP goals for four years will have to either implement a new curriculum, replace the school staff, extend the school day or year, restructure the school, or appoint an outside expert as an advisor. After five years, the Title I school still not meeting AYP requirements will be forced to restructure. The allocation of funds for Title I is based on the students residence; therefore, if a student transfers to a non-Title I school, the funding will stay at the original school (Stecher et al., 2010).

The NCLB Act has been modified since 2001 which has allowed more schools to make AYP. The U.S. Department of Education has allowed states to develop a *confidence level* or margin of error that takes into account the normal fluctuation that may occur in testing which is not linked to student learning. This *confidence level* permits schools to average their test results over a three-year period, which allows schools that miss the target for the year to meet AYP if the average of the three years meets the target (Center on Education Policy, 2008b). Safe harbor rules within NCLB also permits schools that do not meet AYP, but meet the federal requirement of 95% student participation in testing and mandated attendance rates, to still make AYP if the group decreases by 10% the percentage of students performing below proficient compared to the previous year (Center on Education Policy, 2008b). Further changes in NCLB policy over time have allowed students that fail the CRCT to retest and for their

scores to count toward school proficiency rates. These amendments to the original NCLB Act have decreased the number of schools that are labeled as failing.

Nevertheless, the number of failing schools continues to increase (Center on Education Policy, 2008a, 2011b, 2011c; U. S. Department of Education, 2009a).

### *NCLB School Choice and Transfers*

NCLB guidelines require Title I schools that fail AYP for two years to allow students choice (U.S. Department of Education, 2009a). The percentage of students eligible for school choice under NCLB has remained stable at one percent of the student population. However, the number of students that are participating in school choice is increasing yearly due to the increase in the number of schools in the United States that have entered needs improvement status (U. S. Department of Education, 2009a).

Furthermore, the increase in the number of schools that must offer school choice will continue to multiply due to the academic bar being raised in testing for all students to reach proficiency by the year 2014 regardless of their language, race, economic status or disability (Ravitch, 2010a; U. S. Department of Education, 2007a). Nationwide, 48% of all schools have failed to make AYP in 2011, an increase from 39% in 2010 (Center on Education Policy, 2011b, 2011c) the highest percentage recorded since NCLB was enacted.

In 2006, there were 6.9 million students eligible for the Title I school choice program, which is a four-fold increase from the 2002—2003 school year (U. S. Department of Education, 2009a). While the percentage of students that attend public schools has remained stable at 90%, Hess and Finn (2004) found there is a 46% increase in the percentage of students that choose where they attend, rather than school choice

being dictated by their residency (Hess & Finn, 2004). A report from the National Center for Educational Statistics (Grady & Bielik, 2010) found that the percentage of students enrolled in assigned public schools decreased from 80% to 73% from 1993 to 2007.

Determining the effect of student transfers on student achievement is important since this is a major policy affecting the entire nation.

### Statement of the Problem

The desire for educational reform and school choice is increasing across the nation and fuels much debate (Ravitch, 2010a; Zimmerman et al., 2009). Both proponents and detractors agree that the current student achievement gap in the United States is detrimental to the nation and to the individual's economic well being (Gamoran, 2007; Godwin & Kermerer, 2002; Henig, 1994; Kober, 2007; McKinsey & Company, 2009a; Ravitch, 2010a). The McKinsey report *The Economic Impact of the Achievement Gap in America's Schools* (2009b) states that educational achievement gaps in the United States is the equivalent of a permanent national recession. Studies have questioned the impact of NCLB and school choice over time on (a) student academic achievement; (b) the achievement gap between and within student groups; and (c) upon choice sending and receiving schools (Gamoran, 2007; Kim & Sunderman, 2005; Knaus, 2007). Researchers have asserted that opportunities are diminished for students who remain in choice sending schools and the school at great risk for failure (Gamoran, 2007; Knaus, 2007).

Choice receiving schools are also impacted by the increase in subgroup numbers from an influx of lower-performing minority students, which could push the school into *needs improvement* status (Kim & Sunderman, 2005). Furthermore, Knaus (2007) and Ravitch (2010a) state that the NCLB Act fails to close the achievement gap and narrows

the curriculum. They also suggested that the decree does not adequately prepare minority students for college, encourages segregated schools, does not promote critical thinking or engagement, and negatively impacts schools that are labeled as failing.

Moreover, concerns have been raised that schools are concentrating their instructional focus on *bubble kids* in an effort to raise test scores to the detriment of low-performing students who receive instruction that is too difficult, apprehensions exist about high performing students who are not challenged and who are receiving instruction on content they have already mastered (Center on Education Policy, 2009b; Loveless, Farkas, & Duffett, 2008). The examination of trend data on *meets* and *exceeds* proficiency on the CRCT will answer whether the student achievement gap has narrowed for the average and the advanced student. Furthermore, the researcher will examine student achievement and the student achievement gap for choice receiving, choice sending, and non-choice participating schools. The study will answer if the achievement gap is narrowing for Whites, Blacks, and Hispanics at the same rate or at different rates within and between groups.

The need to evaluate whether NCLB and school choice increases student achievement or decreases the student achievement gap is important to investigate due to the increased pressure for the educational system to include school choice as a panacea for the educational system. It is also necessary to help guide policy in regard to the reauthorization of ESEA (Abowitz, 2002; Brown, 2004; Doerr, 2000; Kober, 2007).

#### Purpose of the Study

The purpose of this study was to determine if the NCLB accountability measures and school choice, as defined under the guidelines of the No Child Left Behind Act of

2001, 20 U.S.C. § 6319 (NCLB, 2008), impacts student achievement, and the student achievement gap, between Black, Hispanic, and White students on the eighth grade math Criterion Reference Competency Test (CRCT) as applied in 25 middle schools in a large school district. The study examined the achievement of Whites, Blacks, and Hispanics using the mean scale score and the *meet* and *exceed* proficiency categories for the school years of 2002–2007 and 2008–2011. Additionally, this study investigated the achievement gap within and between White, Black, and Hispanic students of choice sending, choice receiving, and non-choice participating schools. Both mean scale score and proficiency measures are used to examine student achievement results since each measure will give a more complete picture of student achievement.

The mean scale score is examined since this score captures changes at all points of performance and is not as affected by the students relative position to the cut score. Mean scale scores are also more comparable across years since cut scores change year to year, which can change the students considered to *not meet*, *meet*, or *exceed* state standards (Center on Education Policy, 2010a). The category of *meet* and *exceed* are examined since the measure of percent proficient is used to determine AYP under NCLB. Moreover, the examination of *meets* and *exceeds* will indicate whether subgroups are realizing gains in the advanced category and if any subgroups are over- or under-represented in any category. To reduce the affect of the change in state standards and the corresponding change on the CRCT in 2008 on trend data analysis, the school years examined were grouped from 2002–2007 Quality Core Curriculum (QCC) and 2008–2011 Georgia Performance Standards (GPS).

## Research Questions

This study examined whether student achievement and the student achievement gap within and between Blacks, Hispanic, and White students on the math CRCT in the eighth grade has increased, decreased, or remained the same since the authorization of NCLB Act of 2001 for the Metropolitan County School District (MCSD). Furthermore, schools that send and receive NCLB choice students will be examined to determine the impact of school choice upon student achievement and the achievement gap of the schools that send or receive students compared to non-choice participating schools. The research questions are as follows:

1. Is there a difference in the mean scale score of Whites, Blacks, and Hispanics on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011?

H<sub>01</sub>: There is no significant difference on the mean scale score of Whites, Blacks or Hispanics on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011.

2. Are there achievement differences within or between White, Black and Hispanic students, as measured by the eighth grade math CRCT in the *meet* and *exceed* proficiency categories as the county applies the NCLB based accountability measures in years 2002-2007 and 2008-2011?

H<sub>02</sub>: There is no significant difference within or between the proportion of White, Black, or Hispanic students that meet or exceed standard on the



eighth grade math CRCT as the county applies the legislative components of NCLB in years 2002-2007 and 2008-2011; therefore, no achievement gap exists between Black, Hispanic, and White students.

3. Is there a difference in the mean scale score within and between White, Black, and Hispanic students in the choice sending, choice receiving or non-choice participating schools as measured by the eighth grade math CRCT in 2002-2007 and 2008-2011?

H<sub>03</sub>: There is no significant difference in the mean scale score within or between Whites, Blacks, and Hispanics students in the choice sending, choice receiving or non-choice participating schools as measured by the eighth grade math CRCT in 2002-2007 and 2008-2011.

#### Definitions

*Adequate Yearly Progress*—The progress schools have to demonstrate on a state-created test that measures the schools ability to meet standards in three areas: test participation in both mathematics and reading/English language arts; academic performance on state assessments in both mathematics and reading/English language arts; and a second indicator, which for high schools must be graduation rate and in middle school is usually student attendance. To make AYP, standards in each of these three areas must be successfully met by all students in a school as well as by each subgroup that includes at least 40 students (Asian, Black, Hispanic, American Indian, White, Multiracial, Students with Disabilities, English Language Learners, and/or Economically Disadvantaged) (Georgia Partnership for Excellence in Education, 2010; Walker, 2010).

*Annual Measurable Objectives (AMO)*—NCLB requires each state to set the annual level of improvement based on state standardized tests in reading, language arts and math, that schools and school districts must achieve to make AYP; these levels of improvement are known as Annual Measurable Objectives (Walker, 2010).

*Bubble kids*—Students who perform slightly below the passing score for proficiency on state tests for AYP purposes as cited by NCLB (Center on Education Policy, 2009b).

*Charter schools*—Public schools with site-based governance, including a contract to operate with a public authorizing entity, usually a school district or state (Klonsky & Klonsky, 2008).

*Choice Receiving Schools*—Schools that are designated to receive students from Title I schools that have been identified for school improvement, corrective action, or restructuring as defined by the NCLB Act of 2001. Students may also be received from schools that have been identified as persistently dangerous or the child has been a victim of a violent crime on school property. Students may stay at the receiver school until they have reached the highest grade at that level. Receiver schools are determined by a district committee based upon several factors including distance from the sending school, annual goal obtainment, resources available at the receiver school, and capacity.

*Choice Sending Schools*—Title I schools that have failed to make Adequate Yearly Progress (AYP) three consecutive school years must give students a choice of schools to transfer to that have met AYP under the guidelines of NCLB Act of 2001.

*CRCTs*—Georgia’s Criterion-Referenced Competency Tests (CRCTs) measure the students understanding of the Georgia Performance Standards (GPS). The test was

established by the state of Georgia in 2000 to measure student understanding of the Quality Core Curriculum (QCC). The test was modified in response to the requirements of the NCLB Act of 2001 and realigned to the GPS as the new standards were gradually implemented. The test is administered in grades one through eight and the results are used to determine whether a school has made AYP (Georgia Department of Education, 2010b).

*Iowa Test of Basic Skills*—The ITBS is a standardized and norm-referenced test that can be used from kindergarten through grade 8. The tests are vertically scaled and afford schools the opportunity to track student achievement growth overtime (Riverside Publishing, 2010).

*Lottery program*—Student's names are entered into a lottery usually for schools that are oversubscribed through the voucher program and are randomly picked to have the opportunity to attend a different school (Ravitch, 2010a).

*Magnet schools*—Public schools that provide specialized instructional methods or curriculum to draw students from the surrounding area (Smrekar & Goldring, 1999).

*No Child Left Behind Act*—The law that reauthorized the Elementary and Secondary Education Act (ESEA) and was signed into law on January 8, 2002 by President Bush. NCLB requires all states to establish academic standards and to create state tests to measure student understanding of those standards in order to determine Adequate Yearly Progress (AYP). Georgia received initial approval of its state accountability plan on May 19, 2003 from the U.S. Department of Education (Georgia Department of Education, n.d.).

*Non-magnet schools*—Conventional public schools, which students attend based on geographical conditions and not by choice (Smrekar & Goldring, 1999).

*Open enrollment*—Enrollment in which public school students can apply to gain access to another school outside of their districted home school. This school may be located outside of their school district (inter) or inside their school district (intra) (Stover, 2009).

*Performance Level*—A performance level descriptor that depicts a range of scores that defines a specific level of performance. There are three performance levels for each of the CRCTs: *Exceeds the Standard*, *Meets the Standard*, and *Does Not Meet the Standard* (Ga DOE, 2010a).

*Scale Score*—The CRCT provides a “scale score, which is a mathematical transformation of a raw score. Scale scores provide a uniform metric for interpreting and comparing scores within each grade and content area (GaDOE, 2010b).

*Simpson’s Paradox*—The paradox that exists when correlation trend data in different groups is reversed when the groups achievement scores are combined. An example would be when White, Black, and Hispanic subgroup data is combined the increase in the population of the lower performing Black and Hispanic student scores impacts the average score for all students, which reverses the trend of improvement displayed by subgroup student achievement data (Jennings, 2011).

*Title I school*—Title I is a program that targets federal funding to schools to ensure that all children have the opportunity to receive a quality education and can become proficient on state standards. Title I began as part of the Elementary and Secondary Education Act of 1965 (ESEA) and the NCLB Act of 2001 strengthened

ESEA provisions for children that attend a Title I school (U.S. Department of Education, 2009b).

*Voucher program*—Public funds which are provided to fund or partially fund students that qualify for attendance to enroll into a participating private school of their choice (Wolf, 2008).

### Assumptions

For the purpose of this study, it is assumed that:

1. The state tests (CRCT) developed and administered by the state to measure student achievement is valid and reliable.
2. It is assumed that student scores on the CRCT accurately represent ability and mastery levels of the state objectives.
3. The county studied provided the accurate number of choice participants and provided the names of all choice receiving and sending schools.

### Rationale/Significance of the Study

School choice is being emphasized as necessary to improve student achievement because public schools are not meeting the needs of all students. In the past, individuals and private industry has been the primary advocate for school choice but current governmental policy supports school choice as evidenced by Race to the Top, NCLB choice, charter school funding, laws allowing vouchers, and tax credits. The limited studies on the effectiveness of school choice seem to have conflicting results. The book *Standards-Based Reform and the Poverty Gap: Lessons for No Child Left Behind* (Gamoran, 2007) revealed that the students that participate in NCLB school choice are usually the most advantaged students with the most involved parents from the sending

school; therefore, students left behind in the sending school find their opportunities for success diminished further, and the school less likely to succeed.

Furthermore, researchers have questioned the affect of school choice on the choice receiving school. An influx of additional students could increase the subgroup count, thereby triggering AYP accountability (Kim & Sunderman, 2005). Moreover, many school districts have few schools available for transfer, resulting in schools that are close to failing AYP to accept choice transfers. If the choice transfer students are low-performing students, the choice receiving school test scores could drop further, resulting in the choice receiving school to fail AYP.

A report written by Brown (2004) on school choice notes those students with low economic status tend to move to schools with more diversity and less poverty. Also noted in the report is that data is lacking concerning the impact of school choice upon student achievement and the achievement gap at the sending schools (Brown, 2004). Studies (McNeil, Coppola, Radigan, & Vasquez, 2008) and dissertations reviewed (Ferebee, 2009) have signaled a need to determine the impact of school choice on student achievement and on the student achievement gap to assist in determining the true impact of school choice policy. Because of NCLB, an inordinate amount of attention has been focused on students achieving proficient or *meets* on state tests (Center on Education Policy, 2009b; Loveless, Farkas, & Duffett, 2008). Additionally, many NCLB detractors believe that high performing students are not challenged and that Blacks are underrepresented in the *exceed* category, or the advanced level of achievement (Center on Education Policy, 2009b; McKinsey & Company, 2009a). By the examination of trend

data of the meets and exceeds category on eighth grade math CRCT by subgroup this study will support or refute this premise.

Moreover, the cost to individuals and to the nation from the lack of student achievement is rising. The achievement gap is debilitating to students individually and impacts earning potential, the increased likelihood of going to jail, and their future health (McKinsey & Company, 2009b). A less educated person is more likely to consume additional public health resources due to lack of health insurance and poor lifestyle choice. A high school dropout is five to eight times more likely to be incarcerated than a college graduate (McKinsey & Company, 2009b; Viteritti et al., 2005). The McKinsey Report (2009b) states that the United States is losing the equivalent of \$310 billion to \$525 billion each year in Gross Domestic Product (GDP) due to the achievement gap between Black, Hispanic, and White students.

The average Black or Hispanic student test scores are roughly two to three years of learning behind the average White student (McKinsey & Company, 2009a). This achievement gap is evident as measured by graduation rates or test scores. When averaging math and reading scores across fourth and eighth grade, 17% of white students are below basic compared to 48% of Black students, and 43% of Hispanic students. This achievement gap exists in every state in the United States and becomes greater as students get older (McKinsey & Company, 2009a). The achievement gap increases 41% for Hispanic students, and 22% for Black students between the fourth and twelfth grades. In eighth-grade math, Black and Hispanic students perform at the same level of achievement as students in transitioning countries; Blacks perform at the same

achievement level as students in Bosnia and Herzegovina; Hispanic students perform at the achievement level as Malaysian students (McKinsey & Company, 2009a).

Achievement gaps for Black and Hispanic students are evident even in the states with the highest overall student achievement with Blacks and Hispanics eight times more likely to be below basic in fourth grade math than Whites. Additionally, Black and Hispanic students are underrepresented in the advanced level of achievement, and overrepresented in the below basic level of achievement on the National Assessment of Educational Progress (NAEP). Furthermore, the number of Black and Hispanic students scoring in the advanced level on the NAEP has not increased in correlation with the overall educational improvements of 2% to 7% on the advanced level of the NAEP since 1992 (McKinsey & Company, 2009a).

The achievement gap of the lowest performing students is not the only problem in America's schools. Given less attention is the highest performing students in the United States who do not perform as well as top performers in other countries (McKinsey & Company, 2009a). The loss in the GDP due to the achievement gap between top performing students in the United States and top performing students in other top performing nations is estimated at \$1.3 trillion to \$2.3 trillion dollars (McKinsey & Company, 2009b). Due to the increase in the Black and Hispanic population, the effect of the achievement gap is forecasted to be greater in coming years if the achievement gap is not narrowed. The Census Bureau projects that by 2020, nearly half of the nation's school-age children will be children of color (Kober, 2006).

Due to the economic impact on individuals, the national economy, and the increase in demand for alternatives to public school, it is important to investigate the



effect of NCLB and school choice on student achievement and on the student achievement gap. This study will investigate whether NCLB accountability policies and school choice affects student achievement and the student achievement gap between Whites, Blacks and Hispanic students on the eighth grade math Criterion Reference Test of Basic Skills (CRCT). The students studied reside in a large suburban school district in Georgia and test scores examined span from 2002-2007 and 2008-2011. Also, the disaggregated math scores of the NCLB choice sending, choice receiving, and non-participating choice schools will be examined to determine the impact of school choice on student achievement and the student achievement gap.

#### Justification

The results of this study will help to determine if NCLB policy has impacted student achievement and the student achievement gap for White, Black, and Hispanic students on the eighth grade math CRCT as measured by mean scale score and by *meet* and *exceed* proficient category. Additionally, the study will answer whether the impact on student achievement and the achievement gap is the same or different for choice sending, choice receiving and non-choice participating schools. Moreover, the study will answer whether the achievement gap is narrowing for Whites, Blacks, and Hispanics at the same rate or at different rates within and between groups.

Consequently, the study will examine Black, Hispanic, and White within and between group data to uncover if subgroups are posting gains but the gains are not evident due to *Simpsons Paradox* (Jennings, 2011). This study, along with other studies conducted on the affect of NCLB accountability guidelines on student achievement and the student achievement gap will help answer the question of the overall effectiveness of

school choice programs, provide a foundation for other researchers to develop studies that measure the impact of school choice on student achievement, and aid the public in the process of weighing the advantageous and adverse aspects of NCLB accountability and school choice policy.

### Delimitations

The study compared eighth grade math CRCT achievement scores of Whites, Blacks, and Hispanics in a large school district in the state of Georgia. The school years studied include 2001-2002 through 2006-2007 (QCC standards) and 2007-2008 through 2010- 2011 (GPS). The data examined includes the mean scale score and *meet* and *exceed* proficiency category on the eighth grade math CRCT. This study will not ascertain the impact on student achievement of the NCLB act for high school students or elementary school students since the studies scope is limited to eighth grade middle school students.

### Organization of the Study

Chapter I presents the introduction to the dissertation, statement of the problem and the purpose of the study. It also contains research questions, definition of the terms, assumptions, rationale/significance of the study, justification, and delimitations of the study. Chapter II provides a review of the literature on the purpose of a public education in the United States, a brief history of the educational structure in the United States, and major legislation that has influenced the current educational climate. Additionally, Chapter II provides the history of school choice, and the importance of the study. Chapter III describes the methodology, county profile and participants, research design, and the instrumentation. Also included in Chapter III are the research questions,

procedures, delimitations, data analysis, and importance of the study. Chapter IV reports an introduction to the problem, the analysis of the data, limitations, and corresponding results of the study. Chapter V summarizes the findings, provides a conclusion and discussion, limitations of the study, recommendation for policy and practice and recommendations for future research.

## CHAPTER II

### REVIEW OF LITERATURE

#### Introduction

Chapter II provides a review of the literature on the purpose of a public education in the United States, a brief history of the educational structure in the United States, major legislation that has influenced the current educational climate, and the history of school choice. This chapter serves as a review of literature relevant to the impact of educational reform policies and school choice on student achievement.

#### Purpose of Education in the United States

The purpose of public education in a democratic society is to prepare students to become autonomous, to have morals, develop political tolerance, respect diversity, and to promote citizenship (Brown, 2004; Godwin & Kermerer, 2002). Additionally, public education's purpose is to promote the common good by melding a common culture from a nation of immigrants and to reduce inequalities in American society (Brown, 2004; Center on Education Policy, 2005; Kober, 2007). Furthermore, education is used to assist students to be upwardly mobile in society or to promote economic mobility (Brown, 2004; Rose, 2009).

These ideals have been promoted and applied to the concept of public education in the United States (Godwin & Kermerer, 2002). The establishment of public education in the United States initially was a local affair, with educational control and financial support in the hands of the local citizens (Kober, 2007; Tyack, 1999; Tyack & Cuban, 1995). John Locke influenced the Founding Fathers of the United States with his philosophy of liberty and the idea of a social contract (Godwin & Kermerer, 2002; Sehr,

1997; Stephens, 2002). He advocated for the separation of church and state, rejected governmental control, and promoted education to be molded to the interests of the student (Godwin & Kermerer, 2002; Stephens, 2002). Moreover, Locke believed that education belonged in the private sphere and that parents should home school their children when possible because of the parent's innate concern for their child (Godwin & Kermerer, 2002). Locke's original treatise on education was directed toward the privileged class that could afford private tutors rather than toward the general populace (Godwin & Kermerer, 2002; Locke, 1690/1982; Locke, 1909-14/2001).

John Stuart Mill built upon Locke's ideas of education and supported the idea that it was the parent's obligation to provide an education for their children, and that it would be a moral crime against the child and society if the parent did not do so (Godwin & Kermerer, 2002; Mill, 1869/1999). Mill (1869/1999) also professed a belief that the government should require education but should not provide education, except in extenuating circumstances. Mill (1869/1999) advocated for limited government control, but recognized the importance of education for the masses. In situations where the government provided education, a state monopoly was discouraged and Mills (1869/1999) encouraged the government education to be "one among many competing experiments, carried on for the purpose of example and stimulus, to keep the others up to a certain standard of excellence" (p. 150). He preferred the government's role in education to be limited to assisting financially needy families and that government should not direct or provide educational services (Godwin & Kermerer, 2002; Mill, 1869/1999). Furthermore, John Mill (1869/1999) supported the rights of parents to direct their child's education. Mill preferred the state to establish examinations to determine if the children

had successfully acquired general knowledge considered universal to education (Mill, 1869/1999). If the children failed the examinations, Mills advocated for the parents to be fined (Mill, 1869/1999).

The United States Constitution and the Bill of Rights were partially based on English Common Law and John Locke's theories of individual rights (Stephens, 2002). Thomas Jefferson was influenced by a wide variety of philosophers, although none influenced him as much as John Locke (Stephens, 2002). The writers of the Constitution of the United States established the new government to have limited power and to be under local control (Sehr, 1997; Stephens, 2002). This concept melded well with the locally controlled and small schools that were first established in the United States (Tyack, 1999; Tyack & Cuban, 1995). The establishment of schools, creation of curriculum, development of resources and the hiring of school employees was not a federal affair (Tyack, 1999). A Federal Office of Education did not form until 1867 and even then, it was a small department containing few employees (Tyack, 1999).

### History of Educational Structure in the United States

#### *Early School Structure*

The United States began with a hodge-podge method to educate students that relied primarily on local decisions and funds (Kober, 2007; Tyack & Cuban, 1995). Schools were mostly private, church sponsored, charity schools, or a local school organized by parents who financed the institution (Bast, 2009; Kober, 2007). Wealthier parents sent their children to boarding school or hired a private tutor (Kober, 2007). Most funds for school were derived from parents' tuition payments, charitable contributions, property taxes, and in a few cases, state support (Bast, 2009; Kober, 2007;

Olson, 1999). As a result, children's education ranged from none to excellent based on the geographical location of the student and the ability of the parents to pay (Kober, 2007; Tyack & Cuban, 1995). Due to the lack of uniformity, and the varied availability of schools, many children could not participate in education, which resulted in inequalities in American society (Kober, 2007; Tyack & Cuban, 1995).

The Founding Fathers of the United States desired a public education system that would mold citizens who could make wise political decisions, who had honesty, compassion and integrity (Rothstein & Jacobsen, 2006). In 1779, Thomas Jefferson, John Adams, and Benjamin Franklin promoted the idea of a public school system wherein citizens could be educated enough to govern themselves and to think critically (Kober, 2007; Rothstein & Jacobsen, 2006). In contrast, the legislature did not want to finance the concept (Kober, 2007). In 1785, Congress finally acted upon Jefferson's ideals with the enactment of the Land Ordinance that set aside land and a portion of revenue for public school to be established in the Northwest Territory (Kober, 2007). It would take 50 more years before a network of public schools were established across the nation (Kober, 2007).

Schools, in the form of one-room schoolhouses, proliferated across America and by 1890, about nine in ten students were enrolled in public school (Kober, 2007; Tyack, 1999). Locally elected officials organized the school and decided on the resources, teachers, and curriculum in the one-room schoolhouse (Olson, 1999; Tyack, 1999). This local decision-making demonstrated to students first-hand how self-rule operated, with educational governance decisions being made locally (Tyack, 1999). This contributed to the student's education in democracy and reflected the ideals held by John Locke and

John Stuart Mill of parental choice and control (Godwin & Kermerer, 2002; Tyack, 1999).

### *Background of the Establishment of Public Schools*

Conversely, John Dewey, considered the father of progressive education (Godwin & Kermerer, 2002), promoted the concept of an educated society to sustain and enhance well being, increase an individual's standard of living, and to maintain a democratic society (Dewey, 1916, 1966). Furthermore, Dewey advocated that public education would decrease parental prejudice and build a sense of community comprised of diverse learners that respect individual differences (Dewey, 1966; Godwin & Kermerer, 2002). John Dewey and Horace Mann, secretary of the Massachusetts board of education, promoted the notion of the *common school* (Kober, 2007). These schools were governed locally, publicly funded, and offered a common curriculum (Kober, 2007). Inspiringly optimistic about the power of education, the common-school reformers felt that public education would be a solution to a myriad of social problems (Kober, 2007; Lubineski, 2001). It was believed that a universal public education would eliminate poverty and crime, suppress class conflict, and unify the ethnically diverse population (Brown, 2004; Kober, 2007; Lubineski, 2001). Initially schools were offered to the public as a voluntary practice; however, compulsory attendance was first enacted in Massachusetts in 1852, with all states endorsing compulsory attendance laws by 1918 (Friedman & Friedman, 1990).

Reformers advocated centralizing schools to avoid the graft and corruption of local politicians and to put education in the hands of educated professionals (Olson, 1999; Tyack, 1999; Tyack & Cuban, 1995). Many school districts resulted in an excessive



number of school boards and sub-committees, which limited the amount accomplished (Olson, 1999; Tyack, 1999). A tug-of-war between advocates for local school control and reformers that desired centralized control ensued (Tyack, 1999). Local control advocates usually included tradesmen, local business owners, working class, and members of the lower middle class (Olson, 1999). The advocates for central control included members of the business and social elite as well as the new university trained education professionals (Olson, 1999).

### *Consolidation Efforts*

One-room schoolhouses began to consolidate in the early 1900s. After World War II, the consolidation effort accelerated and larger schools with a common curriculum became the norm (Olson, 1999; Tyack, 1999). The method employed to accomplish this goal was cutting the size of school boards in large cities, eradicating ward school boards, and by passing legislative statutes that consolidated power by replacing elected state and local superintendents with appointed superintendents (Olson, 1999; Tyack, 1999). This led to the expertise of the superintendent and school board to be paramount. Public participation in decision-making was then not necessary, reducing the political process and the public's input (Tyack, 1999).

### *Divergent Views on the Establishment of Public Education*

Some historians view the rise of public education as the result of the influx of Catholic immigrants in the 1840s (Bast, 2009; Lieberman, 1993). States had previously provided assistance to private schools, but upon the tripling in size of the Catholic immigration population, public schools began establishing schools with a Protestant bias

(Lieberman, 1993). Therefore, some profess that public education was established due to religious bias, not to promote the common good (Lieberman, 1993).

The United States experienced tremendous economic growth and prosperity before the advent of public education—a fact that history had forgotten (Bast, 2009; Lieberman, 1993). Lieberman asserts that it is absurd to promote as fact that the founding fathers viewed public education as the only way to educate citizens. He declared that this argument should not be used as a precedent to dissuade school choice in education (Lieberman, 1993).

#### Twentieth and Twenty-First Century Legislation

By the early twentieth century, schools were successfully consolidated, and the focus of access to an education changed to concerns about equity in education (Kober, 2007). At this time, many students received a substandard education. Teachers were not highly qualified and classrooms were crowded with few supplies (Kober, 2007). The legislative branch of government began to pass laws in order to improve instruction in schools (Kober, 2007). Many laws were passed to equalize educational opportunity, elevate instructional quality and decrease poverty, including the Civil Rights Act of 1964 and the Elementary and Secondary Act of 1965 (ESEA) (Burke, 1990).

As the result of the Soviet Union launching Sputnik, the U.S. legislature enacted the National Defense Education Act to promote math, science, and foreign-language instruction in schools (Burke, 1990). During the 1960s, the U.S. Office of Education tripled in size and the legislative branch became involved in education and assumed a major voice in educational policy (Koerner, 1968). State funding statutes were also

written to try to equalize the distribution of funds to diverse economic populations within the state (Kober, 2007).

### *Nation at Risk*

The report *Nation at Risk*, published in 1983 by the National Commission of Excellence in Education, asserted that our schools have squandered the achievement gains made in the 1960s. Heralded as the most important educational report of the century it alarmed the U. S. populace with claims that mediocrity was eroding the educational foundations of society (Ravitch, 2010a). Students and teachers were urged to commit to more rigorous standards, to longer school days, and for schools to return to their core academic mission (National Commission on Excellence in Education, 1983).

*Nation at Risk* lamented the demise of the greatness of our educational system due to the onerous demands placed on the schools to solve personal, political, and social problems that society cannot resolve (National Commission on Excellence in Education, 1983; Ravitch, 2010a). The report specifically called for: (a) high standards for academic performance; (b) more rigorous high school graduation requirements; (c) higher teacher salaries; (d) more time devoted to instruction and homework; (e) better student conduct; and (f) higher standards for entry into the teaching profession. Furthermore, the report asked for all students to be afforded an opportunity and the tools needed in order to be successful.

### *Nation Still At Risk*

Adding to the clamor of school reform was the policy document written in 1998 entitled *A Nation Still At Risk* (Thomas B. Fordham Foundation, 1998). This report was prepared by organizations that promote charter school education and endorsed choice,

privatization, and charter schools as an answer to the problems in public education by increasing competition among schools (Good & Braden, 2000). Additionally, schools were urged to establish standards, assessments, and accountability to increase student achievement (Thomas B. Fordham Foundation, 1998).

### *America 2000 Program*

During the 1980s and 1990s, many states began to revive liberal education (Ravitch, 2010a). The *quality* of curriculum and instruction in the United States became the focus rather than the *quantity* of courses (U.S. Department of Education, 1998). In 1989, following an Education Summit, Governor Clinton and the National Governor's Association developed the America 2000 program, which pushed for national standards in core subjects (Ravitch, 2006). A consortium of professional educators and scholars developed national standards in history, English language arts, civics, economics, the arts, foreign languages, geography, physical education, and science that states could voluntarily use (Ravitch, 2010a). The America 2000 program was never enacted into law, but led to Goals 2000: Educate America Act. Goals 2000 was signed into law on March 31, 1994 and subsequently was amended in 1996 (U.S. Department of Education, 1998).

### *Goals 2000*

Goals 2000 (1994) established eight educational goals to be accomplished by the year 2000 (Clinton, 1992; U. S. Department of Education, 1998, 2001). Two of the key components of Goals 2000 were to establish national standards and to test students on those standards in the fourth, eighth, and twelfth grades (Clinton, 1992; Ravitch, 2006, 2010a). Clinton, advocated standards based reform as a method to improve the education

of all students. He supported national standards that would outline what students should know and be able to do to be successful (Ravitch, 2010a).

In the fall of 1994, before the official release of the standards, the history standards came under attack for their political bias (Ravitch, 2010a). The nation debated who and what should be taught in the history standards and if the standards were based on political correctness and skewed too far toward minorities and women (Ravitch, 2010a). Due to the negative press concerning the content in national standards, Republicans and Democrats abandoned the pursuit of national standards in 1995 (Ravitch, 2010a). Republicans viewed the standards as an example of leftist academics, while Democrats backed away from promoting national standards and advocated for state standards and state created accountability (Ravitch, 2010a).

The Clinton administration believed in national standards; however, Clinton realized that national standards had lost bipartisan support (Clinton, 1992). Many in the country felt that the national government was taking control of education; therefore, Goals 2000 was amended in 1996 to address these concerns (U. S. Department of Education, 2001; Ravitch, 2010a). One of the amendments to the Act eliminated The National Education Standards and Improvement Council and removed the requirement for states to submit school-improvement plans to the U. S. secretary of education (Pitsch, 1996). The fervor was so great over the possibility of federal control of education that the U. S. Department of Education published a website to assure citizens that education was a local concern, and that the federal government would not take control (U. S. Department of Education, 2001). As a result of the dismantling of national standards, Goals 2000 allowed states to develop state education standards and an assessment system

voluntarily in order to receive federal education grants (Ravitch, 2010a). Except for a few lone states, the state standards were far from uniform, too general, and were generally weak (Ravitch, 2010a).

### *No Child Left Behind Act*

When Governor George W. Bush of Texas was elected president in 2000, he also advocated for educational reform. As the Governor of Texas, he had implemented a strategy of testing and accountability that accomplished many of the objectives of Goals 2000 (Ravitch, 2010a). During Bush's presidency The No Child Left Behind Act (NCLB) of 2001, 20 U.S.C.A. § 6301 was enacted (NCLB, 2008). NCLB is the reauthorization of ESEA and extends the work that had begun with the standards-based reform of the ESEA authorization in 1994 and Goals 2000 (Brown, 2004). The NCLB Act is designed to insure that by the 2013-2014 school year that all students will obtain proficiency in reading and math as measured by state designed criterion tests (U.S. Department of Education, 2007a, 2007b, 2009a; Yell, 2005).

The primary goal of NCLB is to hold schools accountable for the Adequate Yearly Progress (AYP) of all students toward the goal of reading and math proficiency regardless of the race, economic status, language, or disability of the student (Ravitch, 2010a; U.S. Department of Education, 2007a). NCLB's main strategy is to increase student proficiency through school accountability based upon student disaggregated test results (Stecher & Kirby, 2004; U. S. Department of Education, 2007b). The NCLB focus on accountability was a major shift from previous federal educational policies that primarily focused on providing services (Stecher & Kirby, 2004).

Prior to NCLB, student achievement data was based on school-wide averages, whereas NCLB requires schools to disaggregate data by student subgroups (Gamoran, 2007). The disaggregated data allows schools to identify achievement gaps between distinct student subgroups such as high and low income students, ethnic groups, and students with disabilities (Gamoran, 2007). This spotlight on disaggregated data and subgroups should increase the political resolve to address inequalities in education (Gamoran, 2007).

In addition to setting annual AYP targets, other provisions of NCLB include (a) highly qualified teachers; (b) student test participation rates; (c) safe and drug free schools; (d) all limited English speaking students becoming proficient in English; and (e) one other academic indicator selected by the state (such as graduation rate or attendance) (U. S. Department of Education, 2007b). Title I Schools must meet AYP in order to receive Title I funds from the federal government. Title I schools that do not demonstrate AYP, as measured by state designed tests, are required to implement corrective actions. The corrective action required is based on the number of years that adequate student progress has not been met (National Center for Education Evaluation and Regional Assistance, 2007).

If a Title I school fails to meet AYP for two consecutive years, the consequences begin to be applied as outlined in NCLB. The first year after a school has failed AYP for two consecutive years, the parents may transfer their children to another school in the district, thereby affording the student school choice (U. S. Department of Education, 2007a, 2007b). The NCLB act requires the district to provide a choice of two schools for students to transfer to and these schools must not be in Title I school improvement status.

If the Title I school does not meet AYP the subsequent year, the students that choose to remain in the Title I school may receive supplemental educational services such as tutoring. The supplemental educational services must be offered by a state approved provider and are in addition to the instruction received by the student during the school day (U. S. Department of Education, 2007a). Additionally, the school district must set aside 10% of their Title I budget to assist the failing Title I schools with professional development targeted for the area deemed responsible for the schools failure to make AYP (U. S. Department of Education, 2007a).

Continued failure to meet AYP student achievement guidelines will result in further sanctions including school restructuring. School districts are also subject to NCLB guidelines and can be identified as a *needs improvement* district. Failing school districts, or failing Title I schools, may exit from the *needs improvement* category, corrective action, or restructuring status when it achieves AYP for two consecutive years (U. S. Department of Education, 2007a).

The final report by the U.S. Department of Education on Title I School Choice (2009a) notes that only a small proportion of eligible students actually participated in school choice from NCLB provisions. Even though the participation in school choice has increased in numbers from 38,000 in 2003 to 45,000 in 2006-07, the participation by eligible students has remained constant at approximately one percent of the eligible student population (U. S. Department of Education, 2009a). The increase in the number of students that have participated is due to the increase in the number of schools that have failed AYP.



The supplemental educational service participation rate has also remained relatively constant at 17% even though the number of participants has increased from 233,000 in 2003–04 to 449,000 in 2005–06 (U.S. Department of Education, 2009a). Furthermore, the U.S. Department of Education reports trend data in 30 states from 2004-05 to 2006-07 that the percentage of students achieving at or above the state’s proficient level rose (U.S. Department of Education, 2009a).

*Proponents of NCLB*

Proponents of NCLB believe that disaggregated data of subgroup performance will increase the political resolve to address inequalities in education and contend that previous reforms were unsuccessful due to educators ignoring student outcomes (Gamoran, 2007; Stecher & Kirby, 2004). Furthermore, NCLB advocates believe that supplemental services provided by NCLB will provide more opportunities for disadvantaged students (Gamoran, 2007). Nine out of 10 students are educated in public schools (Kober, 2006). Whereas the majority of public school students attend schools in suburban or rural locations, Hispanics and African American children predominately attend school in urban areas and are more likely to attend high-poverty schools than white children (Knaus, 2007; Kober, 2006). High poverty schools historically have lower scores, and less qualified teachers.

Additionally, due to the greater number of provisional teacher certificates in schools with a large low-income student population, proponents believe the provision for highly qualified teachers in NCLB will increase opportunities for disadvantaged students (Gamoran, 2007). The requirement of disaggregated data in NCLB has succeeded in

alerting the general public, educators, and politicians to the negative impact and the student achievement gap between student groups (Gamoran, 2007).

### *Detractors of NCLB*

Researchers found that detractors of the NCLB act consider knowledge of disparity not enough to enact change. They determined that NCLB needs to be recast to positively affect improvement in student achievement and not used to label schools as failing (Ravitch, 2010a). Additionally, critics of NCLB point out that the accountability movement of school reform has been *hijacked* by high stakes tests based on dubious state generated standards that vary from state to state in complexity, and degree of rigor (Ravitch, 2010a). The report, *Mapping State Proficiency Standards onto NAEP Scales: 2005–2007* (Bandeira de Mello, Blankenship, & McLaughlin, 2009), states that students' performances can vary according to the state they reside because of the differences in state assessments and proficiency cut scores established independently in each state. As a result, a student can be deemed proficient in one state and in another state classified as not proficient.

Furthermore, the requirement of NCLB that all students meet standards by 2014 may label diverse schools as not making adequate yearly progress due to their large numbers of minority and disadvantaged students (Gamoran, 2007). The most disadvantaged students in the struggling school usually use the transfer component of NCLB least; therefore, students left behind in the school find their opportunities of success diminished further and the school unable to succeed (Gamoran, 2007). Low-income students have demonstrated modest improvements since the passing of NCLB and the component of AYP, but not at the rates required by NCLB (Gamoran, 2007).

The purpose of NCLB was to improve student achievement through the use of an accountability system to measure achievement of all students (U. S. Department of Education, 2007a). Christopher Knaus (2007), a lecturer in African American Studies at the University of California-Berkeley, states that NCLB fails to close the achievement gap, and does not adequately prepare African American students for college or for meaningful employment. Knaus (2007) also suggests that NCLB encourages segregated schools, further alienates African American students through the narrowing of the curriculum, does not promote critical thinking or engagement, and ignores high dropout rates.

Interestingly, Texas, the state that was the model for NCLB's high-stakes test-based accountability system, experienced an increase in the dropout rate for economically disadvantaged students, English language learners (ELL), African American, and Latino children after the establishment of high-stakes testing (McNeil et al., 2008). The study analyzed seven years of student data in a large urban district in Texas. The results indicated that high-stakes accountability had a direct negative impact on the severity of the dropout rate.

Furthermore, the study states that disaggregation of data, combined with high-stakes testing does not result in educational equity. It does, however, result in low performing students being pushed out of schools so schools can demonstrate measurable student improvement (McNeil et al., 2008). Additionally, the study revealed that as schools are rated negatively and principals are disciplined for negative performance, at risk students exit the school in much larger numbers than previously recorded. (Rice University, 2008).

The McNeil study implied that as high-stakes accountability applies more negative pressure on school employees' careers, school status, and funding the more students will be viewed as potential liabilities rather than students to educate (McNeil, et. al., 2008; Rice University, 2008). Moreover, the very students that NCLB was supposed to help are leaving the school system in greater numbers; 60% of African American, 75% of Latino students, and 80% of English as a Second Language (ESL) students did not graduate within five years (McNeil et. al., 2008; Rice University, 2008).

The authors of the study concluded that the increase in student achievement and the narrowing of the achievement gap between student groups in Texas is the direct result of under-performing students leaving the system. Furthermore, the authors charged that the accountability experts wrongly labeled the school reform in Texas the *Texas Miracle* since the positive school improvement noted was achieved by students dropping out of school before they could be counted against the schools performance (McNeil et al., 2008). The report also cites the importance of looking at individual student achievement longitudinally to gauge the results of policy decisions, not just at the improvement of the disaggregated groups as a whole because the results may uncover a different conclusion than expected (McNeil, et. al., 2008).

Moreover, Ravitch (2010a) proposed that NCLB has “ hijacked the standards movement into the testing movement” (p. 15) and has dedicated a chapter in her book, *The Death and Life of the Great American School System: How Testing and Choice are Undermining Education*, to the subject. Ravitch (2010a) asserted that the accountability of NCLB was a measurement strategy with no educational vision and was established to change the structure of schools without considering the effect on learning. Ravitch

(2010a) also stated that that NCLB testing procedures do not raise standards and ignores history, civics, literature, science, the arts, and geography, which undermine the larger goals of education.

#### *NCLB and Curriculum Imbalance*

NCLB ushered in school reform that included high-stakes testing, with decision-making based on student's proficiency in reading and math at the detriment of other subjects such as science and social studies (Rothstein & Jacobsen, 2006). Researchers warn that due to the reorientation of instruction, low income and minority students may be affected to a greater degree than more affluent students. Moreover, achievement gaps may actually widen as a result of the de-emphasis of subjects and because of the shortage of critical thinking standards that are tested. Principals surveyed in 2003 by the Council for Basic Education stated that schools with a high minority school population spent less time on history, civics, the arts, foreign language, and geography so the students could concentrate their efforts on math and reading (Rothstein & Jacobsen, 2006).

The Center on Education Policy survey in 2005 found that high-poverty districts had minimum time requirements for math and reading at a greater rate than non-minority districts (Center on Education Policy, 2005). Jack Jennings and Diane Stark Rentner (2006) state that 71% of districts are reducing time spent on subjects other than reading or math in elementary schools. Additionally, the higher the poverty in the district, the more likely the district would have a specified time required for reading instruction. Of the schools that had minimum reading requirements, half had reduced time spent on social studies, and 43% of the schools had reduced time spent in art and music (Center on Education Policy, 2005). Interestingly, 27% of the schools surveyed reduced time spent

in physical education (Center on Education Policy, 2005; Rothstein & Jacobsen, 2006). Ninety-seven percent of high-poverty districts specify the amount of time to be spent on reading compared to only 55-59% of low-poverty districts that require set times for reading instruction (Jennings & Rentner, 2006).

Moreover, the shift in curricular coverage is in direct conflict with the purpose of the establishment of public education—to prepare student to become autonomous, possess morals, develop political tolerance, respect diversity, reduce inequalities, and to promote citizenship (Godwin & Kermerer, 2002; Knaus, 2007; Kober, 2007; Rothstein & Jacobsen, 2006). Diane Ravitch (2010a) purports that NCLB does not create educated citizens, ignores the importance of knowledge, and has no vision or curricular goals. The purpose of NCLB is to increase student achievement, decrease the achievement gap, and increase the United States economic competitiveness with other nations (Colvin, 2004; U. S. Department of Education, 2007a).

Conversely, concerns have been raised that schools are concentrating their instructional focus on *bubble kids* in an effort to raise test scores to the detriment of low-performing students who receive instruction that is too difficult. As well, there are high performing students who are not challenged and are receiving instruction on content they have already mastered (Center on Education Policy, 2009b; Loveless et al., 2008). Furthermore, the Center on Education Policy (2010a) reported that achievement gaps have increased, even though subgroups have posted gains but not at the same rate as the comparison group. To raise student achievement, Ravitch (2006, 2010a) supported a coherent curriculum with an emphasis on national standards as advocated by the report *A Nation at Risk*.

### *Common Core Curriculum*

The centralization of American school education is continuing with states agreeing to develop national common core standards rather than varying state standards of curriculum (Phillips & Wong, 2010). Forty-eight states have agreed to develop common standards in math and literacy, with only Texas and Alaska dissenting (Phillips & Wong, 2010). The goal of the Common Core is fewer standards that require students to use critical thinking skills (Phillips & Wong, 2010). The framework includes three parts: (a) content and skills; (b) core cognitive skills of problem solving, reasoning, and collaboration; and (c) an assessment system that links all of the parts together (Phillips & Wong, 2010).

Ravitch (2010b) stated that the idea of a national core curriculum is not new and contends that core curriculum standards have been used since the late nineteenth century. These standards were not written in formal terms, or promoted by the government, but were evident in the late nineteenth century as textbook standards, and later designed by top college officials as entrance exams (Ravitch, 2010b). The first college entrance exams in the early twentieth century were comprised of essays and demonstration of knowledge, unlike the current exams that rely on multiple-choice answers (Ravitch, 2010b). These entrance exams included a list of classic books that all well-read students should read. Additionally, student writing was analyzed for written expression, not for the student's minute knowledge of events (Ravitch, 2010b).

In 1941, the College Board suspended the use of written college entrance exams and replaced the *boards* with the Scholastic Achievement Test (SAT), promoted by psychologists as more scientific and not tied to curriculum standards (Ravitch, 2010b).

Ravitch (2010b) views the demise of the common standards of the *boards* as detrimental to education since the replacement SAT only tested for vocabulary and reasoning ability and not for knowledge and skills. Ravitch (2010a, 2010b) attributed the plummeting educational standing in the United States in the 1960s to the rudderless wanderings of a nation steered by textbook companies and the testing industry, rather than from the course set by a common core curriculum developed by professional educators.

Additionally, Ravitch (2010b) issued a warning that the current quest for national standards to be successful should be voluntary and not prescriptive nor too vague. She stated that the standards must include more than just reading, language arts, and math. She further stated that the standards should include essential readings required of all students. Ravitch (2010a) cautions the nation “that standards without curriculum is like a bird without wings” p. 30.

#### *NCLB and Increased Spending on Student Achievement*

The federal government has increased federal spending and increased state flexibility to assist school districts to meet the goals of NCLB (Ravitch, 2010a). Many studies have asserted that increasing school spending does not increase student achievement whereas other studies have demonstrated that the level of per-pupil expenditures and how money is directed can make significant differences in student achievement (Hanushek, 1994, 1996). While per pupil spending has more than doubled from 1970–2004, student test scores in reading as measured by the National Assessment of Educational Progress (NAEP) for the same time period demonstrated that student achievement in reading has remained relatively flat (Lips, Watkins, & Fleming, 2008).



Some studies have demonstrated that money and resources directed to lower-income students increases student achievement. Likewise, higher income student performance is not impacted when money is increased or decreased (Grissmer, Flanagan, Kawata, & Williamson, 2000). Whether these findings are due to the wealthier families ability to increase their contribution to support their children is an unknown factor (Grissmer et al., 2000). Hanushek (1994, 1996) found that student achievement is not effected by per-pupil expenditures increase, but by the effectiveness of how the money is spent. Hanushek advocated for schools to measure the impact of school programs and resources in order to use existing resources more effectively (Hanushek, 1994, 1996). School choice proponents advocate that the best resouce allocation is through giving students choice in schools. They point to studies that prove that students who participate in choice have higher test scores than their peers, who do not participate in choice (Lips et al., 2008).

#### *NCLB and Cheating*

More recently, it has been discovered that many schools have resorted to cheating in order to pass the annual CRCT. The most attention has been given to the cheating scandal in Atlanta Public Schools (APS), where 148 educators have been charged with unethical behavior. The state investigated cheating allegations after the Atlanta Journal Constitution began reporting on the improbable increase in CRCT scores for Atlanta Public Schools in December of 2008 (Atlanta Journal Constitution [AJC], 2010). Experts concurred with the findings and stated that the test results were “as extraordinary as a snowstorm in July” (AJC, 2010).

After continued reporting by the AJC, an investigation was requested by the Governor's office. Mike Bower, former state attorney general, lead the investigation with assistance from the Georgia Bureau of Investigation. Over 800,000 documents were scrutinized and investigators conducted 2,100 interviews (Vogell, 2011). This investigation found that cheating was caused by many factors, but mainly by the pressure applied to meet unrealistic targets in a data-driven environment (Office of the Governor: Special Investigators, 2011). Furthermore, the Atlanta Public School leaders were charged with not instituting ethical oversight of the testing process, creating a culture of fear and intimidation, and for creating a conspiracy of silence and deniability (Governor Nathan Deal: Office of the Governor, 2011).

Along with the drive to increase student achievement, the leadership of APS emphasized public praise and test results over integrity, which contributed to testing misconduct and a systematic cover-up of cheating in order to improve test scores (Office of the Governor: Special Investigators, 2011). Teachers charged that Atlanta Public School's leaders threatened them with being replaced if their test results were not adequate. Twenty-five percent of the principal's evaluations were based on student achievement scores. Beverly Hall stated to principals if they did not make AYP within three years they would be replaced. In turn, the principals applied pressure to the teachers placing them on professional development plans (PDPs), threatened to terminate them, and subjected the teachers to public humiliation (Office of the Governor: Special Investigators, 2011).

The investigation of APS' found that 178 teachers and principals cheated, and 82 individuals investigated confessed. Of the 56 schools investigated, 78.6% or 44 schools

were found to have cheated. Thirty-eight principals were found to have been either directly involved or responsible for cheating. Moreover, the investigation found that cheating was so prevalent and systematic, that teachers and administrators had *erasure parties* to ensure student success on the CRCT. So widespread was the culture of cheating those individuals who dared to come forward to report cheating was punished by the administration (Office of the Governor: Special Investigators, 2011). Subsequently, teachers charged that the school system was run like the mob (Vogell, 2011).

Investigators of the APS cheating scandal concluded that monetary gain was not the impetus for cheating, but the educators' fear of losing their jobs, intimidation, and public humiliation based on data-driven student achievement targets were the main culprits.

#### *Cheating and Merit Pay*

The pressure to perform was not only applied from possible punitive sanctions and job loss, but also increased due to the possibility of a financial reward or bonus based on student test improvement. Dr. Beverly Hall became the Superintendent of Atlanta Public Schools in 1999. She established many strategies to improve student achievement including a *target* system. The NCLB act states that all students will be proficient by 2014 and allows states to establish the AMO necessary to achieve this target. Under the guidelines of NCLB, targets are established to move students from the lower *does not meet* category to the middle *meets* category.

Dr. Hall established her own *targets* beyond the requirement of NCLB or the state of Georgia requiring schools to move students from the middle *meets* to the top category of *exceeds* (Office of the Governor: Special Investigators, 2011). Lower performing schools had to increase more than higher performing schools. Schools that met 70% of

their target received bonuses that ranged from \$50 to \$2000 per person. The amount earned was based on the percentage of the target the school met. Dr. Beverly Hall collected more than \$850,000 in bonuses in the 12 years she was APS' superintendent (Sarrio, 2011). APS is considered a pioneer in merit pay and has distributed almost \$17 million in bonus money since 2001. Educators implicated in the cheating scandal have collected 500,000 in bonus money (Sarrio, 2011).

Due to the cheating scandal, merit pay is being eliminated in Atlanta Public Schools, while nationally much interest has been shown in basing teacher's pay partially upon student achievement on standardized tests. Federal programs like Race to the Top requires participants to show teacher and principal improvement based upon performance. The Race to the Top grant offers \$4.35 billion in grants to improve America's schools; however, states that prohibit linking student achievement data to teacher and principal evaluation may not apply. As a result, many states, including Georgia, are preparing new evaluation instruments that exam teacher's effect on student test scores. Educators' pay in many states will subsequently be rewarded based upon student achievement growth as measured by standardized testing (Sarrio, 2011).

The difficulty of developing an evaluation instrument tied to student achievement is evidenced by Georgia's attempt. Originally, Georgia had planned to pilot their new evaluation instrument in 26 school districts but has now scaled back its pilot program to evaluate only 5,800 teachers rather than the original 47,000 as planned (Badertscher, 2011). Due to the replacement of the Governor and the state school superintendent, Georgia has received a waiver to reduce the number of schools in the pilot. In the waiver request, Georgia indicated they would be better prepared to evaluate the instrument on a

smaller scale, while noting the complexities of developing and evaluating the instrument (Badertscher, 2011). Even though APS has garnered much attention, educator cheating on standardized tests that are linked to evaluation is not limited to Atlanta Public Schools. Currently several school systems have been investigated for cheating on standardized tests. Numerous states have been implicated in such scandals including 103 schools in Washington D.C. (Gillium & Bello, 2011) six California charter schools, 32 schools in Detroit, and schools in Baltimore, Colorado, Florida, Philadelphia, New York, and Arizona (Kobeler, 2011).

### History of School Choice

Much of the school choice movement began with Milton Friedman who promoted school choice with the essay “The Role of Government in Education” (1955). Friedman was a world-renowned economist at the University of Chicago and won the Nobel Prize in 1976 for his economic studies (Ravitch, 2010a). He was a strong proponent of market-based economics and he advocated that the government should fund schools, but not be involved with the day-to-day operations (Friedman, 1955, 2005; Friedman & Friedman, 1990; Ravitch, 2010a; Viteritti, et al., 2005).

Friedman believed that allowing parents the choice of education providers, including public, private and religious institutions, would create a market approach to education. The market approach would provide an economic force in education, which would result in the closure of poor performing schools (Friedman, 1955, 2005; Viteritti, et al., 2005). Friedman advocated that freedom of choice would drive educational excellence and would also provide the greatest benefit to poor children in the worse schools (Friedman, 2005; Friedman & Friedman, 1990; Viteritti, et al., 2005). His ideas

concerning school choice influenced President Reagan's educational policies, subsequently becoming one of Reagan's advisers (Ravitch, 2010a; Viteritti, et al., 2005).

Southern states also supported school choice in response to the U. S. Supreme Court ruling in 1954 against school desegregation with the case *Brown v. Board of Education* (Brown, 2004). The term *school choice* became stigmatized and viewed as a method for White students to escape integration (Brown, 2004; Ravitch, 2010a). As a result of this negative stigmatism, the idea of school choice remained largely ignored by mainstream America until the 1980s (Ravitch, 2010a). With the passage of the Elementary and Secondary Education Act (ESEA) in 1965, the government forced desegregation by withholding money to school systems that did not comply with the Civil Rights Acts of 1964 (Ravitch, 2010a). The meddling of the government into parents' choice of school was the antithesis of Friedman's model of maximizing individual freedom through school choice (Ravitch, 2010a).

Friedman (1955) believed that market forces would allow many variants of schools including mixed race, segregated, and religious schools. He believed that school choice would provide a method of eradicating segregation since people would try to persuade others to adopt their views. He deplored that southern states were using his philosophy of choice to promote segregation, but he also felt that forced integration was not the answer (Friedman, 1955; Ravitch, 2010a). He advocated for the government to give people the choice of how to live as long as it did not harm others (Friedman, 1955).

Friedman believed that economic and political freedom, with less government involvement, would lead to greater prosperity (Friedman & Friedman, 1990). Friedman's economic viewpoints were based on Adam Smith's publication in 1776, *The Wealth of*

*Nations* (Friedman & Friedman, 1990). Adam Smith is considered the father of modern economics. He supported a free market economy, wherein people would promote their own interests, which would in turn promote the good of society as a whole (Friedman & Friedman, 1990). Friedman proposed that individuals and society would equally benefit and prosper by limiting the role of government while supporting the voluntary exchange of goods and services (Friedman & Friedman, 1990; Viteritti, 2010; Viteritti, et al., 2005).

Advocates for school choice believe that competition between school models will encourage risk taking, promote innovation, and increase student achievement (Friedman, 2005; Zimmerman et al., 2009). Furthermore, choice proponents believe the inequality between students due to race and economic status will be leveled and the student achievement gap eliminated through student choice programs (Lacireno-Paquet, et al., 2002). Schools that are state-administered are viewed by choice supporters as lacking innovative educational approaches due to the *one-size-fits-all* mentality of public schools (Lubienski, 2003; Lubienski & Lubienski, 2006; Zimmerman et al., 2009). Choice supporters believe that government-run schools do not have an incentive to improve due to being a monopoly. Those who promote school choice feel that the present school system serves the interest of the adults rather than the children in the school (Ravitch, 2010a).

Conversely, critics of the choice movement charge that choice will (a) increase segregation by race and ability; (b) be detrimental to public schools due to the reduction of financial resources; and (c) increase the flight of motivated families to non-public traditional schools (Zimmerman et al., 2009). Additionally, choice critics believe that

schools that compete for students will select students with the highest performance that do not have personal and social disadvantages (Lacireno-Paquet et al., 2002). Open enrollment policy in 46 states allows thousands of students to attend any public school with room to accept them. Online schools are increasing and school vouchers are used by 150,000 students (Stover, 2009). School choice can be applied in a variety of ways: (a) residential relocation; (b) magnet schools; (c) charter schools; (d) vouchers; (e) tax credits; (f) open enrollment; and (g) public school choice as dictated by the guidelines of No Child Left Behind (NCLB) (Godwin & Kermerer, 2002; Lubineski, 2001).

### *Magnet Schools*

The magnet school movement began as a result of the public resistance to mandatory busing due to the Equal Rights Act of 1964 (Ravitch, 2010a). Magnet schools are public schools that provide specialized curricular themes or instructional methods to entice students to voluntarily attend. Through the use of themes or instructional methods, magnet schools can increase racial balance without mandatory busing (Smrekar & Goldring, 1999). Choice advocates believe that magnet schools enhance academic excellence by making individual schools more focused on providing quality instruction in order to attract students (Ravitch, 2010; Smrekar & Goldring, 1999).

### *Vouchers*

Even though magnet schools began to appear in the 1960s, school choice was not considered a mainstream approach until the 1980s. Ronald Reagan supported school choice through vouchers due to the direct influence of Thomas Friedman's ideas. Subsequently, Reagan enlisted Friedman to be one of his advisers (Ravitch, 2010a; Viteritti, et al., 2005). Reagan originally supported school vouchers for low-income



children, which was a modification of Friedman's ideal of school choice for all students (Ravitch, 2010a). Later, Reagan revised his support of vouchers to a less threatening proposal of school choice (Ravitch, 2010a). During the Reagan administration, the Democratic Party controlled the House of Representatives, and the party was allied with the National Education Association (NEA), and the American Federation of Teachers (AFT) (Ravitch, 2010a). These teacher unions opposed school choice and pushed for the House to not pass school choice legislation (Ravitch, 2010a).

Reagan supported legislation concerning school choice vouchers in 1983, 1985, and 1986, but all of the bills were defeated in congress (Viteritti, et al., 2005). Due to a variety of reasons, the voucher bill was defeated. Many viewed Reagan as attacking the public education system since he advocated eliminating the federal Department of Education and also supported a voucher system that many feared would close public schools through competition for funds (Viteritti, et al., 2005).

Reagan was also viewed as a president that promoted the decrease of welfare benefits and programs, which was viewed as detrimental to the poor (Viteritti, et al., 2005). Furthermore, the middle class had the least to gain from vouchers since they were generally happy with the public school system and politicians that represented the poor did not advocate for the voucher bill (Viteritti, et al., 2005). Conversely, free-market-oriented foundations and think tanks continued to promote the concept of choice (Ravitch, 2010a). School choice proponents include the Heritage Foundation, the Cato Institute, the Lynde and Harry Bradley Foundation, and the John M. Olin Foundation (Ravitch, 2010a).

The publication of the book *Politics, Markets, and America's Schools*, by John E. Chubb and Terry M. Moe (1990) resumed the school choice debates in the 1990's (Ravitch, 2010a; Viteritti, et al., 2005). As advocates for school choice, the theorists asserted that schools should emulate business practices and institute a competitive economic market place (Chubb & Moe, 1990). School choice was promoted as the universal remedy to the failing public school system (Chubb & Moe, 1990). Chubb and Moe (1990) asserted that the public school system will fail because the "specific kinds of democratic institutions by which American public education has been governed for the last half century appear to be incompatible with effective schooling" (p. 2). Due to the *ownership* of schools by the bureaucratic government, special interest groups, teacher unions, and school boards, public schools cannot change for the better and will always promote the status quo (Chubb & Moe, 1990; Ravitch, 2010a).

School choice advocates believe that by introducing school choice through the form of scholarships that can be applied to any school, competition will increase and spur innovation and student achievement (Chubb & Moe, 1990; Godwin & Kermerer, 2002; Ravitch, 2010a; Smrekar & Goldring, 1999). School proponents state that school choice empowers poor families to move their children and tax dollars to other schools, guaranteeing they will be noticed rather than ignored (Viteritti, 2010). They believed each school could set its own admissions policy as long as the policy did not discriminate (Chubb & Moe, 1990). Students would be expected to follow the school's rules and those who did not adhere to the school's policies could be expelled.

The schools would be monitored for accuracy in reporting, but would not be *officially* held accountable for student achievement since parents would vote with their

*feet* if the school did not meet their needs (Chubb & Moe, 1990; Lubienski, 2003). John Chubb and Terry Moe (1990) believed the scholarship system would increase innovation through competition, and make schools more responsive to the public. Additionally, school choice would avoid political entanglements and free schools from the bureaucracy that public schools must navigate, which would allow schools to concentrate on curriculum and student achievement (Chubb & Moe, 1990).

A firestorm of protest resulted from the book *Politics, Markets, and America's Schools* (Chubb & Moe, 1990) that was seen as promoting vouchers to the detriment of public schools (Ravitch, 2010; Viteritti, 1999). Reviewers of the book noted that political pressures and the problems encountered by traditional schools would still occur since children, rights, and tax money are the most prized possessions of the nation (Shannon, 1990). Additionally, Shannon (1990) notes that the lack of accountability for student achievement and lack of governance would lead to disorder such as what has happened with junk bonds and savings and loans bailouts. Even though scholars at the time proclaimed that Chubb and Moe's book advocated for vouchers, it can be argued that the book forecasted the rise of the charter school movement (Ravitch, 2010a).

Two urban districts, Milwaukee and Cleveland, passed a voucher program to promote student achievement for low-income students, improve the achievement gap of African American students, and compel the public school system to improve through competition (Ravitch, 2010a). Parents and the community were disenchanted with the promise of educational equality from desegregation. In his book *School Choice: How an Abstract Idea Became a Political Reality* (2005), Joseph Viteritti explains the push for a voucher system in this manner:

The histories of Milwaukee and Cleveland were emblematic of urban education in America: an agonizing experience with school desegregation, followed by white flight, declining tax revenues, legal battles over school finance reform, the infusion of new state money, continued academic failure, and growing parental frustration with the public schools. (p. 142)

The Milwaukee and Cleveland program demonstrated that vouchers and school choice was not just a conservative, libertarian, or Republican issue. African American activists led by Democrats such as state legislature, “Polly” Williams, and Howard Fuller, former Milwaukee school superintendent, joined forces with Republican Wisconsin governor, Tommy Thompson, the Bradley Foundation, and Democratic Mayor John Norquist, to advocate for vouchers for low-income students (Ravitch, 2010a; Viteritti, 2010; Viteritti, et al., 2005). Initially, the Milwaukee voucher program established in 1990, allowed low-income students to attend non-religious based private schools. In 1998, the Wisconsin Supreme Court ruled that vouchers could also be used for low-income students to attend religious private schools as well. As a result of this ruling, 20,000 students attend private schools in Milwaukee, with 80% attending private religious schools (Ravitch, 2010a).

The Cleveland voucher program was also spearheaded by African American parent activists who were upset about the poor performance of their children in school (Ravitch, 2010a). Promoted by a bipartisan group including Democratic mayor Michael White, Republican governor George Voinovich, and Akron industrialist David Brennan, the voucher program was passed in 1995 in Cleveland, Ohio (Ravitch, 2010a; Viteritti, et al., 2005). A lottery system was established awarding 2,000 scholarships with preference

given to low-income families (Ravitch, 2010a). Students could attend any state-approved school, including religious schools. Opponents challenged the program in federal and state courts contending that the voucher program violated the Establishment Clause of the Constitution.

The legal battle was settled in 2002 with the U.S. Supreme Court ruling in *Zelman v. Simmons-Harris* that established that vouchers did not violate the Establishment Clause (Ravitch, 2010a). After this ruling, opponents of vouchers feared an onslaught of voucher programs would be introduced. However, only one additional voucher program was established for 2,000 students in the District of Columbia. The prochoice movement advocates realized that charter schools would be less troublesome, and raised no constitutional issues. They began to support charters over vouchers as a method to promote school choice (Ravitch, 2010a).

### *Charter Schools*

Charter schools are public schools with site-based governance, including a contract to operate with a public authorizing entity, usually a school district or state (Polis, 2009). The first charter school opened in 1992 (Zimmerman et al., 2009) and now over 1.5 million students attend 4,900 charter schools in 40 states (Stover, 2009). Charter schools are created when an organization obtains a charter, which usually lasts from three to five years, from the state authorized agency (North Central Regional Educational Library [NCREL], 1995; Ravitch, 2010a). A charter school may be managed by profit or non-profit organizations, and may be created from an existing school or be established as a new charter school (NCREL, 1995). Charter schools have greater autonomy than public schools and receive waivers from state laws and administrative rules that deter

innovation (Zimmerman et al., 2009). Charter schools are not exempted from laws or rules established for safety, health, or civil rights laws (NCREL, 1995). Additionally, charters must participate in state testing mandates and can establish their own teacher salary structure outside of the state guidelines (NCREL 1995; Ravitch, 2010a). Funding for charter schools comes from the district in which the charter school resides. Consequently, this diversion of funds reduces the amount of per pupil funding the regular public school district receives (NCREL, 1995).

The purpose of charter schools was to spark innovation in schools, to empower teachers, and to engage students in learning in areas where traditional schools have not been successful (Klonsky & Klonsky, 2008). The charter school movement began in 1988 when Ray Budde, professor of educational administration in Massachusetts proposed that teams of teachers apply for charters to run departments or programs within the school based on specified goals and for a specific period of time (Kahlenberg, 2007, 2008; Ravitch, 2010a). In his book, *Education by Charter: Restructuring School Districts* (1988), Budde proposed that by allowing teachers the ability to direct curriculum and instruction without school board intervention innovation would occur. Budde did not intend for the entire school to be established as a charter school, only a department or program. Albert Shanker promoted the idea of charter schools in his speech in 1988 as President of the American Federation of Teachers (Budde, 1996; Lacireno-Paquet et al., 2002). After this speech, the charter movement gained momentum and Albert Shanker became known as the *founding father of charter schools* (Ravitch, 2010a).

Shanker is considered by many as the most influential educational reformer in the second half of the twentieth century (Hartman, 2010; Kahlenberg, 2007). Kahlenberg

(2007) also asserted that Albert Shanker contributed more than any other single person to preserve public education in America in the last quarter of the twentieth century.

Shanker established teacher unions, and promoted the concept of educational reform based on standards and accountability. Furthermore, he endorsed the idea of teacher peer review to weed out ineffective teachers and a national competency exam for teachers (Kahlenberg, 2007).

An advocate for charter school, Shanker collaborated with Minnesota in 1991 to establish the first charter school legislation (Kahlenberg, 2008). His vision incorporated Budde's concept of charter schools wherein teachers and parents would establish schools exempt from constraints to apply researched based strategies and innovations (Kahlenberg, 2007, 2008). Shanker viewed public charter schools as a defense against private school vouchers, which he feared would stratify students along religious, racial and economic lines (Kahlenberg, 2008). He endorsed the idea of teacher unions and teacher bargaining rights so teachers would feel safe enough to take risks and make innovations (Kahlenberg, 2008). Shanker and democrats proposed the use of charter schools in lieu of private school vouchers since they feared the voucher system would undermine public education, weaken teacher bargaining rights, and lead to segregated schools (Kahlenberg, 2007, 2008).

#### *Current Legislation in Support of Charters*

In his address to the Joint Session of Congress on February 24, 2009, President Obama professed his support of charter schools (Obama, 2009). The Obama administration views charter schools as a key component in educational reform and requires states that wish to participate in the Race to the Top program to reverse laws that

oppose charter schools. In the District of Columbia schools, a third of the total school enrollment is currently attending charter schools (Stover, 2009). Even though the Obama administration and Secretary of State Arne Duncan support charter schools, they realize that charter schools require more accountability and standards so underperforming charter schools will cease to exist (Obama, 2009).

The Obama administration is pledging funds toward changing the landscape of education and increasing student achievement (Obama, 2009). Five billion dollars is being targeted to turnaround underperforming schools through programs such as Race to the Top and the What Works and Innovation Fund. Another promise of \$3.5 billion is being allocated to Title I School Improvement grants (Duncan, 2009). These additional funds will provide hundreds of thousands of dollars above normal funding for schools identified as underperforming. As the Keynote speaker at the National Alliance for Public Charter Schools (NAPCS) annual conference, Education Secretary Arne Duncan (2009) called the charter movement “one of the most profound changes in American education—bringing new options to underserved communities and introducing competition and innovation into the education system” (Duncan, 2009).

#### *All Students Achieving through Reform*

As further evidence of the support for more charter schools, Senate Bill S.3441 was introduced May 27, 2010 and is known as the All Students Achieving through Reform (All-STAR) Act (National Alliance for Public Charter Schools, 2010). This act proposes to amend the Elementary and Secondary Education Act of 1965 and directs the Secretary of Education to award competitive grants to certain eligible entities such as (a) state and local educational agencies; (b) authorized public chartering agencies; and



(c) tax-exempt organizations that have successfully supported the replication and expansion of successful charter schools (National Alliance for Public Charter Schools, 2010). This grant would allow successful charter schools to expand or replicate to serve additional students.

Additionally, the Act would strengthen public charter school accountability, transparency and governance (National Alliance for Public Charter Schools, 2010). The authorized level of funding for the federal Charter School Program would increase to \$700 million, a \$52 million dollar increase, under this act (Duncan, 2009; National Alliance for Public Charter Schools, 2010). Furthermore, the statute would require the Secretary of Education to conduct an evaluation of the Act's initiatives on student achievement and other areas as determined by the Secretary. It will also discourage punitive charter school policies and practices and reiterate the federal requirement for students to be admitted through a lottery (Polis, 2009).

#### *Issues with Charter Schools*

Albert Shanker, considered the father of the charter movement, (Ravitch, 2010a) reversed his position advocating for charter schools and criticized the privatization of charter schools for undermining public education (Shanker, 1996). Shanker professed that public education and the common school are the glue that has kept this country together. He further acknowledged that public education has melded students from varied backgrounds successfully; thereby, allowing our nation to be one of the freest and wealthiest nations in the world (Shanker, 1997).

Furthermore, Shanker declared that by allowing schools to be established that encouraged student groups to enroll based on race, religion, or ethnicity would cause

divisiveness in our society and would be like setting a time bomb (Shanker, 1997). Shanker's idea of charter schools was based on teachers being empowered to establish curriculum based on innovative ideas and pedagogy, not on a *do your own thing* mentality (Kahlenberg, 2007). He was a proponent of curriculum standards and aligned assessments that would monitor progress and hold school systems accountable (Kahlenberg, 2007). Appalled by the privatization of public schools and by charter schools being run by private industry, he withdrew his support for charter schools (Kahlenberg, 2007; Ravitch, 2010a; Shanker, 1996). He believed that the American public did not desire privatization of schools; on the contrary, they desired schools that had discipline, order and high standards (Shanker, 1996).

Even though the Obama administration supports charter schools, the Secretary of the State, Arne Duncan, acknowledges that charter school detractors feel there are many charter schools that are subpar (Duncan, 2009). He warns that the charter school movement is putting itself at risk by allowing too many second-rate, and even third-rate schools to exist (Duncan, 2009). Additionally, another long-standing advocate for school choice, Diane Ravitch, has reversed her views in her national best seller, *The Death and Life of the Great American School System: How Testing and Choice are Undermining Education* (2010a). Ravitch (2010a) stated that school choice and accountability are not the solution to the problems in education. She proclaimed that improved curriculum and instruction is the most essential ingredient to improve education (Ravitch, 2010a).

An advocate for school choice since the early 1990s, Ravitch is a research professor of education at New York University, and a senior fellow at the Brookings Institution. She served as the Assistant Secretary of Education and Counselor to

Secretary of Education Lamar Alexander in the administration of President George H. W. Bush. Appointed by President Clinton to the National Assessment Governing Board she over saw federal testing. She has authored 20 books and many articles that support school reform (Ravitch, 2010a).

Recently Ravitch (2010a) has reversed her viewpoints and currently fears that choice and accountability will not strengthen public schools and may actually harm public schools by removing the best students from schools in the poorest neighborhoods. Additionally, Ravitch (2010a) states that school vouchers for private and special education students, as well as charter schools initiatives, will siphon funds from public education. Furthermore, she states that the accountability instilled into our public education system as the result of federal mandate has resulted in the lowering of standards and a preoccupation with testing rather than learning (Ravitch, 2010a).

She advocated for schools to base curriculum in the liberal arts and sciences steeped in engaging activities incorporating political debates, and scientific phenomena so children can understand the world they live in, and participate in the responsibilities of a democratic citizen (Ravitch, 2010a). Ravitch (2010a) also asserted that public education must be preserved because of its connection to citizenship and democracy. Diane Ravitch and Albert Shanker, both previous choice advocates, concur that standards, aligned curriculum and assessment are the key to the improvement of public education, not privatization or charter schools (Ravitch, 2006; Ravitch, 2010a; Shanker, 1996). Both Ravitch and Shanker professed that the link between public education, democracy, citizenship and the merging of a diverse citizenry makes public education an

imperative that America cannot afford to lose (Ravitch, 2010a; Shanker, 1996; Shanker, 1997).

### Importance of the Study of NCLB and School Choice

The impact of NCLB and school choice on student achievement is important to investigate, especially in light of conflicting reports of the effectiveness of school choice and NCLB policy on student achievement and the student achievement gap (Feinberg & Lubienski, 2008; Good & Braden, 2000; Henig, 1994; Jennings & Rentner, 2006). A report written by Brown (2004) on school choice noted that data is lacking in regard to the school choice transfer provision impact upon student achievement at the sending and receiving schools (Brown, 2004). *Choosing Better Schools: A Report on Student Transfers Under the No Child Left Behind Act* (Brown, 2004) calls upon the U.S. Department of Education to enforce the provision of reporting school choice decisions by local school districts. Furthermore, the examination of NCLB accountability policies upon student achievement is important to examine in order to inform policy makers and the public of the policies effectiveness. The NCLB act is past due for reauthorization and new educational reforms are being formulated to direct educational policy.

### *Achievement Gap*

Because of the achievement gap in education between, and among, students, many in the nation are clamoring for reform. The achievement gap decreases individuals earning potential, increases the likelihood of poor lifestyle choices, and increases the likelihood the individual will go to jail (McKinsey & Company, 2009b). Furthermore, the achievement gap affects the national economy (McKinsey & Company, 2009b). The McKinsey report *The Economic Impact of the Achievement Gap in America's Schools*

(2009b) states that educational achievement gaps in the United States is the equivalent of a permanent national recession. This report states that the cost of the achievement gap is a far greater impact economically than most people realize (McKinsey & Company, 2009b). The report stipulates that the United States has four distinctive achievement gaps: (a) between other nations and the United States; (b) between White students and Latino and Black students; (c) between students of different income levels; and (d) between similar students in different regions or systems (McKinsey & Company, 2009b).

These gaps impact our nation in many ways that are detrimental to the United States economic growth (McKinsey & Company, 2009b). If the United States had closed the achievement gap with better performing nations, the Gross Domestic Product (GDP) in 2008 would have increased in the United States from 9% to 16% which is equal to \$1.3 trillion to \$2.3 trillion dollars (McKinsey & Company, 2009b). McKinsey (2009b) also reported if the achievement gap between Black and Latino students performance and Caucasian students were closed the result would be a two to four percent increase in GDP, which is the equivalent of \$310 billion to \$525 billion higher than recorded in 2008.

The impact to the United States economy will be greater in coming years if the achievement gap is not narrowed due to the increase in the Black and Latino population. According to the U.S. Bureau of the Census as cited in the article, *Long-Term gains in minority education: An overlooked success?* (Jennings, 2011), the proportion of Latino students have increased form 9% to 22% since 1980, and the percentage of school-age white students have decreased from 74% to 56% of the United States population.

In an examination of overall student achievement for the last 40 years in the United States is examined the achievement results have varied and does not appear to be improving. But through the examination of subgroup data trends, it is apparent that the White, Black, and Hispanic subgroup achievement has substantially improved (Jennings, 2011). The reason for the conflicting information is because White students as a percentage of the United States population has decreased, while the two lower-scoring groups, Blacks, and Hispanics, have increased resulting in a phenomenon known as *Simpson's paradox*. Simpson's paradox is the reversal of correlation trend data in different groups when the groups are combined (Jennings, 2011). Therefore, when White, Black, and Hispanic subgroup data is combined the increase in population of the lower performing Black and Hispanic student scores impacts the average score for all students reversing the trend of improvement displayed by subgroup student achievement data (Jennings, 2011).

Many have reported that our nation is morally obligated to close the achievement gap between student populations (Brighthouse, 2003; Viteritti, 1999; Viteritti, et al., 2005). Moreover, the economic cost to the nation is the clarion call for our nation and has received less attention (McKinsey & Company, 2009b). It is important to investigate the effect of the NCLB act and school choice on student achievement due to the negative economic effect upon the nation's economy and to inform educational policy in regard to the effectiveness of school choice policy.

## CHAPTER III

### METHODOLOGY

#### Introduction

Chapter III describes the methodology, county profile and participants, research design, and instrumentation of the study. Also included in Chapter III are the research questions, procedures, limitations, data analysis, and importance of the study. Chapter IV reports an introduction to the problem, the analysis of the data and corresponding results to the study.

It must be noted that the methodology used evolved as the study progressed. As stated in Chapter I, the disaggregated data required by the NCLB Act requires schools to identify achievement gaps between distinct student subgroups such as high and low income students, ethnic groups, and students with disabilities (Gamoran, 2007). The requirement of disaggregated data in NCLB has succeeded in alerting the general public, educators, and politicians to the negative impact of the achievement gap between student groups (Gamoran, 2007).

Each state is given flexibility in determining the absolute bar or Annual Measurable Objective (AMO) necessary to make AYP each year, as long as the state complies with the NCLB goal of all students performing at proficient levels in reading and mathematics by 2013-2014 (Stecher et al., 2010). AYP is measured relative to the absolute target, not upon the growth from a previous level of performance (Stecher et al., 2010). An additional requirement of the state is the development of content standards that all students would be taught and tested each year (Stecher et al., 2010; U. S. Department of Education, 2007b). With the continued increase in the AMO necessary to

reach proficiency the closer schools get to 2014, thus more schools will be labeled as failing. Data released by the Georgia Department of Education in July 2010 showed the percentage of Georgia's schools making AYP had dropped at every level—elementary, middle, and high (Walker, 2010). The latest state reports indicated that approximately 29% of all public schools failed to make AYP in the state of Georgia. This is the greatest failure rate among those recorded for the last five years (Center on Education Policy, 2011b). More middle schools than elementary or high schools entered restructuring in 2008-2009. In 2008, 77% of schools in the United States that entered restructuring were middle schools, 12% were high schools and 12% were elementary schools (Center on Education Policy, 2009a).

There are three trajectory methods utilized by the states to reach 100% proficient on state created tests (a) incremental; (b) backloaded; and (c) blended. The report *Many States have taken a "Backloaded" Approach to No Child Left Behind Goal of All Students Scoring "Proficient"* by Center on Education Policy (2008a) has found that over half the states, including Georgia, have used a *backloaded* approach to reach 100% proficiency by 2013-2014. *Backloading* allows states to set smaller achievement gains in the earlier years of NCLB and much steeper gains in later years, as 2014 approaches (Center on Education Policy, 2008a).

Nationwide, 48% of all schools failed to make AYP in 2011, an increase from 39% in 2010 (Center on Education Policy, 2011b, 2011c). This is the largest percentage of schools that have failed to make AYP since the inception of NCLB. This statistic is predicted to continue to increase due to states *backloading* the achievement trajectories necessary to reach 100% proficient in 2014 (Center on Education Policy, 2008a). Table 1



depicts the AMO established by the Georgia Department of Education for CRCT math proficiency targets (U.S. Department Of Education, 2010).

Table 1

*Annual Measurable Objectives (AMO)*

Annual Step	CRCT – Math	
	AMO	
2003	50.0%	
2004	50.0%	
2005	58.3%	
2006	58.3%	
2007	58.3%	
2008	59.5%	
2009	59.5%	
2010	67.6%	
2011	75.7%	
2012	83.8%	
2013	91.9%	
2014	100.0%	

Note: U.S. Department of Education — *State of Georgia: Consolidated state application accountability workbook* (2010).

### County Profile and Participants

The county school district that was studied represented a large and diverse school system that educates over 100,000 students enrolled in kindergarten through twelfth grade. To maintain the privacy and confidentiality of the school district and the participants, the school district was not identified and was referred to as the Metropolitan County School District (MCSD). The MCSD is located in a large suburban area and

provides education for over 100 schools. Table 2 depicts the county student population ethnicity as compared to the United States demographics.

Table 2

*National Population and District Student Demographic Profile*

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Percent of Population by Demographics		
Race	United States	District
White	79.96	45.0
Black	12.85	31.0
Hispanic	15.1	14.4
Asian	4.43	4.8
Multi-Racial	1.61	2.5
American Indian	.97	.1

Note: National populations from *World Fact Book 2009*, United States Population (Central Intelligence Agency, 2009).

There are approximately 25 middle schools in MSCD. These schools reflect a diverse population including several high performing middle schools that carry the National Blue Ribbon School of Distinction, numerous state schools of excellence, as well as middle schools that have not made Adequate Yearly Progress (AYP) as measured by the CRCT. The system has several Title I middle schools that have not successfully met AYP in math and reading for three years, subsequently students from these failing Title I schools have been given the choice to transfer to higher performing middle

schools. The county has not achieved Adequate Yearly Progress as a district since NCLB Act was signed into law. The school system structure is comprised of elementary, middle and high schools. The elementary school consists of grades kindergarten to fifth; middle is sixth grade through eighth grade; and high school is comprised of four grades—ninth, tenth, eleventh, and twelfth.

The school district examined has enacted a variety of measures in an attempt to increase student achievement in response to the NCLB guidelines. The measures include (a) intense training in pedagogy for teachers in the failing schools; (b) providing SES tutoring as the first line of action when a school fails AYP, rather than providing school choice as the first step as originally dictated by NCLB; (c) providing school choice as the second remedy for school failure; (d) providing graduation coaches, lead teachers, and technology coaches at all Title I schools to support teachers and students; and (e) providing a parent liaison to aid in communication and for contact with the parents and community in Title I schools.

Historically, the county has mirrored state statistics that reflect that more middle schools do not meet AYP compared to high school or elementary schools. The greater failure of middle school may be due to middle schools having a larger school population than elementary schools. Therefore, the subgroups are large enough to count under NCLB policy (Center on Education Policy, 2009a). Additionally, high schools do not fall under Title I guidelines as often since they have fewer low-income students that receive free and reduced lunch (Center on Education Policy, 2009a). Regardless of the cause, concerns about the quality of education in middle school have been debated for decades (Center on Education Policy, 2011a).

More recently, the county middle schools student achievement data has improved with several middle schools coming off the needs improvement list, however concerns have been raised that this trend could change due to the increase in the AMO required by NCLB (Center on Education Policy, 2008a). As a matter of fact, the number of Georgia middle schools that have made AYP has decreased from 84.5% to 78.7% in 2010 (Georgia Department of Education, 2010a). Because of middle schools failing at a greater rate than elementary or high schools, this study analyzed data for the middle school level. The state requirements to meet AYP for middle schools are noted below:

1. Schools must test 95% of all students in all subgroups in language arts/reading and mathematics.
2. A state set percentage of students must exceed or meet standards on the state designed test in all subgroups, regardless of ability.
3. The set percentage of students that must meet standards increases each year and is established by each state, until 100% of students meet standard in 2014, as established by the NCLB Act.
4. Additionally, schools must meet the standard of an established second indicator such an attendance requirement of less than 15% of students absent 15 days or more.

### Research Design

This study was a quasi-experimental longitudinal examination of eighth-grade math achievement scores on the CRCT between the years 2001–2002 through 2006–2007 and achievement scores on the CRCT between the years 2007–2008 through 2010–2011 in a large suburban school district in the Southeast. A repeated measure analysis of

variance (ANOVA) was utilized to compare student's achievement on the eighth grade CRCT math test on the mean scale score and the *meet* and *exceed* proficiency categories for hypothesis one through three. Because each school was measured with time, the analysis has a *within-subjects* factor of *time* and a *within-subject* factor of *race*.

Hypothesis three required a mixed measure ANOVA with a *within-subjects* factor of *time* and *race* and a *between subject* factor of *choice*. In this study, each school was treated as a subject. Each school had trend data for two distinct time periods. One time period encompassed six school years from 2002–2007 and the other time period encompassed four school years from 2008–2011.

The independent variable for research question one and two was Black, White, Hispanic; the dependent variable was student achievement as measured by mean scale score or the category of *meets* or *exceeds* on the eighth grade math CRCT. The independent variable for research question three was Black, White, Hispanic, choice sending, choice receiving, or non-choice participating schools; the dependent variable was student achievement as measured by mean scale score or the category on the eighth grade math CRCT.

School summary reports of all school populations were supplied by MCS D for each middle school for the school years 2002–2011. The school summary reports included test results by grade and subject for all ethnic groups in the school by mean scale score and by percent that *do not meet*, *meet*, or *exceed* standard. The eighth grade math CRCT was examined for this study. Additionally, the county identified the schools by year as non-choice participating, choice receiving, or as choice sending schools. The county also supplied the number of students that participated in choice each year by

school. Test scores were disaggregated by (a) school; (b) ethnicity; (c) choice sending school; (d) choice receiving school; and (e) non-choice participating school. The study examined whether student achievement and the student achievement gap between White, Black, and Hispanic students on the math CRCT in the eighth grade had increased, decreased, or remained the same since the authorization of NCLB Act of 2001. Furthermore, White, Black, and Hispanic students that attend choice sending, receiving and non-participating schools were examined to help determine the impact of school choice upon student achievement, and the achievement gap of the schools that send or receive students as a result of not making AYP under NCLB.

#### Instrumentation

Two standardized tests are given in the district each year to determine middle and elementary school student achievement—the Iowa Test of Basic Skills (ITBS) and the Criterion Reference Competency Test (CRCT). The ITBS is norm referenced and given in the third, fifth, and seventh grades with scores that can be compared across tests and grade levels (Riverside Publishing, 2010). In 2009-2010, the administration of the ITBS was changed from testing eighth grade to testing seventh grade in the county being studied and the test was also re-normed. The ITBS is a standardized test that gives reliable and comparable data, but the ITBS will not be used for this study since trend data analysis cannot be conducted due to test re-norming and not enough data to support trend analysis.

The CRCT is administered to all students in grades one through eight based upon the A+ Education Reform Act of 2000 (GaDOE, 2010a). Because of budget constraints, the state has temporarily waived testing in grades one and two for Spring 2011. The

CRCT is used yearly to measure student performance and proficiency determined by the absolute bar set by the state to support the requirements of NCLB (GaDOE, 2010a). The CRCT is a criterion reference test and assesses student understanding of state developed curriculum standards. The CRCT yields information about student achievement by student, class, school, system, and state levels (GaDOE, 2010a).

### *Reliability and Validity*

The Georgia CRCT is reliable and valid according to the Georgia Department of Education (2005, 2010a, 2010b, 2010c) and has been through rigorous evaluations reviewed by the Testing Division. Additionally, the CRCT has been peer reviewed by a team of experts in the fields of standards and assessments under the auspices of the U.S. Department of Education. Moreover, the technical qualities of Georgia's testing programs are documented through an annual technical report that examines the content and academic achievement standards; technical quality; alignment; inclusion; and the method of scoring and reporting (GaDOE, 2010b). Reliability for the CRCT was derived from statistical methods and the test reliability ranged from .79 to .86 for Reading, .85 to .89 for English/Language Arts, .87 to .91 for Math, .89 to .90 for Science, and .88 to .98 for Social Studies (GaDOE, 2005).

The CRCT measures achievement by a scale score system and is described as a performance level. There are three performance levels for the CRCT: *Does Not Meet* (DNM) includes scores of 799 and below, *Meets* includes scores of 800 – 849, and *Exceeds* proficiency is scores of 850 and above. The CRCT provides disaggregated reports at the state, the system, and the school levels allowing researchers to examine student achievement results and compare these results within and between groups. The

three levels of the performance on the CRCT are interconnected, and as one performance level is reduced, a corresponding performance level will increase. Additionally, student performance is reported by categories of (a) all students; (b) all regular program students; (c) all special education students; (d) gender; and (e) by race/ethnicity. In addition, subcategories are reported that include primary classification of disability (visual impairment, learning disability), limited English proficient, and students that are classified as Section 504 (GaDOE, 2010b, 2010c). For a subgroup to count toward AYP, the subgroup must total 40 students.

The CRCT is aligned with the Georgia Performance Standards, which are different for each grade level and are not vertically scaled. Therefore, scores cannot be used to measure the same student's year-to-year growth, but the CRCT can be used to measure trend line data for the same grade level and same test (Center on Education Policy, 2008a). Consequently, the state CRCT test was used to measure student achievement since state tests mirror what is taught in the classroom more closely than any other test including the NAEP (Center on Education Policy, 2008a, 2007a).

When Georgia began using the CRCT to measure student achievement, the state standards were the Quality Core Curriculum (QCC). The state tests were changed in 2008 in math, and in 2006 for reading to align with the new Georgia Performance standards. This restructuring of tests has resulted in the state tests to be non-comparable to previous years (Bandeira de Mello et al., 2009; Center on Education Policy, 2008b). Consequently, student trend data was grouped and analyzed from 2002–2007 (QCCs) and from 2008–2011 (GPSs).



## Research Questions

This study examined whether student achievement and the student achievement gap within and between White, Black, and Hispanic students on the math CRCT in the eighth grade math had increased, decreased, or remained the same since the authorization of NCLB Act of 2001 for the MCSD from 2002–2007 and 2008–2011. Furthermore, this study examined whether school choice impacts student achievement or the student achievement gap in non-choice participating schools, choice sending schools, or choice receiving schools. The research questions were as follows:

1. Is there a difference in the mean scale score within or between Whites, Blacks, and Hispanics students on the eighth grade math CRCT as the county applied the legislative components outlined in NCLB between the years of 2002–2007 and 2008–2011?

H<sub>01</sub>: There is no significant difference in the mean scale score within or between Whites, Blacks, and Hispanics on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002–2007 and 2008–2011.

2. Are there achievement differences within or between White, Black, and Hispanic students, as measured by the eighth grade math CRCT in the *meet* or *exceed* proficiency categories as the county applied the NCLB based accountability measures in years 2002–2007 and 2008–2011?

H<sub>02</sub>: There is no significant difference within or between the proportion of White, Black or Hispanic students that meet or exceed standard on the eighth grade

math CRCT as the county applied the legislative components of NCLB in years 2002-2007 and 2008-2011.

3. Is there a difference in the mean scale score within or between White, Black, and Hispanic students in the choice sending, choice receiving, or non-choice participating schools as measured by the eighth grade math CRCT in 2002-2007 and 2008-2011?

H<sub>03</sub>: There is no significant difference in the mean scale score within or between White, Black, and Hispanic students in the choice sending, choice receiving, or non-choice participating schools as measured by the eighth grade math CRCT in 2002-2007 and 2008-2011.

#### Procedures

Approval for this study was given by the county school district to be examined and is displayed in Appendix A. The Institutional Review Board (IRB) of The University of Southern Mississippi also approved the study and the approval is attached as Appendix B. As requested by the county to be examined, the middle school principals were notified of the research and an example of this letter is attached as Appendix C. To maintain the privacy and confidentiality of the school district and the participants, the school district was not identified and was referred to as the Metropolitan County School District (MCSD). Additionally, each school studied was coded to protect their identity. The information provided by the county was entered into the statistical analysis software, SPSS. Test scores were disaggregated each year by (a) school; (b) ethnicity; (c) choice sending; (d) choice receiving; and (e) non-choice participating. Trend data was analyzed from 2002–2007 and by 2008–2011 to correspond with the state standard and test

administered. Student achievement and the student achievement gap was analyzed within and between subgroups on the meet and the exceed performance category, and by mean scale score.

This study examined the eighth grade math CRCT scores of White, Blacks, and Hispanics using mean scale score and the proportion of students that *meet* or *exceed* standard from 2002-2007 and from 2008-2011. The grouping of the trend data was required since Georgia changed the eighth grade math state standards from the Quality Core Curriculum (QCC) to the Georgia Performance Standards (GPS), and also changed the corresponding CRCT math test in the school year 2007-2008 (Center on Education Policy, 2008b). Mean scale score and *meet* or *exceed* proficiency were both used to examine the effect of NCLB on the achievement gap since each method offers a different way to look at achievement data and will give a clearer picture of the results.

The mean scale score captures changes at all points of performance and are not as affected by the students relative position to the cut score (Center on Education Policy, 2010a). Additionally, mean scale scores are more comparable across years and capture changes that cut scores may not display since cut scores could change year to year. Conversely, examining Black, Hispanic, and White achievement under the *meets* and *exceeds* proficiency category as designated by Georgia for NCLB was consistent with how AYP is determined. The examination of the proportion of students that *meet* or *exceed* standard also answered whether the student achievement gap has been narrowed for the average and the advanced student and if the difference was the same for subgroups.

## Limitations

The NCLB act specifies that each state develop a state test to measure whether the student has reached proficiency in reading, language arts, and math to determine if the school has reached AYP status. The state created CRCT is not vertically scaled; therefore, scores could not be used to measure the same students' year-to-year growth. Additionally, the state tests were changed in 2008 in math, and in 2006 for reading, which resulted in a state test that was non-comparable to previous years (Bandeira de Mello et al., 2009).

The Center on Education Policy (2007) recognized that test scores are not the same as achievement, but they are the primary method of measure to determine Adequate Yearly Progress under the NCLB Act. The Center for Education Policy (2007) has identified several limitations when using percentage proficient to measure student achievement trends (a) omission of student progress above or below the proficient level; (b) a lack of compatibility within the state of what proficient means from year to year due to policy changes; (c) significant increase or decrease in student subgroup demographics or the number of students tested affecting the interpretation of trend data and the accurate measurement of the impact on the student achievement gap; and (d) the use of standard error of measurement increasing the number of students counted as proficient. To counter act these limitations, test data was also examined utilizing the mean scale score.

Tests are not a perfect measure of student achievement; moreover, high-stake state test results can be influenced by the adjustment of teacher instruction to mirror the content of the test. In addition, student test results may vary according to the length of time the test has been used to measure achievement (Center on Education Policy, 2007,

2008a). Furthermore, the trend data examined cannot be contributed to a cause-and-effect relationship between NCLB policies or any specific program because of the many reforms and strategies enacted locally and nationally. Likewise, cause-and-effect cannot be established because there is no *control* group of students not affected by NCLB. Further complicating the ability to generalize the outcome of any state test results nationally is due to each state establishing the test used to measure proficiency (Center on Education Policy, 2008a, 2007a).

The National Center for Education Statistics (2007) study states that Georgia's definition of proficient is the fifth lowest in the nation when compared with NAEP test results. However, since the National Center for Education Statistics study was completed in 2007, Georgia has replaced the Quality Core Curriculum (QCC) with the Georgia Performance Standards (GPS), which reportedly has raised the bar for proficiency. Due to the break in performance standards and the CRCT test that is used to measure math proficiency in 2008, test data was grouped accordingly to minimize the impact to trend data analysis.

This study used the state CRCT test to measure student achievement since state tests mirror what is taught in the classroom more closely than any other test including the NAEP (Center on Education Policy, 2008a, 2007a). Therefore, state CRCT eighth grade math trend line data was examined for the MCS D to determine student achievement outcomes, subgroup trend data, and also measure the achievement gap trend for Black, Hispanic, and White students as measured by mean scale score and the *meet* and the *exceed* proficient category. It is also understood that the *do not meet*, *meet*, and *exceed* standard are interdependent and total 100% of the student population when combined.

To combat the limitation of percent proficient as a measure to track student achievement progress several methods were employed: (a) math test trend data were grouped by years based upon the math test used to measure AYP so data can be comparable within those years to minimize the impact of the test and standard change to the trend data analysis; (b) trend data of Blacks, Hispanics, and Whites were examined separately, and also compared to each other to determine if the achievement gap is increasing, decreasing, or static when measured within and between groups and to limit the affect of *Simpson's Paradox* (Jennings, 2011); (c) the *meet* and *exceed* categories were examined for all subgroups; (d) trend data was examined for at least four years to level out the annual fluctuations that occur for reasons unrelated to students' learning (Center on Education Policy, 2009a) and (e) trend data on all ethnic groups on the CRCT mean scale score were examined to determine if there is an achievement gap within or between ethnic groups without the effect of state determined cut scores. Finally, this study examined one large school district and the findings may not have been generalizable to other school districts or states. States and local school districts have different policies, procedures, and accountability measures in response to the NCLB Act of 2001.

### Data Analysis

Hypotheses one and two were tested with a repeated measure ANOVA with a .05 alpha to compare White, Black, and Hispanic student's achievement on the eighth grade CRCT math test on the mean scale score and the *meet* and *exceed* proficiency categories. Because each school is measured with time, the analysis has a *within-subjects* factor of *time* and a *within-subject* factor of *ethnicity*. To test hypothesis three, this researcher

utilized a mixed measure ANOVA with a .05 alpha to determine if there is an achievement gap as measured by the eighth grade CRCT mean scale score for White, Black, and Hispanic students in non-choice participating, choice sending or choice receiving schools. Hypothesis three had a *within-subjects* factor of *race* and a *between-subject* factor of *choice*.

In this study, each school was treated as a subject. Each school had trend data for two distinct time periods, one time period encompassed six school years from 2002–2007 and the other time period encompassed four school years from 2008–2011. The independent variable for hypothesis one and two was Black, White, and Hispanic; the dependent variable was student achievement. The independent variable for hypothesis three was Black, White, Hispanic, choice sending, choice receiving, or non-participating choice schools; the dependent variable was student achievement as measured by mean scale score.

The student achievement gap was determined by examining the percentage of students in the White, Black, and Hispanic subgroups that *meet* the state proficiency standard and the percentage of the respective subgroups that *exceed* state standard for the school year 2001–2002 through 2006–2007 and from 2007–2008 through 2010–2011 on the eighth grade CRCT math test in the MCSD. The grouping of the trend data was required since Georgia changed the eighth grade math state standards from the Quality Core Curriculum (QCC) to the Georgia Performance Standards (GPS) and also changed the corresponding CRCT math test in the school year 2007-2008 (Center on Education Policy, 2008b). Examining Black, Hispanic, and White achievement under the *meets* and *exceeds* category as designated by Georgia for NCLB was consistent with how AYP is

determined. By looking at both the *meets* and *exceeds* category, more complete information can be determined on whether NCLB has impacted subgroup performance and the achievement gap and was a simpler way to determine achievement (Center on Education Policy, 2009b).

The null hypothesis of the ANOVA states that when the mean proportions are the same for all school years and the difference between ethnic groups remains the same over time there is no trend. To further investigate achievement gaps using mean scores, the initial year mean score was subtracted from the final mean score for each subgroup. If the change in the mean score was greater for the target subgroup than for the comparison subgroup this was counted as narrowing achievement gap, although the decreased gap may or may not be statistically significant.

Quantitative, non-experimental statistical methods were used to collect the data. In this study, each school was treated as a subject. The county supplied the building summary sheets for 25 middle schools. Each school data was recorded for two distinct time periods, one time period encompassed six school years from 2002–2007, and the other time period encompassed four school years from 2008–2011. If a school did not exist for the entire time period of either 2002–2007, or 2008–2011, the school data was excluded from that time period. For example, one school was established in 2006; therefore, the data for that school was not included in the time period of 2002 through 2007, but was included in the 2008 through 2011 time period. Additionally, charter and treatment centers not under the county supervision were excluded from the study, as was any school that did not have data for all subgroups examined each year. Consequently,



the time period from 2002–2007 comprise 16 schools achievement data, and the time period of 2008–2011 contain 20 schools achievement data.

The data collected was listed in a table and coded to protect the identification of the school. The data for each school was entered in the table in rows by year and designated as non-choice participating, choice sending, or choice receiving for each year examined. Each school's data includes the percentage of White, Black, and Hispanic students that meet standard; the percentage of White, Black, and Hispanic students that exceed standard; and the mean scale score of White, Black, and Hispanic students on the eighth grade math CRCT for the school years 2001–2002, 2002–2003, 2004–2005, 2005–2006, 2006–2007 under the QCC, and from 2007–2009, 2008–2009, 2009–2010, 2010–2011 under the GPSs. Trend data was analyzed to determine the impact of NCLB and school choice on student achievement and the student achievement gap within and between Blacks, Hispanic, and White students. The null hypothesis of the ANOVA states that when the mean proportions are the same for all school years and the difference between ethnic groups remains the same over time there is no trend. A post-hoc Tukey's LSD was performed to determine the difference between student groups.

#### Importance of the Study

Georgia is one of five states (Maryland, Ohio, Michigan, California) that began measuring student achievement based on tests and calculating Adequate Yearly Progress under the Improving America's Schools Act (IASA) of 1994, the precursor to NCLB (U. S. Department of Education, 2007b). Because Georgia instituted test-based accountability systems before most other states, Georgia schools were identified as *failing* and in need of improvement earlier than most of the country. Therefore, Georgia

is a prime state in which to closely examine the results of NCLB policy upon student's achievement and the impact on the student achievement gap. This examination will provide other states and counties a model from which to learn (Center on Education Policy, 2008a).

The focus of this study was narrowed further to the county level since many researchers have questioned the impact of NCLB upon choice sending and receiving schools (Gamoran, 2007; Kim & Sunderman, 2005; Knaus, 2007). The county studied had also been successful at decreasing the number of schools labeled as failing, and was able to provide the information necessary to examine the affect of NCLB policy on the student achievement gap for non-choice participating, choice sending schools and choice receiving schools.

This study examined mean scale score data and the *meet* and *exceeds* proficiency data over time to determine if the academic achievement and the achievement gap is increasing, decreasing, or remaining the same since the onset of NCLB requirements. Additionally, schools' data was examined by designation of choice sending, choice receiving or non-choice participating to ascertain if the policy of school choice impacted student achievement as experts have questioned (Gamoran, 2007; Kim & Sunderman, 2005; Knaus, 2007).

Gamoran (2007) and Knaus (2007) suggested that students left behind in the sending school find their opportunities of success diminished further, and the school unable to succeed. Furthermore, Knaus (2007) stated that the NCLB fails to close the achievement gap and does not adequately prepare African American students for college due to the narrowing of curriculum focus. Knaus (2007) declared that the law also

encourages segregated schools, does not promote critical thinking or engagement and negatively impacts the choice sending schools labeled as failing.

In addition, apprehensions have been voiced that schools are concentrating their instructional focus on *bubble kids* in an effort to raise test scores, which is detrimental to low-performing students who receive instruction that is too difficult. Likewise, there are concerns that high performing students are not challenged and are receiving instruction on content they have already mastered (Center on Education Policy, 2009b; Loveless et al., 2008). The examination of trend data by *meet* and the *exceed* proficiency on the eighth grade math CRCT by ethnicity and by choice school designation, answered the question of whether the student achievement gap has been narrowed for the advanced learner. Also answered was if the difference in achievement between races was the same for choice sending, choice receiving and non-choice participating schools. The study also answered if the achievement gap narrowed for Whites, Blacks, and Hispanics at the same rate, or at different rates within and between groups.

This researcher also examined the achievement of Whites, Blacks and Hispanics using the mean scale score since this score captures changes at all points of performance and are not as affected by the students relative position to the cut score. Mean scale scores are also more comparable across years since cut scores change year to year, which can change the students considered to *not meet*, *meet* or *exceed* state standards (Center on Education Policy, 2010a). The Center on Education Policy (2010a) reported that achievement gaps have increased, even though subgroup's have posted gains, but not at the same rate as the comparison group. Consequently, the study examined Black,

Hispanic, and White within and between group data to uncover if subgroups posted gains, but the gains were not evident due to *Simpsons Paradox* (Jennings, 2011).

Chapter III described the (a) methodology; (b) county profile and participants; (c) research design; (d) instrumentation; (e) research questions; (f) procedures; (g) limitations; (h) data analysis; and (i) importance of the study. Chapter IV reports (a) an introduction to the problem; (b) the analysis of the data; and (c) corresponding results to the study.

## CHAPTER IV

### ANALYSIS OF DATA

#### Introduction

Many organizations and individuals are promoting educational choice and as a result, a national debate upon the merits and detriments of school choice has ensued (Ravitch, 2010a; Zimmerman et al., 2009). Additionally, many researchers have questioned the merits of the NCLB policies upon student achievement (Gamoran, 2007; Jennings, 2011; Ravitch, 2010a). To assist with answering these questions, this study examined the eighth grade math CRCT scores of White, Blacks, and Hispanics using mean scale score and the proportion of students that meet or exceed standard from 2002-2007 and from 2008-2011. Both methods were used to examine the effect of NCLB on the achievement gap since each method offers a different way to look at achievement data and will give a clearer picture of the results.

The examination of the mean scale score trend data of White, Black, and Hispanic students on the eighth grade math CRCT will help to answer the question of whether the student achievement gap has narrowed at the same rate, or at different rates within and between ethnic groups. The mean scale score captures changes at all points of performance, and are not as affected by the students relative position to the cut score (Center on Education Policy, 2010a). Additionally, mean scale scores are more comparable across years and capture changes that cut scores may not display since cut scores could change year to year. The change of cut score effects the number of students considered that *do not meet*, *meet*, or *exceed* state standards.

Conversely, percent proficient is the standard upon which AYP is established by NCLB guidelines (NCLB, 2008). Therefore, the measurement of student achievement by the percentage that *meet* or *exceed* standard is also important to examine. By the examination of the proportion of students by race that meet or *exceed* standard the question of whether the student achievement gap has been narrowed for the average and the advanced student will be answered. This examination will also answer the charge that NCLB has focused on basic skills to the detriment of the advanced learner. The need to evaluate whether NCLB and school choice increases student achievement, or decreases the student achievement gap, is important to investigate due to the increased pressure for the educational system to provide school choice as a remedy for failing schools and to assist with policies to include in the reauthorization of ESEA (Abowitz, 2002; Brown, 2004; Doerr, 2000; Kober, 2007).

Chapter IV is structured around the following research questions:

1. Is there a difference in the mean scale score within or between Whites, Blacks, and Hispanics students on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011?  
 $H_{01}$ : There is no significant difference on the mean scale score within or between Whites, Blacks or Hispanics on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011.
2. Are there achievement differences within or between White, Black, and Hispanic students, as measured by the eighth grade math CRCT in the

meet and exceed proficiency categories as the county applies the NCLB based accountability measures in years 2002-2007 and 2008-2011?

H<sub>02</sub>: There is no significant difference within or between the proportion of White, Black, or Hispanic students that meet or exceed standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2002-2007 and 2008-2011; therefore no achievement gap exists between Black, Hispanic, and White students.

3. Is there a difference in the mean scale score within and between White, Black and Hispanic students in the choice sending, choice receiving, or non-choice participating schools as measured by the eighth grade math CRCT in 2002-2007 and 2008-2011?

H<sub>03</sub>: There is no significant difference in the mean scale score within or between Whites, Blacks, and Hispanics students in the choice sending, choice receiving, or non-choice participating schools as measured by the eighth grade math CRCT in 2002-2007 and 2008-2011?

Chapter IV reports the descriptive data, analysis of the data, and corresponding results of the study.

#### Descriptive Data

The county supplied the building summary sheets for 25 middle schools. Each school trend data was recorded for two distinct time periods, one time period encompassed six school years from 2002-2007, and the other time period encompassed four school years from 2008-2011. If a school did not exist for the entire time period of either 2002-2007, or 2008-2011, the school data was excluded from that time period. For

example, one school was established in 2006; therefore, the data for that school was not included in the time period of 2002 through 2007, but was included in the 2008 through 2011 time period. Additionally, charter and treatment centers not under the county supervision were excluded from the study, as was any school that did not have data for all subgroups examined each year. Consequently, the time period from 2002-2007 comprise 16 schools achievement data, and the time period of 2008-2011 contain 20 schools achievement data. The independent variable is White, Black, Hispanic, and sending or receiving school; the dependent variable is student achievement on the eighth grade CRCT math scores. Race was limited to White, Black, and Hispanic due to the limited number of participants of other races. The level of significance is .05.

#### *Research Question and Hypothesis One*

The first research question asks if there is a difference in the mean scale score within or between Whites, Blacks, and Hispanics students on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011. To examine this research question the data is presented in two distinct time periods, 2002-2007 and 2008-2011 due to the state changing the CRCT.

#### *2002–2007 Descriptive Statistics Mean Scale Score*

Table 3 depicts the eighth grade math CRCT average mean scale score of White, Black, and Hispanics for the school years 2002-2007 for MCSD. Figure 1 also depicts the trend line data in graph for 2002-2007.



Table 3

*2002–2007 MCSD Eighth Grade Math CRCT Average Mean Scale Score by Ethnicity*

Race	Mean	Std Dev	<sup>a</sup> Difference Between Years
<b>White</b>			
2001—2002	325.38	13.92	
2002—2003	322.00	13.21	-3.38
2003—2004	329.63	12.82	7.63
2004—2005	329.50	13.34	-0.13
2005—2006	333.75	13.22	4.25
2006—2007	335.38	14.53	1.63
Total Gain or Loss <sup>b</sup>			10.00
<b>Black</b>			
2001—2002	309.44	8.97	
2002—2003	306.88	8.37	-2.56
2003—2004	315.13	10.93	8.25
2004—2005	313.19	11.65	-1.94
2005—2006	317.44	8.04	4.25
2006—2007	321.63	8.48	4.19
Total Gain or Loss <sup>b</sup>			12.19
<b>Hispanic</b>			
2001—2002	305.44	13.87	
2002—2003	306.19	15.95	0.75
2003—2004	313.63	15.96	7.44
2004—2005	309.69	16.30	-3.94
2005—2006	317.13	13.51	7.44
2006—2007	319.06	12.70	1.93
Total Gain or Loss <sup>b</sup>			13.62

Note. <sup>a</sup> Difference between years was computed by subtracting the mean score from the previous year for each subgroup.

<sup>b</sup> The total gain or loss for each subgroup was computed by summing each year's mean gain or loss for years 2002—2007.

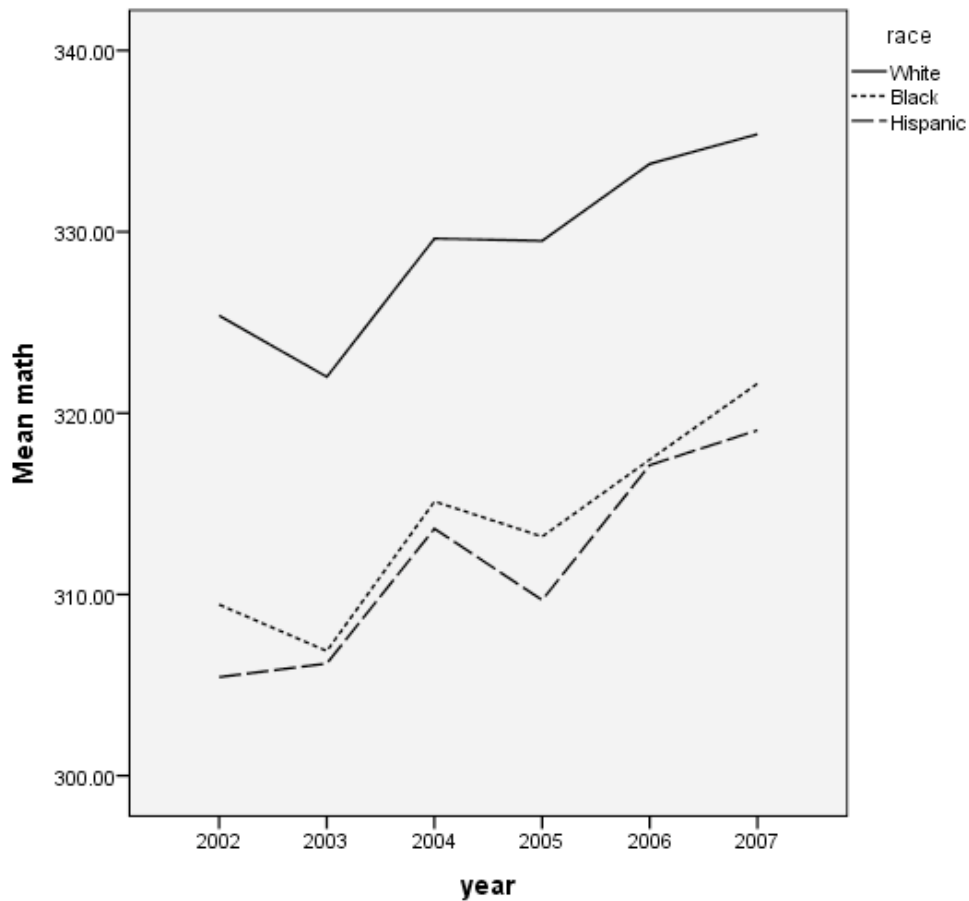


Figure 1. Average Mean Scale Scores on the Eighth Grade Math CRCT 2002–2007 for MCSD.

As Table 3 and Figure 1 demonstrate, all subgroups average mean scale scores track upward from 2002–2007, with the White subgroup achieving at the highest level, Black at the next highest level, and Hispanics at the lowest level comparatively. Additionally, all subgroups average mean scores dipped in 2005. The greatest mean rate gain for all subgroups in one year was the comparison between the 2002 to 2003 school year and the 2003 to 2004 school year. Even though Whites had the highest mean score in 2004 ( $M = 329.63$ ), followed by Blacks ( $M = 315.13$ ), then Hispanics ( $M = 313.19$ ), Blacks demonstrated a greater annual mean score gain in 2004 of 8.25 compared to the White subgroup annual mean gain of 7.63. However, by analyzing Table 3 results for

total gain or loss by subgroup from 2002–2007, the Hispanic subgroup achieved the greatest gain with a average mean scale score gain of 13.62; followed by the Black subgroup with a average mean scale score gain of 12.19; and the White subgroup with the least average mean scale score gain of 10.00 for the six years charted. This analysis seems to indicate that the achievement gap is closing slowly even though all subgroups are trending the same direction over all, while the White subgroup is maintaining the highest level of achievement.

*2008–2011 Descriptive Statistics Mean Scale Score*

Table 4 depicts the eighth grade math CRCT average mean scale score student achievement of White, Black, and Hispanics for the MCSD for school years 2008–2011.

Figure 2 also depicts the trend line data in graph from for years 2008–2011.

Table 4

*2008–2011 MCSD Eighth Grade Math CRCT Average Mean Scale Score by Ethnicity and Year*

Race	Mean	Std Dev	“Difference Between Years
White			
2007—2008	825.55	12.09	
2008—2009	831.55	13.45	6.00
2009—2010	836.75	14.59	5.20
2010—2011	834.90	18.08	-1.85
Total Gain or Loss <sup>b</sup>			9.35

Table 4 (continued).

Race	Mean	Std Dev	<sup>a</sup> Difference Between Years
<b>Black</b>			
2007—2008	809.45	10.73	
2008—2009	815.00	11.84	5.55
2009—2010	818.85	12.83	3.85
2010—2011	822.35	15.90	3.50
Total Gain or Loss <sup>b</sup>			12.90
<b>Hispanic</b>			
2007—2008	808.50	11.26	
2008—2009	817.90	14.76	9.40
2009—2010	818.80	13.33	0.90
2010—2011	823.80	15.08	5.00
Total Gain or Loss <sup>b</sup>			15.30

Note. <sup>a</sup> Difference between years was computed by subtracting the mean score from the previous year for each subgroup.

<sup>b</sup> The total gain or loss for each subgroup was computed by summing each year's gain or loss for years 2008—2011.

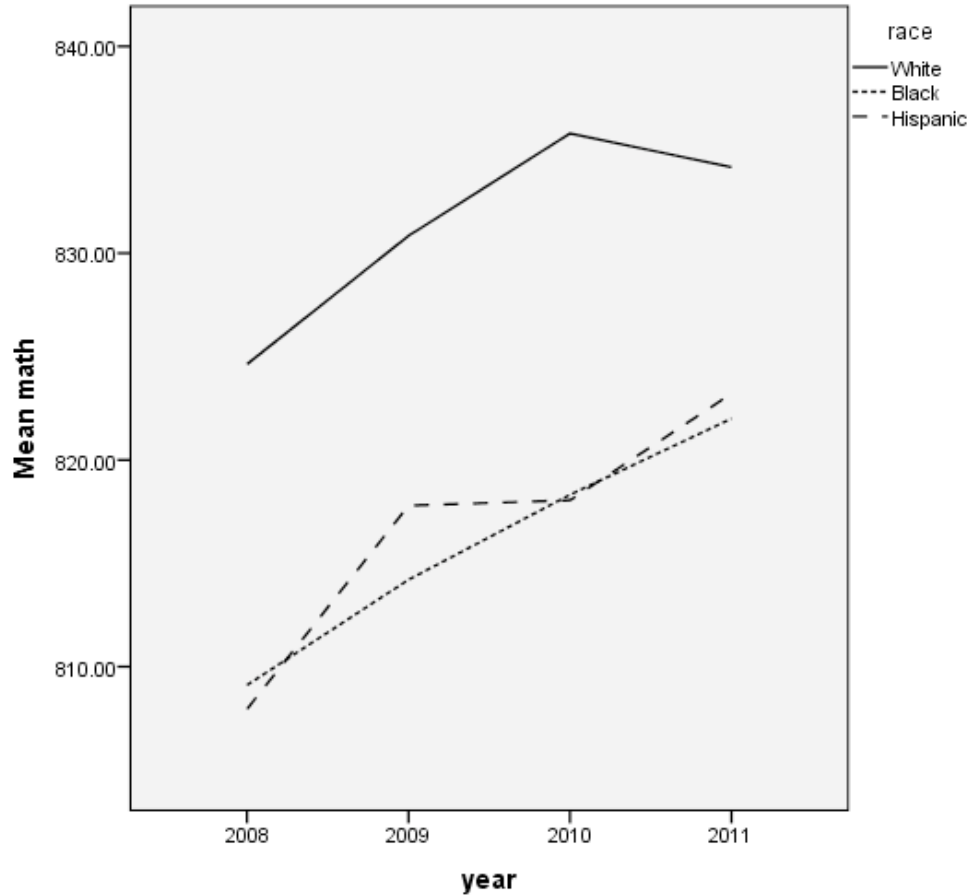


Figure 2. Average Mean Scale Scores on the eighth grade Math CRCT 2008–2011 for MCSD.

As Table 4 and Figure 2 demonstrate, all subgroups average mean scale scores track upward from 2008–2010, with a slight dip in performance between the White subgroup means between 2010 and 2011 of -1.85. The White subgroup average mean scale score was consistently the highest of the three ethnic groups. The Black and Hispanic subgroup alternated the second place position each year with the Black subgroup placing second in average mean scale score achievement in 2008 ( $M = 809.45$ ,  $SD = 10.73$ ) and 2010 ( $M = 818.85$ ,  $SD = 12.83$ ) and the Hispanic subgroup placing second in average mean scale score in 2009 ( $M = 817.90$ ,  $SD = 14.76$ ) and 2011 ( $M = 823.80$ ,  $SD = 15.08$ ). However, by analyzing Table 4 results for total gain or loss by

subgroup from 2008–2011, the Hispanic subgroup achieved the greatest gain with a average mean scale score gain of 15.30; followed by the Black subgroup with a average mean scale score gain of 12.90; and the White subgroup with the least average mean scale score gain of 9.35 for the four years charted.

*H<sub>01</sub>: Differences Between Mean Scale Score*

A repeated measure analysis of variance was conducted to evaluate the effect of the NCLB act on the student achievement gap as measured by the mean scale score on the eighth grade math CRCT within and between Whites, Blacks, and Hispanics in a large suburban school district from 2002 through 2007 and 2008 through 2011. Each hypothesis evaluated by mean scale score was tested with a mixed-measure ANOVA with a .05 alpha to determine student achievement trend results between and within the groups studied. Because each school is measured with *time* and by *race*, the analysis has a *within-subjects* factor of *time* and *race*.

The first research question asks is there a difference in the mean scale score within or between Whites, Blacks, and Hispanics students on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011. The null hypothesis H<sub>01</sub> states there is no significant difference the mean scale score within or between Whites, Blacks or Hispanics on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011. To prove or disprove this hypothesis a multivariate test was conducted on school years 2002-2007 and 2008-2011. Due to the state changing the CRCT in 2008, these findings will be presented separately.

*H<sub>01</sub>: 2002–2007 Data Analysis Mean Scale Score*

The multivariate tests for school years 2002–2007 for mean scale score indicate a statistically significant time main effect, Wilks's  $\Lambda = .101$ ,  $F(5,11) = 19.48$ ,  $p < .001$ , a significant race main effect Wilks's  $\Lambda = .123$ ,  $F(2,14) = 49.74$ ,  $p < .001$ , and a non-significant year by race interaction effect, Wilks's  $\Lambda = .321$ ,  $F(10,6) = 1.27$ ,  $p = .402$ . Due to the significance of the time main effect and race main effect additional statistical tests were conducted including average mean scale score comparisons across time. Table 5 depicts the marginal means of time on mean scale score for 2002–2007 and Table 6 depicts the marginal means of race on mean scale score for 2002–2007.

Table 5

*2002–2007 Estimated Marginal Means of Time on Mean Scale Score*

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Year	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
2002	313.42	2.88	307.28	319.55
2003	311.69	2.88	305.56	317.82
2004	319.46	3.08	312.89	326.02
2005	317.46	3.25	310.53	324.38
2006	322.77	2.71	316.99	328.55
2007	325.35	2.73	319.53	331.18

---

As Table 5 demonstrates, the overall trend from year 2002 ( $M=313.42$ ,  $SD = 2.88$ ) to year 2007 ( $M=325.35$ ,  $SD 2.73$ ),  $p < .001$  is upward with a mean difference of 11.94. Pairwise test results of school years 2002 through 2007 demonstrate a statistically significant difference between means of all years except the time comparison of year 2002 ( $M=313.42$ ,  $SD = 2.88$ ) and year 2003 ( $M=311.69$ ,  $SD =2.88$ ), which shows no significant effect with  $p = .114$ ; year 2004 ( $M=319.46$ ,  $SD =3.08$ ) to 2005 ( $M=317.46$ ,  $SD 3.25$ ) with  $p = .125$ ; and 2004 ( $M=319.46$ ,  $SD =3.08$ ) to 2006 ( $M=322.77$ ,  $SD =2.71$ ),  $p = .067$ . The greatest mean growth trend was between 2003 ( $M=311.69$ ,  $SD =2.88$ ) and 2007 ( $M=325.35$ ,  $SD 2.73$ ), with an increase of 13.67,  $p < .001$ . The year 2002 ( $M=313.42$ ,  $SD = 2.88$ ) to 2003 ( $M=311.69$ ,  $SD =2.88$ ) shows a drop in mean scores of 1.73,  $p = .114$ ; scores from 2003 to 2004 increased the most in one year by 7.77  $p = .001$ ; then scores dropped by an statistically insignificant amount of 2.00 between 2004 ( $M=319.46$ ,  $SD =3.08$ ) and 2005 ( $M=322.77$ ,  $SD 2.71$ ) with  $p = .125$ ; subsequently, scores rose appreciably by 5.31 between years 2005 ( $M=322.77$ ,  $SD 2.71$ ) and 2006 ( $M=322.77$ ,  $SD =2.71$ ),  $p < .001$ . The overall trend for the years 2002–2007 were upward with dips in the years 2002 to 2003 and 2004 to 2005. Table 6 depicts the average mean scale score of race in 2002–2007.



Table 6

*2002–2007 Estimated Marginal Means of Race on Mean Scale Score Achievement*

Race	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
White	329.27	3.27	322.31	336.23
Black	313.95	2.05	309.58	318.31
Hispanic	311.85	3.31	304.80	318.91

As Table 6 demonstrates, the White students had the highest average mean scale score ( $M=329.27$ ,  $SD$  3.27), followed by Black students ( $M=313.95$ ,  $SD$  2.05), and then Hispanic students ( $M=311.85$ ,  $SD$  3.31). Two of the three pairwise comparisons among the means for Whites, Blacks, and Hispanics for school years 2002 –2007 were significant controlling for Type I error across the three tests at the .05 level. The comparison between Whites and Hispanics and Whites and Blacks demonstrated a statistically significant difference of  $p < .001$ . The most significant difference was between White students ( $M=329.27$ ,  $SD$  3.27) and Hispanic students ( $M=311.85$ ,  $SD$  3.31),  $p < .001$  of 17.42. Also statistically significant is the comparison of White students ( $M=329.27$ ,  $SD$  3.27) and Black students ( $M=313.95$ ,  $SD$  2.05) of 15.32, and its reported  $p < .001$ . However, the comparison between Black students ( $M=313.95$ ,  $SD$  2.05), and Hispanic students ( $M=311.85$ ,  $SD$  3.31), was not statistically significant with a  $p$  value of .160.

*H<sub>01</sub>: 2008–2011 Data Analysis Mean Scale Score*

The first research question asks—is there a difference in the mean scale score within or between Whites, Blacks, and Hispanics students on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011? To examine the remainder of research question one concerning years 2008-2011 and to prove or disprove hypothesis H<sub>01</sub> a multivariate test was conducted for school years 2008-2011.

The multivariate tests for school years 2008–2011 indicate a statistically significant time main effect, Wilks’s  $\Lambda = .288$ ,  $F(3,17) = 13.98$ ,  $p < .001$ , a significant race main effect Wilks’s  $\Lambda = .112$ ,  $F(2,18) = 71.12$ ,  $p < .001$ , and a non-significant year by race interaction effect, Wilks’s  $\Lambda = .601$ ,  $F(6, 14) = 1.55$ ,  $p = .234$ . Due to the significance of the time main effect and race main effect additional statistical tests were conducted including mean scale score comparisons across time. Table 7 depicts the marginal means of time on mean scale score achievement for school years 2008–2011 and Table 8 depicts the marginal means of race on mean scale score for 2008–2011.

Table 7

*2008–2011 Estimated Marginal Means of Time on Mean Scale Score Achievement*

Year	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
2008	814.50	2.41	809.46	819.54
2009	821.48	2.80	815.62	827.34

Table 7 (continued).

Year	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
2010	824.80	2.88	818.78	830.82
2011	827.02	3.40	819.90	834.14

Three of the four pairwise comparisons among the means for school year 2008, 2009, 2010, and 2011 were statistically significant controlling for Type I error across the four tests at the .05 level. The overall trend from 2008 ( $M = 814.50$ ,  $SD = 2.41$ ) to 2011 ( $M = 827.02$ ,  $SD = 3.40$ ) is upward with a mean difference of 12.52 and  $p < .001$ . The average mean scale score increased incrementally each year from 2008 to 2010. The year 2008 ( $M = 814.50$ ,  $SD = 2.41$ ) to 2009 ( $M = 821.48$ ,  $SD = 2.80$ ) had largest one year mean scale score gain of 6.98,  $p = .002$ ; followed by the year growth of 2009 ( $M = 821.48$ ,  $SD = 2.80$ ) to year 2010 ( $M = 824.80$ ,  $SD = 2.88$ ) with an average mean scale score gain of 3.32,  $p = .022$ . The pairwise comparison between 2010 ( $M = 824.80$ ,  $SD = 2.88$ ), and 2011 ( $M = 827.02$ ,  $SD = 3.54$ ) was not statistically significant with a  $p$  value of .248. Table 8 depicts marginal means of race on mean scale score in 2008-2011.

Table 8

*2008–2011 Estimated Marginal Means of Race on Mean Scale Score*

Race	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
White	832.19	3.03	825.85	838.52
Black	816.41	2.65	810.86	821.97
Hispanic	817.25	2.64	811.74	822.77

The White students had the highest mean ( $M=832.19$ ,  $SD$  3.03), followed by Hispanic students ( $M=817.25$ ,  $SD$  2.64) and then Black students ( $M=816.41$ ,  $SD$  2.65). Two of the three pairwise comparisons among the means for Whites, Blacks and Hispanics for school years 2008–2011 were significant controlling for Type I error across the three tests at the .05 level. The comparison between Whites and Hispanics and Whites and Blacks demonstrated a statistically significant difference of  $p < .001$ . The most statistically significant difference was between White students ( $M=832.19$ ,  $SD$  3.03) and Black students ( $M=816.41$ ,  $SD$  2.65) of 15.78. Also statistically significant is the comparison of White students ( $M=832.19$ ,  $SD$  3.03) and Hispanic students ( $M=817.25$ ,  $SD$  2.64) of 14.94, and its reported  $p < .001$ . However, the comparison between Black students ( $M=816.41$ ,  $SD$  2.65), and Hispanic students ( $M=817.25$ ,  $SD$  2.64) was not statistically significant  $p = .436$ .

### *Conclusion - H<sub>01</sub>: Differences Between Mean Scale Score*

The null hypothesis H<sub>01</sub> states there is no significant difference in mean scale score within or between Whites, Blacks, or Hispanics on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011. After examining the data for 2002–2007 and 2008–2011 for White, Black and Hispanic average mean scale score it is evident that all subgroups achievement tracked upward and this upward trend was statistically significant. This indicates that student achievement increased during both time periods for all subgroups significantly. The difference between Whites and Blacks and Whites and Hispanics was also statistically significant for both time periods. The student achievement between Black and Hispanic students was not statistically significant. Furthermore, the interaction between race and time was not statistically significant. It is noted that achievement has increased more for Hispanics and Blacks overall than Whites; however, the wide achievement gap has not been reduced based on statistical significance. As a result, the null hypothesis one is rejected.

### *Research Question and Hypothesis Two*

The second hypothesis examined the achievement differences between White, Black, and Hispanic students, as measured by the eighth grade math CRCT in the *meet* and *exceed* proficiency categories as the county applies the NCLB based accountability measures in years 2002-2007 and 2008-2011. The null hypothesis 2 states: There is no significant difference within or between the proportion of White, Black or Hispanic students that *meet* or *exceed* standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2002-2007 and 2008-2011;

therefore, no achievement gap exists between Black, Hispanic, and White students. To analyze this hypothesis, we will first examine descriptive statistics and the difference *within* or *between* subgroups and time in the *meets* category for school years 2002–2007; followed by descriptive statistics for *exceeds* for school years 2002–2007; then descriptive statistics for *meets* 2007–2011; lastly, descriptive statistics for *exceeds* 2008–2011.

*2002–2007 Descriptive Statistics H<sub>O2</sub> Meets Proficiency*

Table 9 depicts the eighth grade math CRCT proportional mean of *meets* proficiency in 2002–2007 for White, Black, and Hispanic students in MCSD. *Figure 3* also depicts in graph form the eighth grade math CRCT mean proportion for *meets* in 2002–2007.

Table 9

*2002–2007 MCSD Eighth Grade Math CRCT Proportional Mean of Meets by Ethnicity and Year*

Race	Meets Mean	Std Dev	“Difference Between Meets Mean
White			
2001—2002	53.38	6.58	
2002—2003	52.13	6.83	-1.25
2003—2004	52.94	6.39	0.81
2004—2005	48.19	7.19	-4.75
2005—2006	50.00	7.95	1.81
2006—2007	49.25	9.99	-0.75
Total Gain or Loss <sup>b</sup>			-4.13

Table 9 (continued).

Race	Meets Mean	Std Dev	<sup>a</sup> Difference Between Meets Mean
<b>Black</b>			
2001—2002	49.38	7.76	
2002—2003	54.38	13.44	5.00
2003—2004	54.50	7.37	0.13
2004—2005	52.00	6.42	-2.50
2005—2006	56.13	5.38	4.13
2006—2007	58.63	7.23	2.51
Total Gain or Loss <sup>b</sup>			9.26
<b>Hispanic</b>			
2001—2002	47.25	10.89	
2002—2003	40.94	11.55	-6.31
2003—2004	50.44	14.25	9.50
2004—2005	46.63	11.01	-3.81
2005—2006	48.31	4.81	1.69
2006—2007	54.63	11.63	6.31
Total Gain or Loss <sup>b</sup>			7.38

Note. <sup>a</sup>Difference between years was computed by subtracting the mean *meets* from the previous year for each subgroup.

<sup>b</sup>The total gain or loss for each subgroup was computed by summing each year's mean gain or loss for years 2002—2007.

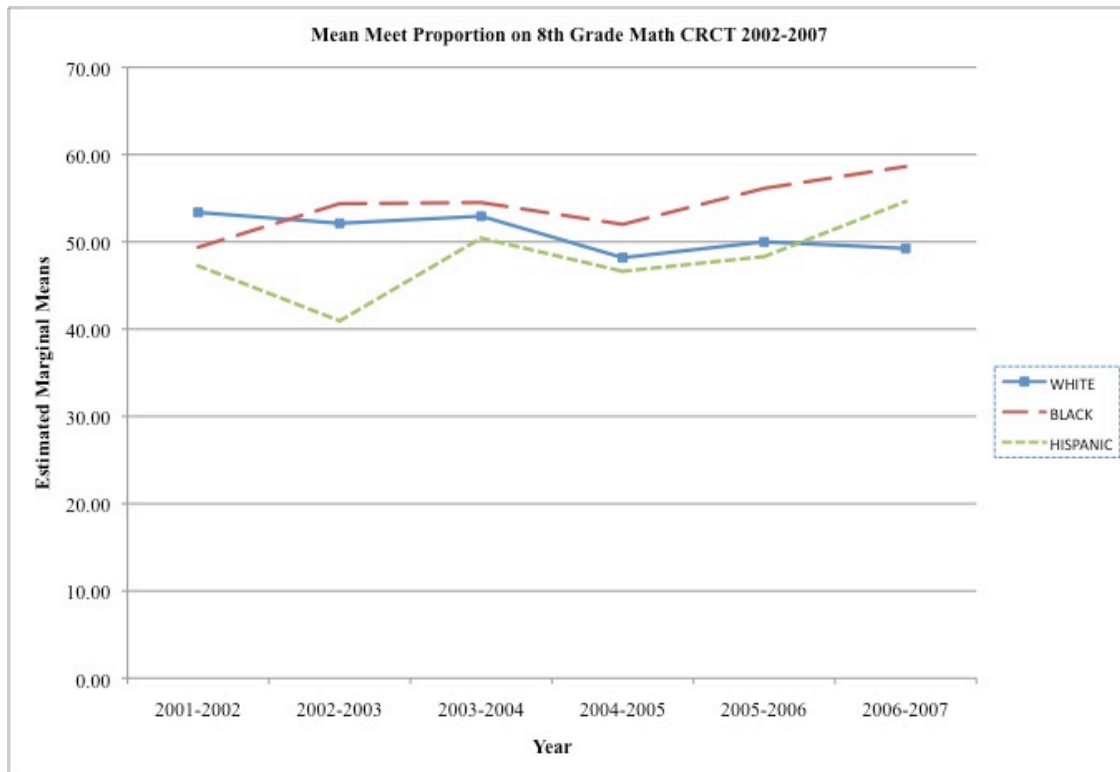


Figure 3. 2002-2007 Meets Mean by Proportion on the Eighth Grade Math CRCT.

As Table 9, and Figure 3 demonstrate, the Black *meets* proportional mean score in math increased the most from 2002 ( $M = 49.38$ ,  $SD = 7.76$ ) to 2007 ( $M = 58.63$ ,  $SD = 7.23$ ) by 9.26; followed by Hispanic students proportional mean score in 2002 ( $M = 47.25$ ,  $SD = 10.89$ ) to 2007 ( $M = 54.63$ ,  $SD = 11.63$ ) by 7.38; while White *meets* proportional mean in eighth grade math decreased over time in years 2002 ( $M = 53.38$ ,  $SD=6.58$ ) to 2007 ( $M = 49.25$ ,  $SD = 9.99$ ) by - 4.13. Black and Hispanic student achievement overall tracked upward from 2002–2007, with a dip for all subgroups in 2005.

*2002–2007 Descriptive Statistics  $H_{O2}$  Exceeds Proficiency*

Table 10 and Figure 4 depict the proportional mean of students that *exceed* standard on the eighth grade math CRCT from 2002-2007.



Table 10

*2002–2007 MCSD Eighth Grade Math CRCT Proportional Mean of Exceeds by Ethnicity and Year*

Race	Exceed Mean	Std Dev	<sup>a</sup> Difference Between Exceeds Mean
<b>White</b>			
2001—2002	24.31	12.72	
2002—2003	22.38	11.8	-1.93
2003—2004	29.25	13.34	6.87
2004—2005	30.63	13.61	1.38
2005—2006	36.13	15.25	5.5
2006—2007	37.5	16.28	1.37
Total Gain or Loss <sup>b</sup>			13.19
<b>Black</b>			
2001—2002	10.69	7.23	
2002—2003	7.31	5.62	-3.38
2003—2004	14.94	15.13	7.63
2004—2005	13.25	8.37	-1.69
2005—2006	16.88	9.84	3.63
2006—2007	19.75	10.11	2.87
Total Gain or Loss <sup>b</sup>			9.06
<b>Hispanic</b>			
2001—2002	9	12.57	
2002—2003	11.19	8.49	2.19
2003—2004	14.81	16.81	3.62
2004—2005	13.75	11.44	-1.06
2005—2006	21.19	14.21	7.44
2006—2007	19.19	16.15	-2
Total Gain or Loss <sup>b</sup>			10.19

Note. <sup>a</sup> Difference between years was computed by subtracting the mean meets from the previous year for each subgroup.

<sup>b</sup> The total gain or loss for each subgroup was computed by summing each year's mean gain or loss for years 2002—2007.

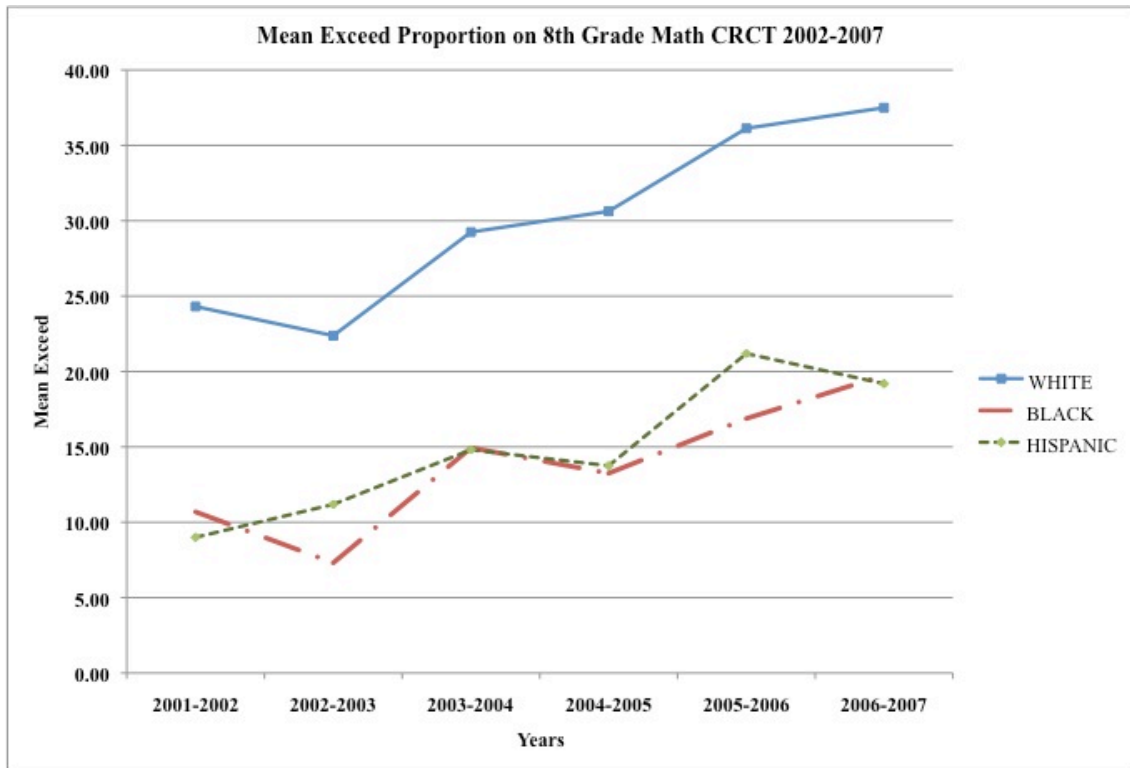


Figure 4. 2002–2007 Trend line data of Mean Percent *Exceed* on the Eighth Grade Math CRCT for the MCSD.

This information will help determine if the category that categorizes the advance student is increasing, decreasing, or remaining the same for Whites, Blacks, or Hispanics. Additionally, it allows us to determine if the decrease in White subgroup performance in *meets* is due to the increase of the proportion of Whites in the *exceeds* category.

Examination of the mean *exceed* proportion of Whites, Blacks, and Hispanics in school year 2002–2007 demonstrates that Whites gained the most between 2002 ( $M = 24.31$ ,  $SD = 12.72$ ) to 2007 ( $M = 37.50$ ,  $SD = 16.28$ ) with a difference of 13.19; followed by Hispanics gain of 10.19 from 2002 ( $M = 9.00$ ,  $SD = 12.57$ ) to 2007 ( $M = 19.19$ ,  $SD = 16.15$ ); and Blacks increased the least from 2002 ( $M = 10.69$ ,  $SD = 7.23$ ) to 2007 ( $M = 19.75$ ,  $SD = 10.11$ ) with a growth of 9.06.

### *2002–2007 Descriptive Statistics H<sub>O2</sub> Meets/Exceeds Combined*

In order to understand if a decrease in the *meets* category is a positive or negative event you must determine if the corresponding *does not meet* or *exceed* increases. Table 11 and *Figure 5* depict the proportional mean of students that *meet/exceed* standard on the eighth grade math CRCT from 2002-2007. This was determined by combining the mean *meets* with the mean *exceeds* student data in 2002-2007. This information is important to consider since the NCLB act uses this as the data to determine AYP and depicts what proportion of students are considered proficient and not failing. It also allows us to determine if the achievement gap of students that are considered proficient is closing or remaining the same.

Table 11

*2002–2007 MCSD Eighth Grade Math CRCT Mean Percent Meets/Exceeds Combined by Ethnicity and Year*

Race	<sup>a</sup> White M/E	<sup>b</sup> Difference Between White Mean Meet/Exceed	<sup>a</sup> Black M/E	<sup>b</sup> Difference Between Black Mean Meet/Exceed	<sup>a</sup> Hispanic M/E	<sup>b</sup> Difference Between Hispanic Mean Meet/Exceed
2002	77.69		60.07		56.25	
2003	74.51	-3.18	61.69	1.62	52.13	-4.12
2004	82.19	7.69	69.44	7.76	65.25	13.12
2005	78.82	-3.37	65.25	-4.19	60.38	-4.87
2006	86.13	7.31	73.01	7.76	69.50	9.13
2007	86.75	0.62	78.38	5.38	73.82	4.31
<sup>c</sup> Gain or Loss		9.07		18.32		17.57

Note. <sup>a</sup>Meets and exceeds means were combined to determine gain or loss over time for student overall proficiency score.

<sup>b</sup>Difference between years was computed by subtracting the mean from the previous year for each subgroup for meet and exceed.

<sup>c</sup>The total gain or loss for each subgroup was computed by summing each year's mean gain or loss for years 2002–2007.

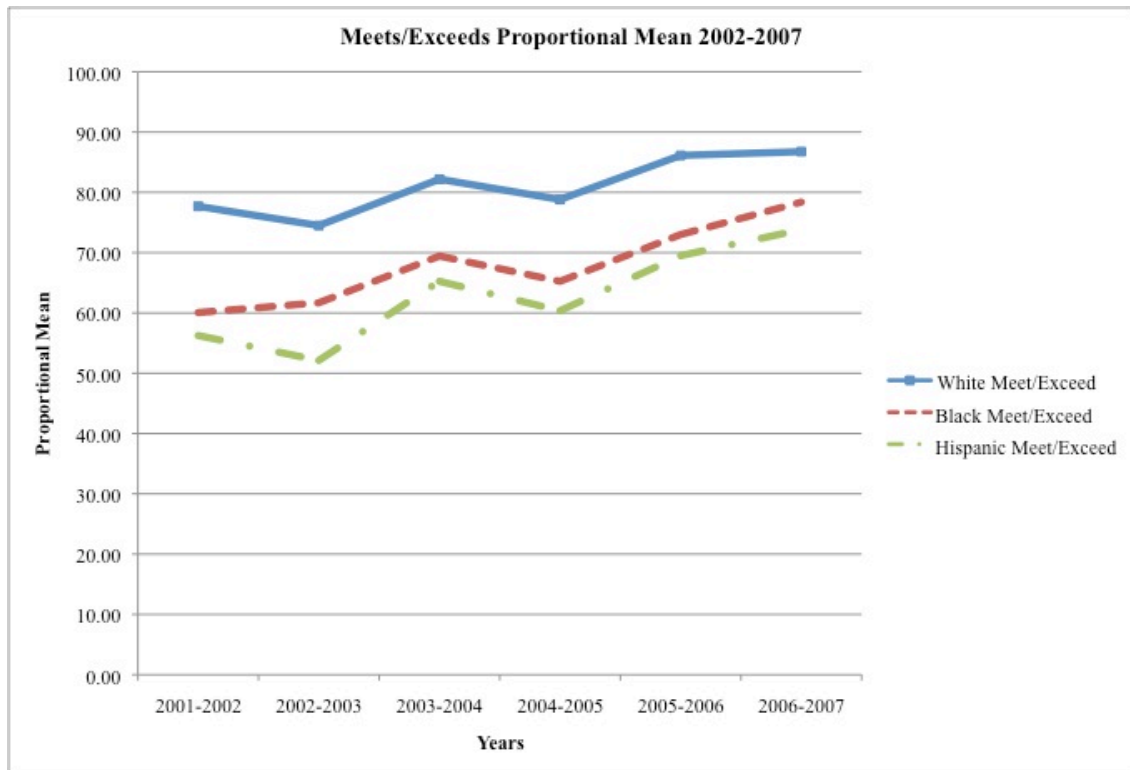


Figure 5. Displays the proportional mean of students that *meet/exceed* standard and are considered proficient by the guidelines set forth in the NCLB Act (NCLB, 2008).

As Table 11 and Figure 5 demonstrate, Blacks have increased in the combined *meets/exceeds* category the most from 2002 ( $M = 60.07$ ) to 2007 ( $M = 78.38$ ) with a difference of 18.32; Hispanics follow with an increase in 2002 ( $M = 56.25$ ) to 2007 ( $M = 73.82$ ) with a difference of 17.57; Whites have increased the least in 2002 ( $M = 77.69$ ) to 2007 ( $M = 86.75$ ) with a difference of 9.07. But as the graph indicates, Whites mean *meets/exceeds* score is still appreciably higher than both Hispanic and Black students.

*2008–2011 Descriptive Statistics H<sub>02</sub> Meets Proficiency*

Table 12 depicts the eighth grade math CRCT proportional mean of *meets* of White, Black, and Hispanics for the school years 2008–2011 for MCSD. Figure 6 also depicts the eighth grade math CRCT proportional mean of *meets* for 2008–2011 in a graph.

Table 12

*2008–2011 MCSD Eighth Grade Math CRCT Mean Percent Meets by Ethnicity and Year*

Race	Meets Mean	Std Dev	<sup>a</sup> Difference Between Meets Mean
<b>White</b>			
2007—2008	50.1	8.18	
2008—2009	46.15	8.75	-3.95
2009—2010	48.1	7.45	1.95
2010—2011	49.3	11.87	1.20
Total Gain or Loss <sup>b</sup>			-0.80
<b>Black</b>			
2007—2008	47.5	8.43	
2008—2009			
	52.25	5.77	4.75
2009—2010	52.7	10.16	0.45
2010—2011	53.4	9.15	0.7
Total Gain or Loss <sup>b</sup>			5.9
<b>Hispanic</b>			
2007—2008	47.05	10.18	
2008—2009	47.25	9.79	0.2
2009—2010	56.65	13.02	9.4
2010—2011	55	12.27	-1.65
Total Gain or Loss <sup>b</sup>			7.95

Note. <sup>a</sup>Difference between years was computed by subtracting the mean meets from the previous year for each subgroup.

<sup>b</sup>The total gain or loss for each subgroup was computed by summing each year's mean gain or loss for years 2008—2011.

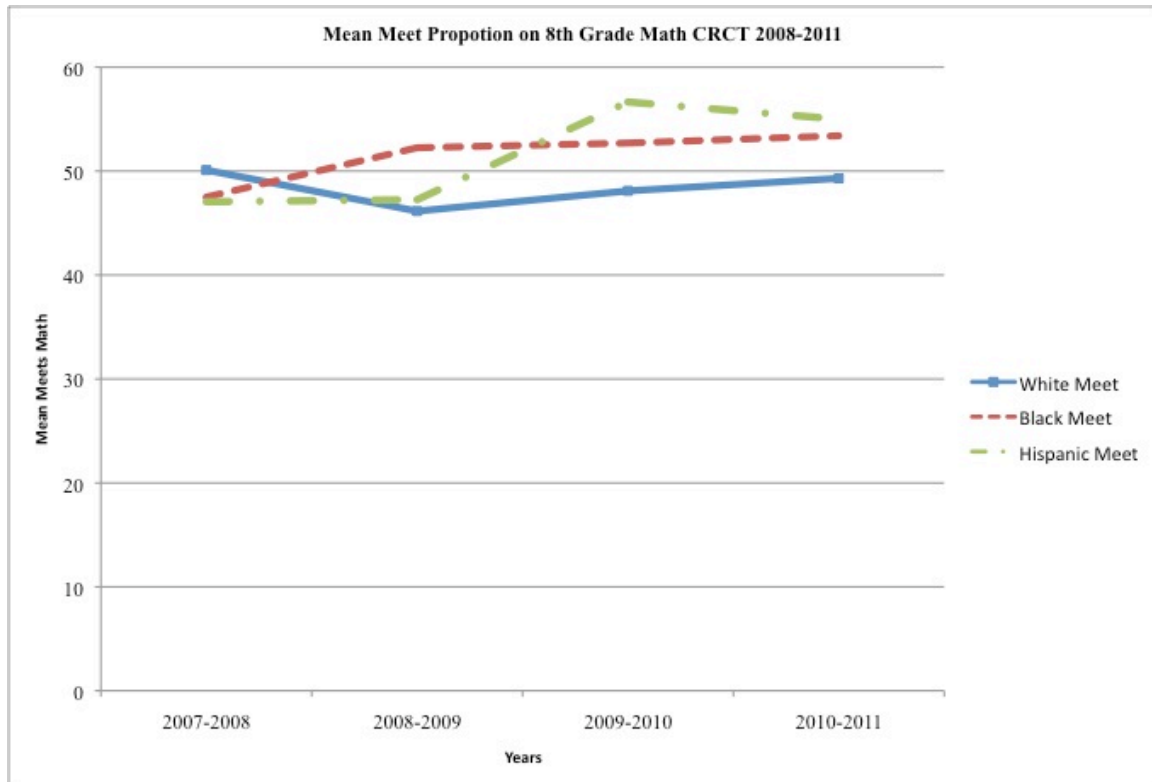


Figure 6. Trend line of Proportional Mean *Meet* Standard on the eighth grade Math CRCT 2008–2011 for MCS D.

As Table 12, and Figure 6 demonstrate, the Hispanic *meets* proportional mean score in math increased the most from 2008 ( $M = 47.5, SD = 8.46$ ) to 2011 ( $M = 55.0, SD = 12.27$ ) by 7.95; followed by Black students proportional mean score in 2008 ( $M = 47.5, SD = 8.46$ ) to 2011 ( $M = 53.40, SD = 9.15$ ) by 5.9; while White *meets* proportional mean on *meets* in eighth grade math decreased over time in years 2008 ( $M = 50.10, SD = 8.18$ ) to 2011 ( $M = 49.30, SD = 11.87$ ) by -0.80. The decrease in Whites mean *meets* proficiency score will be further analyzed in the descriptive statistics of *exceeds*.

*2008–2011 Descriptive Statistics H<sub>02</sub> Exceeds Proficiency*

Table 13 and Figure 7 depicts the eighth grade math CRCT proportional mean of *exceeds* of White, Black, and Hispanic students for the school years 2008–2011 for MCS D. The table and graph help to answer H<sub>02</sub> – are there achievement differences

within or between White, Black, and Hispanic students in the *exceed* category as the county applies the NCLB based accountability measures in years 2008–2011. This information will help determine if the group that categorizes the advance student is increasing, decreasing, or remaining the same for Whites, Blacks, or Hispanics.

Additionally, it allows us to determine if the decrease in White subgroup performance *meets* is due to the increase of the proportion of Whites in the *exceeds* category.

Table 13

*2008–2011 MCSD Eighth Grade Math CRCT Mean Percent Exceeds by Ethnicity and Year*

Race	Exceeds Mean	Std Dev	<sup>a</sup> Difference Between Exceeds Mean
<b>White</b>			
2007—2008	25.70	12.10	
2008—2009	33.35	4.37	7.65
2009—2010	37.6	14.18	4.25
2010—2011	35.35	19.43	-2.25
Total Gain or Loss <sup>b</sup>			9.65
<b>Black</b>			
2007—2008	11.50	7.96	
2008—2009	16.90	10.84	5.4
2009—2010	20.75	14.98	3.85
2010—2011	21.55	14.16	0.8
Total Gain or Loss <sup>b</sup>			10.05



Table 13 (continued).

Race	Exceeds Mean	Std Dev	<sup>a</sup> Difference Between Exceeds Mean
Hispanic			
2007—2008	12.30	10.37	
2008—2009	22.45	15.35	10.15
2009—2010	18.15	13.56	-4.3
2010—2011	21.80	14.59	3.65
Total Gain or Loss <sup>b</sup>			9.5

Note. <sup>a</sup> Difference between years was computed by subtracting the mean meets from the previous year for each subgroup.

<sup>b</sup> The total gain or loss for each subgroup was computed by summing each year's mean gain or loss for years 2008–2011.

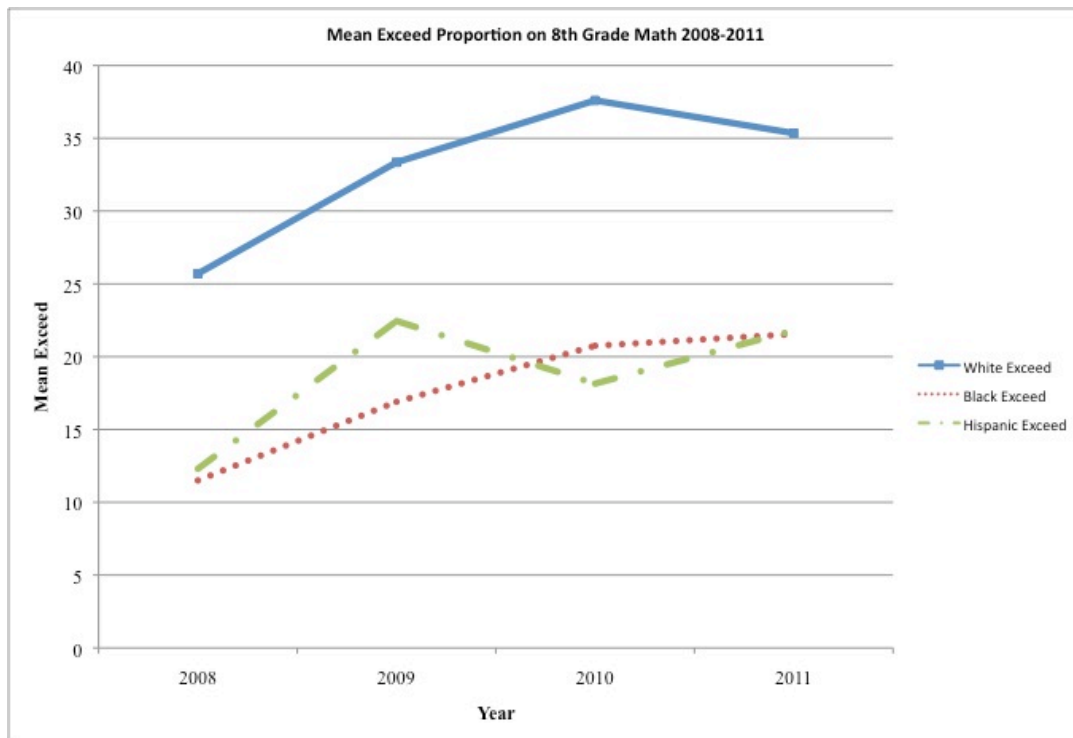


Figure 7. Mean Exceed Proportion on the Eighth Grade Math CRCT for 2008–2011.

Examination of the mean *exceed* proportion of Whites, Blacks, and Hispanics in school year 2008–2011 demonstrates that Blacks gained the most between 2008 ( $M = 11.50$ ,  $SD = 7.96$ ) to 2011 ( $M = 21.55$ ,  $SD = 14.16$ ) with a difference in *exceeds* of 10.05; followed by Whites gain of 9.65 from 2008 ( $M = 25.70$ ,  $SD = 12.10$ ) to 2011 ( $M = 35.35$ ,  $SD = 19.43$ ); Hispanics increased the least from 2008 ( $M = 12.30$ ,  $SD = 10.37$ ) to 2011 ( $M = 21.80$ ,  $SD = 14.59$ ) with a growth of 9.50.

#### *2008–2011 Descriptive Statistics $H_{O2}$ Meets/Exceeds Combined*

In order to understand if a decrease in the *meets* category is a positive or negative event you must determine if the corresponding *does not meet* or *exceed* increases. Table 14 and Figure 8 depict the proportional mean of students that *meet/exceed* standard on the eighth grade math CRCT from 2008–2011. This was determined by combining the mean *meets* with the mean *exceeds* student data in 2008–2011.

Table 14

2008–2011 MCSD 8<sup>th</sup> Grade Math CRCT Mean Percent Meets/Exceeds by Ethnicity and Year

Race	White M/E	<sup>b</sup> Difference Between White Mean Meet/Exceed	Black M/E	<sup>b</sup> Difference Between Black Mean Meet/Exceed	Hispanic M/E	<sup>b</sup> Difference Between Hispanic Mean Meet/Exceed
2008	75.80		59.00		59.35	
2009	79.50	3.70	69.15	10.15	69.70	10.35
2010	85.70	6.20	73.45	4.30	74.80	5.10
2011	84.65	-1.05	74.95	1.50	76.80	2.00

Note. <sup>a</sup> *Meets* and *exceeds* means were combined to determine gain or loss over time for student overall proficiency score. <sup>b</sup> Difference between years was computed by subtracting the mean from the previous year for each subgroup for meet and exceed. <sup>c</sup> The total gain or loss for each subgroup was computed by summing each year's mean gain or loss for years 2008–2011.

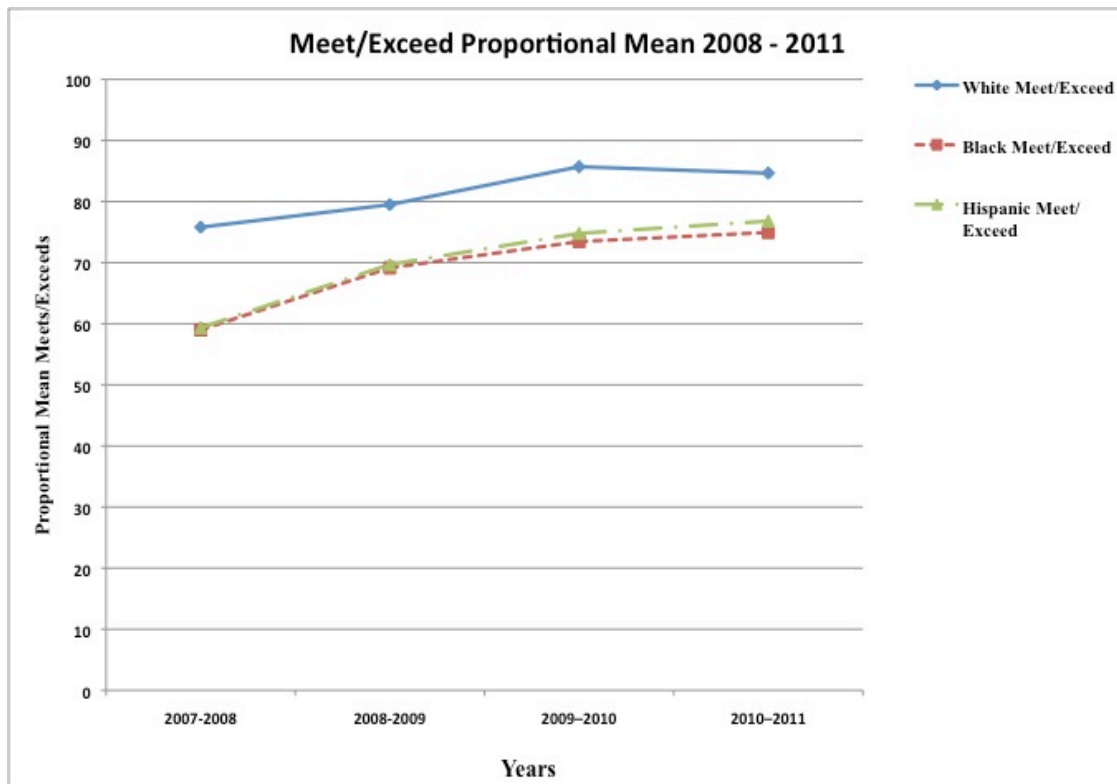


Figure 8. Displays the proportional mean of students that *meet/exceed* standard in 2008-2011 and are considered proficient by the guidelines set forth in the NCLB Act (NCLB, 2008).

As the Table 14 and Figure 8 demonstrates, Hispanics have increased in the combined *meets/exceeds* category the most from 2008 ( $M = 59.35$ ) to 2011 ( $M = 76.80$ ) with a difference of 17.45; Blacks follow with an increase in 2008 ( $M = 59.00$ ) to 2011 ( $M = 74.95$ ) with a difference of 15.95; Whites have increased the least from 2008 ( $M = 75.80$ ) to 2011 ( $M = 84.65$ ) with a difference of 8.85. But as the graph indicates, Whites mean *meets/exceeds* score is still appreciably higher than both Hispanic and Black students. Also apparent in the graph is that Black and Hispanic performance in *meets* and *exceeds* is very close, which is also depicted in the mean scale score data.

Summary Table 15 depicts the gains or loss of *meets and exceeds* for 2002–2007 and 2008–2011 for ease of understanding.

Table 15

*Gains or Loss Meets and Exceeds 2002–2007 and 2008–2011*

Year	Category	Race		
2002–2007		White	Black	Hispanic
	Meet	- 4.13	9.26	7.38
	Exceed	13.19	9.06	10.19
Total Gain or Loss		9.06	18.32	17.57
2008 –2011	Meet	- .80	5.95	7.95
	Exceed	9.65	10.05	9.50
Total Gain or Loss		8.85	16.00	17.45

As Table 15 indicates, in 2002–2007 Black students increased the most in *meets* mean percentage at 9.26, followed by Hispanics at 7.38; and Whites decreased by -4.13. White students increased in *exceed* mean percent the most by 13.19; followed by Hispanic students at 10.19; and Blacks gain of 9.06. By combining the *meets/exceeds* percentage means for Whites, Blacks and Hispanics additional information can be gleaned. In 2002–2007, Blacks gained the most when *meets/exceeds* are combined of 18.32; followed by Hispanics with a gain of 17.57; and Whites gained the least with 9.06.

In 2008–2011, Hispanic students gained the most in *meet* means percentage by 7.95; followed by Black students gain of 5.95; and White students decreased by -.80. Unlike 2002–2007, Black students gained the most in *exceed* mean percent by 10.05;

followed by White students at 9.65; and Hispanic gain of 9.50. By combining the *meets/exceeds* percentage means for Whites, Blacks, and Hispanics additional information can be ascertained. In 2008–2011, Hispanics gained the most when *meets/exceeds* are combined of 17.45; followed by Blacks with a gain of 16.00; and Whites gained the least with 8.85.

#### *2002-2007 Data Analysis – Differences Between Meets*

The second hypothesis states: There is no significant difference within or between the proportion of White, Black or Hispanic students that *meet* or *exceed* standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2002-2007 and 2008-2011; therefore, no achievement gap exists between Black, Hispanic, and White students. This hypothesis has several components to examine, and the first component examined is whether there is a significant difference *within* or *between* the proportions of White, Black or Hispanic students that *meet* standard on the eighth grade math CRCT in the years 2002–2007. To analyze this hypothesis a multivariate test was conducted on *meets* for school years 2002-2007.

A repeated measure analysis of variance was conducted to evaluate the effect of the NCLB act on the student achievement gap as measured by the *meets* mean proportional score on the eighth grade math CRCT between Whites, Blacks, and Hispanics from 2002 through 2007 and 2008 through 2011. Each hypothesis evaluated by *meet* proportional mean score was tested with a repeated measure ANOVA with a .05 alpha to determine student achievement trend results *between* and *within* the groups studied. Because each school is measured with time, the analysis has a *within-subjects* factor of *time* and one *within-subject* factor of *race*.

The multivariate tests for meets in school years 2002 –2007 indicates a non-significant time main effect, Wilks’s  $\Lambda = .643$ ,  $F(5,11) = 1.22$ ,  $p = .361$ , a significant race main effect Wilks’s  $\Lambda = .225$ ,  $F(2,14) = 24.05$ ,  $p < .001$ , and a non-significant year by race interaction effect, Wilks’s  $\Lambda = .197$ ,  $F(10,6) = 2.44$   $p = .143$ . Due to the significance of the race main effect, additional statistical tests were conducted including proportional mean for race comparisons across time. Table 16 depicts the marginal proportional means for *meets* by race for 2002–2007.

Table 16

*2002–2007 Estimated Marginal Means of Race by Percentage that Meet Standard*

Race	Meet Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
White	50.98	1.29	48.22	53.74
Black	54.17	0.75	52.57	55.76
Hispanic	48.03	1.29	45.29	50.77

Table 16 indicates that Black students had the highest mean for meets ( $M=54.17$ ,  $SD .75$ ), followed by White students ( $M=50.98$ ,  $SD 1.28$ ), and then Hispanic students ( $M=48.03$ ,  $SD 1.29$ ). Two of the three pairwise comparisons among the *meet* proportional means for Whites, Blacks and Hispanics for school years 2002 –2007 were significant controlling for Type I error across the three tests at the .05 level. Statistically significant were the comparison between Whites ( $M=50.98$ ,  $SD 1.28$ ), and Blacks ( $M=54.17$ ,  $SD .75$ ) of  $-3.19$ ,  $p = .025$ ; and Black ( $M=54.17$ ,  $SD .75$ ) and Hispanics,

( $M=48.03$ ,  $SD 1.29$ ) of 6.24  $p < .001$ . However, the comparison between White students ( $M=50.98$ ,  $SD 1.28$ ), and Hispanic students ( $M=48.03$ ,  $SD 1.29$ ) was not statistically significant with a  $p$  value of .119.

#### *2002-2007 Data Analysis – Differences Between Exceeds*

The second research question also asks if there are achievement differences within or between White, Black and Hispanic students, as measured by the eighth grade math CRCT in the *exceed* proficiency categories as the county applies the NCLB based accountability measures in years 2002-2007 and 2008-2011? The null hypothesis  $H_{O2}$  states there is no significant difference within or between the proportion of White, Black, or Hispanic students that *exceed* standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2002-2007 and 2008-2011; therefore, no achievement gap exists between Black, Hispanic, and White students. To prove or disprove hypothesis  $H_{O2}$  a multivariate test for *exceeds* was conducted for school years 2002-2007. School years 2008–2011 will be examined separately due to a change in test.

The multivariate tests for *exceeds* indicate a statistically significant time main effect, Wilks's  $\Lambda = .095$ ,  $F(5,11)= 20.93$ ,  $p < .001$ , a significant race main effect Wilks's  $\Lambda = .148$ ,  $F(2,14) = 40.43$ ,  $p < .001$ , and a non-significant year by race interaction effect, Wilks's  $\Lambda = .205$ ,  $F(10, 6) = 2.32$ ,  $p = .157$ . Due to the significance of the time main effect and race main effect additional statistical tests were conducted including mean comparisons across time. Table 17 depicts the marginal means *exceeds* for school years 2002–2007.



Table 17

*2002–2007 Estimated Proportional Marginal Means of Time on Exceeds Achievement*

Year	Exceeds Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
2001-2002	14.67	2.53	9.27	20.07
2002-2003	13.63	1.77	9.85	17.40
2003-2004	19.67	3.55	12.10	27.23
2004-2005	19.21	2.48	13.92	24.50
2005-2006	24.73	3.08	18.16	31.30
2006-2007	25.48	3.12	18.83	32.13

Three of the six pairwise comparisons among the *exceed* proportional means for school year 2002 –2007 were statistically significant controlling for Type I error across the six tests at the .05 level. Even though the school years between 2002 ( $M = 14.67$ ,  $SD = 2.53$ ) and 2003 ( $M = 13.63$ ,  $SD = 1.77$ ) began with a dip of 1.04 in mean *exceed* achievement,  $p = .40$ , the overall trend from 2002 ( $M = 14.67$ ,  $SD = 2.53$ ) to 2007 ( $M = 25.48$ ,  $SD = 3.12$ ) is upward with a mean proportional difference of 10.81,  $p < .001$ . The proportional *exceed* mean increased incrementally each year from 2003 ( $M = 13.63$ ,  $SD = 1.77$ ) to 2007 ( $M = 25.48$ ,  $SD = 3.12$ ), with an overall increase of 11.85,  $p < .001$ . The greatest gain was between 2003 and 2007 of 11.85,  $p < .001$ ; 2003 and 2006 of 11.10,  $p < .001$ ; 2002-2007 of 10.81,  $p < .001$ ; 2002 and 2006 of 10.06,  $p < .001$ . The pairwise

comparison between years 2002 and 2003,  $p = .40$ ; 2004 and 2005,  $p = .77$  and 2006 and 2007,  $p = .36$  were found to not be statistically significant.

Table 18 depicts the proportional mean *exceed* by race in 2002–2007.

Table 18

*2002–2007 Estimated Proportional Marginal Means of Exceed by Race*

Race	Exceed Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
White	30.03	3.29	23.01	37.05
Black	13.80	1.84	9.87	17.73
Hispanic	14.85	2.94	8.58	21.13

The White students had the highest mean ( $M=30.03$ ,  $SD$  3.29), followed by Hispanic students ( $M=14.85$ ,  $SD$  2.94), and then Black students ( $M=13.80$ ,  $SD$  1.84). Two of the three pairwise comparisons among the proportional means of *exceed* for Whites, Blacks, and Hispanics for school years 2002–2007 were significant controlling for Type I error across the three tests at the .05 level. The comparison between Whites and Blacks and Whites and Hispanics demonstrated a statistically significant difference of  $p < .001$ . The most statistically significant difference was between White students ( $M=30.03$ ,  $SD$  3.29), and Black students ( $M=13.80$ ,  $SD$  1.84),  $p < .001$  of 16.23. Also statistically significant is the comparison of White students ( $M=30.03$ ,  $SD$  3.29), and Hispanic students ( $M=14.85$ ,  $SD$  2.94) of 15.18,  $p < .001$ . However, the comparison

between Black students ( $M=13.80$ ,  $SD 1.84$ ), and Hispanic students ( $M=14.85$ ,  $SD 2.94$ ) was not statistically significant with a  $p$  value of .414.

#### *2008–2011 Data Analysis – Difference Between Meets*

The second part of the hypothesis states: There is no significant difference within or between the proportion of White, Black, or Hispanic students that *meet* or *exceed* standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2008-2011. We have examined the *meet* and *exceed* standard on eighth grade math for 2002–2007 and to prove or disprove the remainder of H<sub>02</sub> a multivariate test was conducted for *meets* in school years 2008–2011.

The multivariate tests on meets for school years 2008–2011 indicate a non-statistically significant time main effect, Wilks's  $\Lambda = .763$ ,  $F(3,17)= 1.76$ ,  $p = .19$ , a non-significant race main effect Wilks's  $\Lambda = .787$ ,  $F(2,18) = 2.44$ ,  $p = .116$ , and a non-significant year by race interaction effect, Wilks's  $\Lambda = .463$ ,  $F(6, 14) = 2.71$ ,  $p = .06$ . Due to the insignificance of the time main effect, race main effect and year by race effect no other statistical tests were conducted. Table 19 depicts the marginal means of time on *meets* achievement scores, and Table 20 depicts the marginal mean for race for school years 2008–2011.

Table 19

*2008–2011 Estimated Marginal Means of Time by Percentage that Meets Standard*

Year	Mean Meet	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
2008	48.22	1.35	45.40	51.03
2009	48.55	1.24	45.96	51.14
2010	52.48	1.66	49.01	55.95
2011	52.57	1.91	48.56	56.57

Table 20

*2008–2011 Estimated Marginal Means of Race by Percentage that Meets Standard*

Race	Meets Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
White	48.41	1.36	45.57	51.25
Black	51.47	1.24	48.88	54.04
Hispanic	51.49	1.03	49.33	53.65

*2008–2011 Data Analysis – Difference Between Exceeds*

The second part of the hypothesis states: There is no significant difference within or between the proportions of White, Black, or Hispanic students *exceed* standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2008-2011; therefore, no achievement gap exists between Black, Hispanic, and

White students. We have examined the *meet* and *exceed* standard on eighth grade math for 2002–2007 and to prove or disprove the remainder of H<sub>02</sub> a multivariate test was conducted for *exceeds* in school years 2008–2011.

The multivariate tests on *exceeds* for school years 2008 –2011 indicate a statistically significant time main effect, Wilks’s  $\Lambda = .469$ ,  $F(3,17)= 6.43$ ,  $p < .001$ ; a significant race main effect Wilks’s  $\Lambda = .111$ ,  $F(2,18) = 71.75$ ,  $p < .001$ ; and a non-significant year by race interaction effect, Wilks’s  $\Lambda = .685$   $F(6, 14) = 1.07$ ,  $p = .423$ .

Due to the significance of the *time* main effect, and *race* main effect additional statistical tests were conducted. Table 21 depicts the marginal means of *time* on *exceed* scores for school years 2008–2011.

Table 21

*2008–2011 Estimated Marginal Means of Time by Percentage that Exceed Standard*

Year	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
2008	16.50	2.05	12.21	20.79
2009	24.23	2.86	18.26	30.21
2010	25.50	2.82	19.60	31.40
2011	26.23	3.27	19.39	33.08

Four of the six pairwise comparisons among the exceed proportional means for school year 2008 –2011, were statistically significant controlling for Type I error across the six tests at the .05 significance level. The overall trend is upward from 2008 ( $M =$

16.50,  $SD = 2.05$ ) and 2011 ( $M = 26.23$ ,  $SD = 3.27$ ) of 9.73,  $p < .001$ . Each year within the time period of 2008–2011 had gains, but the gains between years 2009 ( $M = 24.23$ ,  $SD = 2.86$ ) and 2010 ( $M = 25.50$ ,  $SD = 2.82$ ) of 1.27,  $p = .41$ ; 2010 ( $M = 25.50$ ,  $SD = 2.82$ ) and 2011 ( $M = 26.23$ ,  $SD = 3.28$ ) of .73,  $p = .70$  were determined to be non-significant. The greatest one-year gain is between year 2008 ( $M = 16.50$ ,  $SD = 2.05$ ) and 2009 ( $M = 24.23$ ,  $SD = 2.86$ ) of 7.73,  $p < .001$ . The next largest gain was between 2008 and 2011 of 9.73,  $p < .001$ . Incremental yearly gains are as follows: 2008 ( $M = 16.50$ ,  $SD = 2.05$ ) to 2009 ( $M = 24.23$ ,  $SD = 2.86$ ) increased 7.73,  $p < .01$ ; 2009 ( $M = 24.23$ ,  $SD = 2.86$ ) to 2010 ( $M = 25.50$ ,  $SD = 2.82$ ) increased 1.27,  $p = .41$  (non-significant); 2010 ( $M = 25.50$ ,  $SD = 2.82$ ) to 2011 ( $M = 26.23$ ,  $SD = 3.28$ ) increased a non-significant .73,  $p = .70$ . Table 22 depicts the marginal means of *race* on *exceed* scores for school years 2008–2011.

Table 22

*2008–2011 Estimated Marginal Means of Race by Percentage that Exceed Standard*

Race	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
White	33.00	3.04	26.65	39.35
Black	17.68	2.41	12.63	22.72
Hispanic	18.68	2.34	13.76	23.60

The White students had the highest mean ( $M=33.00$ ,  $SD 3.04$ ), followed by Hispanic students ( $M=18.68$ ,  $SD 2.34$ ), and then Black students ( $M=17.68$ ,  $SD 2.41$ ). Two of the three pairwise comparisons among the proportional means of exceed for Whites, Blacks, and Hispanics for school years 2008–2011 were significant controlling for Type I error across the three tests at the .05 level. The comparison between Whites and Blacks and Whites and Hispanics demonstrated a statistically significant difference of  $p < .001$ . The most significant difference was between White students ( $M=33.00$ ,  $SD 3.04$ ), and Black students ( $M=17.68$ ,  $SD 2.41$ ), of 15.33. Also statistically significant is the comparison of White students ( $M=33.00$ ,  $SD 3.04$ ), and Hispanic students ( $M=18.68$ ,  $SD 2.34$ ), of 14.33,  $p < .001$ . However, the comparison between Black students ( $M=17.68$ ,  $SD 2.41$ ), and Hispanic students ( $M=18.68$ ,  $SD 2.34$ ) was not statistically significant with a  $p$  value of .337.

*Conclusion – H<sub>02</sub>: Differences Between Meets and Exceeds*

The null hypothesis H<sub>02</sub> states there is no significant difference within or between the proportion of White, Black, or Hispanic students that *meet* or *exceed* standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2002–2007 and 2008–2011; therefore no achievement gap exists between Black, Hispanic, and White students. Student achievement did not significantly increase in mean *meet* proficient proportion over time as evidenced by an insignificant time main effect and an insignificant year by race main effect in 2002–2007 and 2008–2011. Data also indicates the main effect of race to be statistically significant for only 2002–2007, which indicates an achievement gap based on race for 2002–2007, but not for race in mean meets proficiency for 2008–2011.

This difference can be explained by examining the decrease in Whites in the *meets* proficient category and a corresponding increase of Whites in the *exceed* proficient category. Data in 2002–2007 also indicates there is a statistically significant student achievement gap based on *meets* proficiency between Whites and Blacks and between Black and Hispanic students but not between White and Hispanic students in 2002–2007. In 2008–2011, there is no significant difference in time main effect, race main effect, or race by year interaction.

Further analysis of the proportion of students that *exceed* in 2002–2007 and 2008–2011 reveals a statistically significant time and race main effect and a non-significant year by race interaction effect. This means that student achievement has increased over time for all subgroups, but an achievement gap is evident between Whites and Blacks and Whites and Hispanic students over time. There is no significant difference between Blacks and Hispanic students. Therefore, the null hypothesis 2 rejected for all aspects except for 2008–2011 *meets* proportion where no achievement gap was found.

### *Research Question and Hypothesis 3*

The third research question asks if there is a difference in the mean scale score within or between White, Black, and Hispanic students in non-choice participating, choice sending, and choice receiving schools as measured by the eighth grade math CRCT in 2002–2007 and 2008–2011. Due to the variability of choice participation, only the school years of 2008 and 2010 afforded enough information or numbers to allow data comparison. To examine this research question the data is presented in two distinct years, 2008 and 2010.



*2008 Descriptive Statistics H<sub>03</sub>– Choice Mean Scale Score*

An examination of 2008 school data in MCSD was conducted between 8 non-choice participating schools, 9 choice sending schools and 5 choice receiving schools.

Table 23 and *Figure 9* depict the eighth grade Math CRCT average mean scale score by race and choice participation.

Table 23

*2008 MCSD Eighth Grade Math CRCT Average Mean Scale Score by Race and Choice Participation*

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Race	No Choice	No Choice Std Dev	Sending	Sending Std Dev	Receiving	Receiving Std Dev
White	835.00	3.92	816.33	3.70	837.00	4.96
Black	816.50	3.37	802.22	3.17	820.80	4.25
Hispanic	818.38	3.99	801.00	3.76	815.40	5.05

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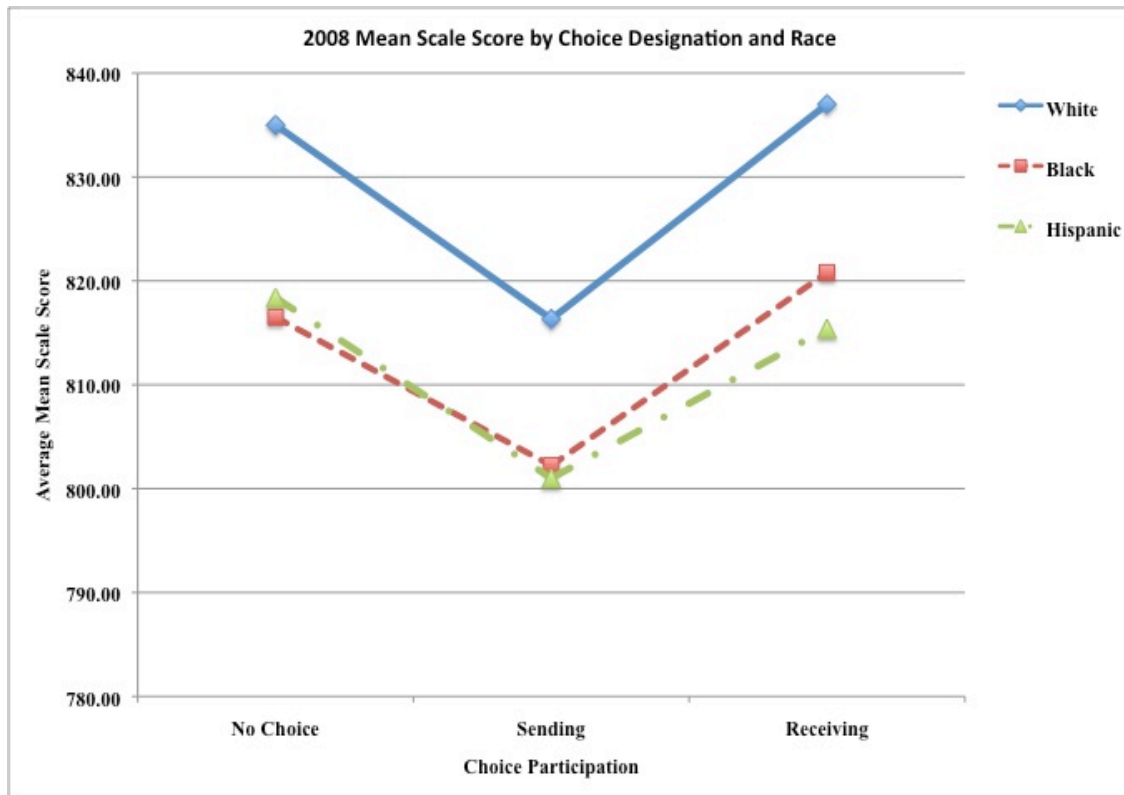


Figure 9. 2008 MCSD Average Mean Scale Score by Choice and Race

Examination of the average mean scale score of Whites, Blacks, and Hispanics in non-participating, choice sending, and choice receiving schools demonstrates that Whites average mean scale score is greater in the receiving school ( $M = 837, SD = 4.96$ ), followed by Whites at the non-choice participating school ( $M = 835, SD = 3.97$ ), and lastly Whites at the choice sending school ( $M = 816.33, SD = 8.69$ ), for 2008.

Regardless of school setting, Whites were consistently the highest achieving of all the races at all three schools. Blacks and Hispanics alternated in their relative position to White students in the school settings, but Black and Hispanic mean performance differences were not statistically significant from each other. Like White students, Blacks average mean scale score was higher in the choice receiving school ( $M=820.80, SD 4.25$ ), followed by non-choice participating school ( $M=816.50, SD 3.37$ ), and lastly

the choice sending school ( $M=802.22$ ,  $SD$  3.12). Comparatively, Hispanic students mean scale scores were slightly higher in the non-choice participating school ( $M=818.38$ ,  $SD$  3.27), followed by the choice receiving school ( $M=815.40$ ,  $SD$  10.67), and lastly the choice sending school ( $M=801.00$ ,  $SD$  3.76).

#### *2008 Data Analysis – Difference Between Choice Participation*

A mixed measure analysis of variance was conducted to evaluate the effect of the NCLB act on school choice designation of non-choice participating, choice sending, and choice receiving school on the student achievement gap as measured by mean scale score on the eighth grade math CRCT between Whites, Blacks, and Hispanics in 2008 and 2010. Each hypothesis evaluated by mean scale score was tested with a mixed-measure ANOVA with a .05 alpha to determine student achievement results between and within the groups studied. The analysis has a *within-subjects* factor of *race* and one *between-subject* factor of *choice*. The multivariate tests for the school year 2008 indicate a statistically significant race main effect, Wilks's  $\Lambda = .102$ ,  $F(2,18) = 79.46$ ,  $p < .001$ , and a non-significant race by choice interaction effect, Wilks's  $\Lambda = .780$ ,  $F(4, 36) = 1.19$ ,  $p = .331$ . The race main effect was expected due to the previous trend line data examined from 2008-2011 on mean scale score. The *between-subjects* effect of choice demonstrate a statistically significant main effect of choice,  $F(2,19) = 8.28$ ,  $p = .003$ . Therefore, a Tukey's Post Hoc Test was conducted to determine the differences between the three choice schools.

Table 24 depicts the eighth grade math CRCT average mean scale score disaggregated by no choice, choice sending, and choice receiving designation in MCSD.

Table 24

*2008 Estimated Marginal Means of Mean Scale Score by Choice Participation*

Choice	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
No Choice	823.46	3.47	816.20	830.72
Choice Sending	806.52	3.27	799.67	813.37
Choice Receiving	824.40	4.39	815.21	833.59

The choice receiving schools had the highest mean ( $M=824.40$ ,  $SD$  4.39), followed by non-choice participating schools ( $M=823.46$ ,  $SD$  3.47), and then choice sending schools ( $M=806.52$ ,  $SD$  3.27). Tukey's post hoc tests reveal that choice receiving ( $M=824.40$ ,  $SD$  4.39) and non-choice participating schools ( $M=823.46$ ,  $SD$  3.47), average mean scale scores were significantly higher than choice sending schools ( $M=806.52$ ,  $SD$  3.27). Two of the three pairwise comparisons among the mean scale score for non-choice participating, choice sending, and choice receiving for school year 2008 were significant controlling for Type I error across the three tests at the .05 level.

The results demonstrate a statistically significant difference between non-choice participating ( $M=823.46$ ,  $SD$  3.47), and choice sending schools ( $M=806.52$ ,  $SD$  3.27),  $p = .006$  with a difference in means of 17.88; followed by choice sending ( $M=806.52$ ,  $SD$  3.27), and choice receiving schools ( $M=824.40$ ,  $SD$  4.39),  $p = .011$  with a difference in means of 16.94. However, the comparison of non-choice participating schools

( $M=823.46$ ,  $SD 3.47$ ), and choice receiving schools ( $M=824.40$ ,  $SD 4.39$ ) was not statistically significant,  $p = .985$  with a difference of less than .942. To complete the analysis of the  $H_{03}$ , the 2010 school year was examined to determine if there is a difference in the mean scale score within or between White, Black, and Hispanic students in non-choice participating, choice sending, and choice receiving schools as measured by the eighth grade math CRCT.

*2010 Descriptive Statistics  $H_{03}$ – Choice Mean Scale Score*

Table 25 and *Figure 10* depict the eighth grade Math CRCT average mean scale score by race and choice participation for 2010.

Table 25

*2010 MCSD Eighth Grade Math CRCT Average Mean Scale Score by Race and Choice Participation*

Race	No Choice	No Choice Std Dev	Sending	Sending Std Dev	Receiving	Receiving Std Dev
White	851.00	6.81	826.13	4.82	847.50	3.93
Black	831.25	5.96	811.13	4.22	825.67	3.44
Hispanic	840.75	8.81	809.38	6.23	831.00	5.08



Figure 10. 2010 MCSD Average Mean Scale Score by Choice and Race

Examination of the average mean scale score of Whites, Blacks, and Hispanics in non-participating, choice sending, and choice receiving schools demonstrates that Whites average mean scale score is greater in the non-choice participating school ( $M = 851$ ,  $SD = 17.38$ ), followed by Whites at the receiving school ( $M = 847.50$ ,  $SD = 14.95$ ), and lastly Whites at the choice sending school ( $M = 826.13$ ,  $SD = 8.71$ ), for 2010. Regardless of school setting, Whites were consistently the highest achieving of all the races at all three schools. Hispanics and Blacks alternated for second place behind White students in the school settings, but both races mirrored the White student performances with a higher mean in the non-choice participating school, followed by the receiving school, and lastly at the choice sending school. Hispanics placed higher than Blacks in the non-choice

participating schools and receiving schools with Blacks placing second to Whites and higher than Hispanics in the choice sending school.

*2010 Data Analysis – Difference Between Choice Participation*

An examination of 2010 school data in MCSD was conducted between 4 non-choice participating schools, 8 choice sending schools and 12 choice receiving schools. The multivariate tests for the school year 2010 indicate a statistically significant race main effect, Wilks's  $\Lambda = .119$ ,  $F(2,20) = 74.11$ ,  $p < .001$ , and a non-significant race by choice interaction effect, Wilks's  $\Lambda = .799$ ,  $F(4, 40) = 1.19$ ,  $p = .330$ . The race main effect was expected due to the previous trend line data examined from 2008-2011. The between-subjects effect of choice demonstrate a statistically significant main effect of choice,  $F(2,21) = 6.89$ ,  $p = .005$ . Therefore, a Tukey's Post Hoc Test was conducted to determine the differences between the three choice schools.

Table 26 depicts the eighth grade math CRCT average mean scale score for all races disaggregated by no choice, choice sending, and choice receiving designation in MCSD.

Table 26

*2010 Estimated Marginal Means of Mean Scale Score by Choice Participation*

Choice	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
No Choice	841.00	6.62	827.24	854.76
Choice Sending	815.54	4.68	805.81	825.28
Choice Receiving	834.72	3.82	826.78	842.67

Tukey's Post Hoc test indicated that the non-choice participating school and choice receiving schools had a significantly higher mean than the choice sending schools. The non-choice participating schools had the highest mean ( $M=841.00$ ,  $SD$  6.62), followed by choice receiving schools ( $M=834.72$ ,  $SD$  3.82), and lastly the choice sending schools ( $M=815.54$ ,  $SD$  4.68).

Two of the three pairwise comparisons among the mean scale score for non-choice participating, choice sending, and choice receiving for school year 2010 were significant controlling for Type I error across the three tests at the .05 level of significance. The results demonstrate a statistically significant difference between non-choice participating ( $M=841.00$ ,  $SD$  6.62), and choice sending schools ( $M=815.54$ ,  $SD$  4.68),  $p = .013$  with a difference in means of 25.46; followed by statistically significant difference between choice receiving ( $M=834.72$ ,  $SD$  3.82), and choice sending schools ( $M=815.54$ ,  $SD$  4.68),  $p = .012$  with a difference in means of 19.18. However, the



comparison of non-choice participating schools ( $M=841.00$ ,  $SD 6.62$ ), and choice receiving schools ( $M=834.72$ ,  $SD 3.82$ ), was not statistically significant,  $p = .694$  with a difference of 6.28.

#### *Conclusion – Differences Between Choice Participation*

The null hypothesis  $H_{03}$  states there is no significant difference in the mean scale score within or between White, Black, and Hispanic students in the choice sending, choice receiving, or non-choice participating schools as measured by the 8th grade math CRCT in 2002-2007 and 2008-2011. The school year 2008 and 2010 data analysis indicates a statistically significant race main effect, and a non-significant race by choice interaction effect. The race main effect was expected and the reasons are the same as described in previous research questions. In 2008 and 2010, there was a statistically significant main effect for choice participation. Therefore, the null hypothesis  $H_{03}$  is rejected.

#### Summary

This study investigated whether the NCLB affects the student achievement and the achievement gap between Whites, Blacks, and Hispanics, when comparing eighth grade Criterion Reference Test of Basic Skills (CRCT) in a large suburban school district in Georgia from 2002-2007 and 2008-2011. Also, the disaggregated scores of the NCLB choice sending, choice receiving, and non-participating choice schools were examined to determine the impact of school choice on student achievement. Chapter IV provided the results of the analyses. Chapter V provides the interpretation of the findings, conclusion and discussion, and a recommendation for future practice.

## CHAPTER V

### CONCLUSIONS

In order to assist in the interpretation of the findings, Chapter V briefly summarizes the previous chapters and provides a conclusion and discussion, which includes an interpretation of the findings, the relationship of current study to previous research, and a final conclusion; limitations of the study; recommendations for policy or practice; and recommendations for future research.

#### Summary

In an effort to close the student achievement gap, national educational policy is being written to influence the curriculum standards students are taught and to influence how students and teachers are evaluated. Policies are also being written to determine whether school choice is a local decision or can be mandated by law. The future of the United States as a world leader is dependent upon our educational system. Therefore, it is important to understand the effect of educational policy upon student achievement. This study examined longitudinal student achievement data on eighth grade math CRCT in 25 middle schools from 2002–2007 and 2008–2011 in a large suburban school district in Georgia. The purpose of the study was to examine the relationship between NCLB policies on student achievement and the student achievement gap in eighth grade math as measured by the mean scale score and the *meets* and *exceeds* proficiency on the state CRCT. The study also examined the effect of NCLB and school choice on student achievement and the student achievement gap between Whites, Blacks and Hispanics in choice sending schools, choice receiving schools, and middle schools that do not participate in school choice.

## Conclusion and Discussion

Each research question will be presented with an interpretation of the findings, the relationship to previous practice, and the conclusion will be discussed.

### *Research Question 1*

Research question one asks—is there a difference in the mean scale score within or between Whites, Blacks, and Hispanics students on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002-2007 and 2008-2011? The null hypothesis  $H_{O1}$  states there is no significant difference the mean scale score within or between Whites, Blacks, or Hispanics on the eighth grade math CRCT as the county applies the legislative components outlined in NCLB between the years of 2002–2007 and 2008–2011.

After examining the data for 2002–2007 and 2008–2011 for White, Black, and Hispanic average mean scale score it is evident that all subgroups achievement tracked upward and this upward trend was statistically significant. Furthermore, the difference between Whites and Blacks and Whites and Hispanics were statistically significant for 2002–2007 and 2008–2011. It is noted that Black and Hispanic average mean scale score difference was not statistically significant. Furthermore, the interaction between race and time was not statistically significant resulting in the conclusion that NCLB did not close the achievement gap between White and Black or White and Hispanic students even though all subgroups increased their mean scale score achievement over time. Therefore, the null hypothesis one is rejected.

The purpose of this study was to determine if the NCLB act has impacted student achievement or the student achievement gap during the years 2002–2011. From

examination of the mean scale score data for 2002–2007 and 2008–2011, it is evident student achievement has increased for all subgroups. The finding that student achievement has increased during the NCLB time period is supported by other dissertations and studies (Benson, 2010; Center on Education Policy, 2009b, 2009c, 2011c; Jennings, 2011). Conversely, the student achievement gap has not lessened based on tests of statistical significance as evidenced by the lack of race and time interaction.

Analyzing the average mean scale score data for both 2002–2007 and 2008–2011 demonstrates the White subgroup achieved the highest for both time periods, with Blacks placing second in achievement in 2002–2007 and Hispanics placing second in achievement in 2008–2011. Interestingly, further examination of the data indicates that Hispanic student achievement increased the most for all subgroups between school years 2002–2007 and 2008–2011; followed by Black mean scale score increase, and lastly by White increase in mean scale score. This phenomenon was noted in Jennings article in 2011, *Long-Term Gains in Minority Education: An Overlooked Success*, which states that even though Hispanics and Blacks have increased their achievement in the last 40 years, their scores are still significantly lower than whites. This is also supported by Gamoran, (2007) who states that low-income and minority students have demonstrated modest improvements since the passing of NCLB, but not at the rates required by AYP under the guidelines of NCLB.

Further information can be gleaned concerning the achievement gap by examining the mean scale score data using methodology utilized by the Center for Education Policy (Center on Education Policy, 2009c). In 2009, Center on Education Policy analyzed whether the student achievement gap was narrowing by subtracting the initial year mean

scale score recorded from the final year and then divided by intervening years. If the difference in the mean score was greater for the subgroups compared to Whites then it is an example of an achievement gap narrowing (Center on Education Policy, 2009c). Therefore, this study supports the finding indicated by Center on Education Policy (2009c) that the achievement gap is still evident, but is slowly being closed due to Black and Hispanic subgroup mean scale score increasing more than the higher-performing White mean scale score over time.

Furthermore, even though this study indicated the difference in mean scale score achievement between Hispanics and Blacks was not statistically significant, it is noted that Hispanics increased their mean scale score more than Blacks in both 2002-2007 and to an even greater amount in 2008-2011. This may point to the conclusion that over time, Hispanics may over take Blacks in mean scale score achievement. The Center on Education Policy (2009c) study also indicated that Hispanics and Blacks both increased mean scale score performance over time, but that Hispanics increased 79% of the time as compared to Blacks 77% of the time when data was examined across the nation. Conversely, other studies by Center on Education Policy (2009, 2010b, 2011) have indicated that Blacks and Hispanics have alternated in their relative position to each other according to the state test, subject, and grade level examined, but all the studies agreed that both groups have posted achievement gains since the onset of NCLB.

#### *Mean Meets and Exceed Proficiency*

By examining the trend line data of the proportion of White, Black, and Hispanic students in the *meet* and *exceed* categories the question will answered of whether NCLB has impacted subgroups the same or differently. It will also answer the charge stated by

NCLB critics that NCLB has decreased opportunities for subgroups due to the focus on basic skills, thereby negatively affecting student achievement in the *exceed* category.

Concerns have been raised that schools are concentrating their instructional focus on *bubble kids* in an effort to raise test scores to the basic level of proficiency to the detriment of high-performing students who are not challenged (Center on Education Policy, 2009b; Loveless et al., 2008; Ravitch, 2010). Moreover, many NCLB detractors believe that minorities are underrepresented in the *exceed* proficiency category, due to the narrowing of the curriculum (Center on Education Policy, 2009b; McKinsey & Company, 2009a; Ravitch, 2010). This studies examination of trend data on *meets* and *exceeds* category on the eighth grade math CRCT by subgroup will support or refute this premise.

#### *Research Question 2*

Research question two asks—is there are achievement differences within or between White, Black, and Hispanic students, as measured by the eighth grade math CRCT in the *meet* and *exceed* proficiency categories as the county applies the NCLB based accountability measures in years 2002-2007 and 2008-2011? The null hypothesis  $H_{02}$  states there is no significant difference within or between the proportion of White, Black, or Hispanic students that meet or exceed standard on the eighth grade math CRCT as the county applies the legislative components of NCLB in years 2002-2007 and 2008-2011; therefore, no achievement gap exists between Black, Hispanic, and White students.

#### *Achievement and Meets Mean Proficiency*

Student achievement did not significantly increase in mean meet proficient proportion over time as evidenced by an insignificant time main effect and an

insignificant year by race main effect in 2002–2007 and 2008–2011. Statistically significant is a race main effect in 2002–2007. Pairwise comparison for 2002–2007 indicates an achievement gap between Blacks and Hispanics, and Blacks and Whites, but not between Whites and Hispanics in 2002–2007. Furthermore, in 2008–2011, there is no significant difference in time main effect, race main effect, or race by year interaction for mean *meets* percent.

The estimated marginal mean for 2008–2011 indicates that Blacks and Hispanics with almost the exact same mean *meets* proportional score and Whites have the lowest mean *meets* proportion score, further indicating a lack of statistical difference in performance. However, this result is atypical of most studies and does not correspond with the mean scale score or *exceeds* outcome of this study. Further examination is necessary to understand the result.

The average estimated marginal mean for *meets* in 2002–2007 indicates that Blacks mean *meets* percentage is the highest, followed by Whites, and then Hispanic students and this difference is statistically significant. The 2002–2007 trend data for *meets* indicate a reverse achievement gap between Blacks and Whites and a statistically significant gap between Blacks and Hispanics, which is contrary to any study examined. This finding also indicates there is no achievement gap in race for *meets* in 2008–2011. As reported by many studies by the Center on Education Policy (2005, 2007, 2009, 2010, 2011), Whites typically have a higher marginal mean score than any other subgroup excluding Asian students. Asian students generally score higher than Whites in studies when they have been included. However, due to the varying number of Asian students in schools across the nation, Asians generally are not included in studies that examine

achievement gaps. To understand these results, the descriptive data for *meets* and data analysis and descriptive data for *exceeds* was examined.

After examining the descriptive data for 2002–2007 in the *meet* category, it is evident that Black mean *meets* percentage increased the most; followed by Hispanic; and lastly by Whites, whose mean *meets* proficiency actually decreased. Conversely, further examination reveals that Whites increased the most in *exceeds* mean proficiency, followed by Hispanics, then Blacks in 2002–2007. It is noted that Blacks increase in the mean *meet* proficiency and in the *exceed* mean proficiency was almost exactly the same for 2002–2007. The equal gain for *meets* and *exceeds* for Blacks answers the charge that the focus of NCLB on *basic* proficiency skills has resulted in blacks not making gains in the *exceed* proficient category. However, the increase in the percentage of Black students who increase in the *exceeds* category is not enough to significantly close the achievement gap especially in light of White students significant increase in *exceed* proficiency.

The ANOVA indicates that student achievement did not increase for students over time in the *meets* category for either time interval. This is counter to every other ANOVA in this study and counter to most research examined (Center on Education Policy, 2005, 2007, 2009, 2010, 2011; Plucker, Burroughs, & Song, 2010). The majority of research studies combine the *meets/exceed* proficiency category rather than examining only *meets* proficiency. These studies find that all student groups have steadily increased achievement over time and the achievement gap is still large, but slowly closing. To better compare the result with previous studies, the *meets* and *exceeds* data was combined



to examine the effect on student achievement. It also allows us to examine the percentage of students by subgroup in the *do not meet* category.

By examining the combined *meets/exceeds* proficiency it is clear the achievement gap still exists (in the same direction) and there was an increase in achievement overtime for both 2002–2007 and 2008–2011 for all subgroups. These findings are the same as demonstrated by mean scale score and *exceed* results of this study. When you examine the combined category of *meet/exceed* for 2002–2007, it is apparent that Blacks have increased the most, followed by Hispanics, and then Whites. These results emulated what the results depicted for the *meets* category. When you examine 2008–2011 combined *meets/exceeds* Hispanics have gained the most, followed by Blacks, and then Whites. These results also agree with this studies examination of students in the *meets* category.

However, the examination of students who *exceed* proficiency demonstrates that Whites increased the most, followed by Hispanics, then Blacks in 2002–2007; in 2008–2011, Blacks increased the most followed by Whites than Hispanics. This demonstrates that Black and Hispanic subgroups are making gains in *meets* and in *exceeds*; however, Whites are making their gains in the *exceeds* category. The combination of *meets/exceeds* also informs us that there are twice as many Black and Hispanic students in the *do not meet category* when compared to White students. This finding supports other studies that find that minorities are over represented in *below basic* and under represented in the *exceeds* proficient category (McKinsey & Company, 2009a; Plucker, et al., 2010).

The achievement gap has closed for minorities in the *meets* category, while the achievement gap is still large in the *exceeds* category between Whites and Blacks and Whites and Hispanics. The conclusion is that minorities have made significant gains in the *meets* proficiency, and minorities have made some gains in *exceeds* proficiency. However, the achievement gap has been reduced in the *meets* proficient category due to a corresponding increase of Whites in the *exceeds* proficient category. Minorities must make greater gains than is demonstrated in *exceeds* proficient category for the achievement gap to close in a statistically significant manner. It also demonstrates there are more minority students represented in the *do not meet* or basic category, which supports the conclusion that due to the sheer number of minority students *below basic*, the achievement gap will be difficult to close in the *exceed* proficient category. Additionally, the gap will close in the *basic* or *meets* proficient category before it closes in the *exceed* proficient category.

Comparing the results of *meets* and the combined *meets/exceeds* data underscores the importance of disaggregating data to understand testing outcomes for subgroups. As noted by the Center on Education Policy (2009, 2009b, 2011), much can be learned by analyzing student achievement data by several methods, including by mean scale score, *meets* proficiency and *exceeds* proficiency rather than by only a combination of *meets/exceeds* or percentage of *basic* and above. NCLB determines AYP based on the percentage of students that meet basic and above, or as designated by Georgia by a combination of *meets/exceeds* proficiency. The analysis of *meets/exceeds* proficiency instructs us about the percentage of students that *meet* proficiency and above, and does

not inform us if the subgroups are increasing or decreasing in the basic or advanced categories.

#### *Achievement Gap and Exceed Mean Proportion*

By examining the proportion of students that *exceed* in 2002–2007 and 2008–2011 the data analysis revealed a statistically significant time and race main effect and a non-significant year by race interaction effect. Data analysis indicates that student achievement has increased over time for all subgroups, but an achievement gap is evident between Whites and Blacks, and Whites and Hispanic students. There is no significant difference between proportional means in *exceeds* of Blacks and Hispanic students. As in mean scale score and *meet* proficiency, the results demonstrate that Whites have the highest mean *exceeds* proportion in 2002–2007 and 2008–2011, followed by Hispanics, and then Blacks. This is consistent with findings that Whites have the highest mean, even when subgroups record gains in achievement (Center on Education Policy, 2007, 2010a, 2010b, 2011a, 2011b).

All three subgroups have increased in *exceeds* category with Whites increasing the most in 2002–2007, followed by Blacks, then Hispanics. In 2008–2011, Blacks gained the most in *exceeds* followed by Whites, then Hispanics. The difference in the increase in *exceeds* proficiency between subgroups is minimal, but the difference in estimated marginal means of *exceeds* was statistically significant. Again, the findings indicate that Whites have the highest marginal mean, the achievement gap is still present, and all students are making gains. This finding is supported by other studies which indicate that minorities are under represented in the advanced level of proficiency

(Center on Education Policy, 2009b; Jennings, 2011; McKinsey & Company, 2009a; Plucker et al., 2010).

Many NCLB detractors believe that high performing students are not challenged (Loveless et al., 2008; Ravitch, 2010a) and that Blacks or minorities are underrepresented in advanced level of achievement (Center on Education Policy, 2009b; McKinsey & Company, 2009a). This study indicates that minorities are making gains in the *exceed* proficient category. However, the gain demonstrated by minority students is not at the rate necessary to close the achievement gap in *exceeds*. This finding is supported by other studies which indicate that subgroups are increasing in the *exceeds* category, but not at a rate sufficient to close the achievement gap (Center on Education Policy, 2010; Jennings, 2011). Furthermore, several studies have indicated that minorities are underrepresented in the advance category of achievement (McKinsey & Company, 2009a; Plucker et al., 2010).

#### *Summary Research Question 2*

The analysis of the descriptive data for *meets* and the data analysis and descriptive data for *exceeds*, revealed that student achievement has increased for all students in the *exceeds* proficiency category. However, only Blacks and Hispanics have increased over time in the *meets* proficiency category. Conversely, Whites have actually decreased in the *meets* proficient category for both time periods examined. The conclusion reached from this analysis is that the achievement gap is still apparent due to the commanding lead in achievement of White students. This correlates with studies done by Jennings (2011) and the Center on Education Policy (2009c) which state that White students have a commanding lead in mean achievement even though subgroups are making gains.

Moreover, the achievement gap is large and subgroup increase is slow and uneven causing the achievement gap to be difficult to close (Center on Education Policy, 2010; Jennings, 2011).

The achievement gap demonstrated in the *does not meet, meets/exceeds* and in *exceeds* proficiency categories between Whites and Blacks and Whites and Hispanics also correlates with the research study using test data from the National Assessment of Educational Progress (McKinsey & Company, 2009a). Several NAEP studies have found that minorities are over represented in the *below basic* category, and underrepresented in the *above basic* and *exceeds* proficiency category (McKinsey & Company, 2009a; Plucker et al., 2010).

### *Research Question 3*

The third research question asks if there is a difference in the mean scale score within or between White, Black, and Hispanic students in the choice sending, choice receiving, or non-choice participating schools as measured by the 8th grade math CRCT in 2002-2007 and 2008-2011. The null hypothesis  $H_{O3}$  states there is no significant difference in the mean scale score within or between White, Black, and Hispanic students in the choice sending, choice receiving, or non-choice participating schools as measured by the 8th grade math CRCT in 2002-2007 and 2008-2011. Due to the variability of choice participation, only the school years of 2008 and 2010 afforded enough information or numbers to allow data comparison. To examine this research question the data is presented in two distinct years, 2008 and 2010.

### *Achievement and Mean Scale Score for Choice Participation*

The school year 2008 and 2010 data analysis indicates a statistically significant *race* main effect, and a non-significant *race* by *choice* interaction effect. The race main effect was expected and the reasons are the same as described in previous research questions. In 2008 and 2010, there was a statistically significant main effect for choice. In 2008, choice receiving schools demonstrated the highest mean, followed by non-choice participating schools, and lastly by choice sending schools. In 2010, the highest average mean scale score was demonstrated by non-choice participating school, followed by choice receiving, then choice sending. It is noted that there is no statistical difference between choice receiving and non-choice participating so relative order is not that important.

The finding that choice sending schools have the lowest mean is not surprising, since choice sending schools did not may AYP. Regardless of school setting, Whites were consistently the highest achieving of all the races at all three schools. Blacks and Hispanics alternated in their relative position to White students in the school settings, but Black and Hispanic mean performance differences were not statistically significant from each other. Also not surprising was the statistical difference between non-choice participating schools and choice sending schools for both 2008 and 2010. There was a statistically significant difference between choice receiving and choice sending schools; and a statistically significant difference between non-choice and choice sending schools for both years. There was no statistical difference for 2008 or 2010 between non-choice participating schools and choice receiving schools.

Many NCLB detractors have charged that students left behind in the choice sending schools find their opportunities for success diminished further, and the school less likely to succeed (Gamoran, 2007). Across the nation, this charge has been validated by the continuous increase in the percentage of schools that fail AYP (Center on Education Policy, 2011b, 2011c). Additionally, because over half the states, including Georgia, have used a *backloaded* approach to reach 100% proficiency by 2013-2014 many fear this number will increase each year (Center on Education Policy, 2008a; U. S. Department Of Education, 2010). The Georgia Department of Education (2010) substantiates this fear with reports that the number of Georgia middle schools that have failed to make AYP continues to increase yearly. This would indicate that choice-sending schools in MCSD would continue to fail, and additional schools would be added to the failure list as AMO increases.

Conversely, this study indicates the number of schools in MCSD that are designated as school choice and failing AYP has decreased over time. This indicates that the MCSD is providing instructional interventions that are working to a greater degree than is demonstrated in the state of Georgia, or in the country. It also indicates that the MCSD is providing instructional strategies for schools that are at risk of failing since only one additional middle school failed AYP after the initial group in 2005.

NCLB school choice did not begin in the MCSD until the 2004–2005 school year. This was the first year after the passage of NCLB that schools would have been labeled as failing due to not meeting AYP for three years. In 2005, seven schools were designated as failing and were required to offer school choice. In school year 2007–2008, the same seven schools were still designated choice sending schools, and an

additional school was added for a total of eight schools. In school year 2009–2011, the original seven choice designated schools made AYP for two consecutive years allowing them to drop the choice sending status. The school that was added in 2007-2008 has not made AYP and is still designated as a choice sending school for the 2011-2012 school year.

As indicated previously, removing schools from failing status and reducing the number of schools must provide school choice is not the pattern that is demonstrated across the country. The state of Georgia has been recognized by the Center for Education Policy (2009a) for providing intensified support to guide improvements and for providing expanded staff development training for failing schools and feeder schools. Moreover, the state of Georgia allows schools closer to making AYP more autonomy in crafting their corrective action plans (Center on Education Policy, 2009a). The reduction in the number of schools designated as a needs improvement school in the MCSD indicates that the instructional strategies utilized by the MCSD have been effective.

Researchers have questioned the affect of school choice on the choice receiving school since test scores could be lowered after receiving students from failing schools (Kim & Sunderman, 2005). The choice receiving school could be negatively affected from the increase in the subgroup population resulting in a subgroup counting towards AYP when previously the subgroup did not contain enough students to count. Moreover, the receiving school could be negatively impacted from lower student performance, especially if the receiving school was close to failing AYP.

This study indicates that school choice did not significantly impact choice receiving schools in mean scale score achievement as compared to non-choice



participating schools in the MCSD. This does not mean there was no effect; it means the effect was not enough to statistically impact the scores to cause the school to fail, or to perform below non-participating choice schools. The school system examined is a very large school system, which allowed the MCSD to change schools that receive choice students. The movement of choice students to different schools approximately every two years made trend line analysis difficult to measure. However, the change in choice receiving school designation may have assisted the county in minimizing the negative impact on student achievement scores on choice receiving schools. Many school systems are small in comparison and as a result have few schools available to become a choice receiving school. Nationally, NCLB school choice has been difficult to manage since some school districts are too small to allow any school choice. Additionally, some school districts in the United States report that most schools are failing or about to fail AYP negating the benefit of providing school choice in those districts.

### *Conclusion*

The null hypothesis  $H_{01}$  is rejected. This study indicates that student achievement has increased steadily since the onset of NCLB in 2002–2007 and 2008–2011 on mean scale score for all subgroups, White, Black, and Hispanic. However, the achievement gap did not close between Whites, Hispanic, or Black students as measured by mean scale score and statistical significance. Even though it is noted that gains have been recorded for all subgroups, the gains in mean scale score for Hispanic and Black students was not great enough to compensate for the impressive lead that White students demonstrate on average mean scale score on the eighth grade math CRCT.

The null hypothesis  $H_{02}$  is partially rejected based on statistical significance. The null hypothesis for *meets* is partially rejected for 2002–2007 based on the main effect of race statistical significance. Student achievement did not increase over time in the *meets* mean proportion, and there was a reverse achievement gap. Furthermore, the achievement gap demonstrated for *meets* proficiency was opposite than what was recorded for mean scale score or *exceeds* proficiency between Black and White students. It is also the only time a gap was noted between Black and Hispanic students. The null hypothesis for *meets* is accepted for 2008–2011 since no statistical significance was demonstrated between years, race or for year by race interaction. This finding is significant and demonstrates that the achievement gap is closing, at least in the *meets* category. The null hypothesis for *exceeds* is rejected due to the statistically significant achievement gap recorded between Whites and Blacks and Whites and Hispanics. All subgroups increased in achievement, but the achievement was not enough to close the gap between subgroup performances in *exceeds*.

The null hypothesis  $H_{03}$  is rejected for 2008 and 2010 due to the achievement gap demonstrated between Whites, and Blacks and Whites and Hispanic students. It is also rejected due to the achievement gap between choice sending schools and choice receiving schools and between choice sending schools and non-choice participating schools. It is noted that the interaction between race and school choice designation was not statistically significant and that all students increased achievement in *exceeds* overtime.

#### Limitations

This study is limited to one large school district in the Southeast and the findings may not be generalizable to other school districts or states. States and local school

districts have different policies, procedures and accountability measures in response to the NCLB Act. The findings of this study are also limited to eighth grade math CRCT and it cannot be determined if the results would be the same for other grade levels or subjects. Furthermore, since all schools participated in the NCLB guidelines, there is not a control group to compare results. It is recognized that tests are not a perfect measure of student achievement, and many factors can influence student achievement results. Test results can be influenced by the length of time the test has been used to measure achievement, or by the adjustment in teacher instruction.

Another limitation of any study is that disaggregated results by race can hide the differences between the students within the ethnic group. Immigrant students that do not speak English will score lower on the CRCT than a student from an affluent family that is the third generation to immigrate to this country (Center on Education Policy, 2010b). Additionally, several school achievement results were not calculated in the study because they did not have enough Hispanic subgroup data each year to compare. Therefore, several high performing schools were eliminated from the study.

Due to the variation in the number of students that participate in school choice, trend line data of the affect of NCLB and school choice provision on student achievement and the student achievement gap is difficult to collect. The MSCD rotates the schools that are designated as choice receiving schools approximately every two years; students who are already attending may continue to attend, but only siblings are allowed to enroll after the choice designation is withdrawn. The majority of students choose to participate in school choice in sixth grade. Middle school is comprised of three grades—sixth, seventh, and eighth grade. As sixth graders are promoted to eighth grade, the MSCD

changes the schools that are designated as NCLB choice receiving schools.

Consequently, there is limited time available to study eighth grade students in sufficient numbers in choice receiving schools. Finally, NCLB allows states to create their own standardized tests to measure student achievement and also allow them to set their annual measurable objective; therefore, student achievement results are difficult to compare across states.

### Recommendations for Policy or Practice

This dissertation presented a history of the United States public education system to provide a background for the current educational environment and help aid in the understanding of the public's drive for educational reform. To understand the present or plan for the future historical context is necessary and beneficial. By examining the purpose of the public education system, our pathway will become illuminated and our steps more certain. The results of this study will inform the public if accountability measures and the educational reform enacted for the last ten years has increased student achievement or impacted the student achievement gap. Lessons learned from NCLB are important to glean since local, state and federal governments are currently developing new education policy and accountability measures. These policies will affect individuals and the nation's economic future.

As described in the literature review, the purpose of public education in a democratic society is to prepare citizens to become self-governing, to develop political tolerance, reduce inequalities, to develop a moralistic society and to promote economic well-being (Brown, 2004; Center on Education Policy, 2005; Godwin & Kermerer, 2002; Kober, 2007; Rose, 2009; Rothstein & Jacobsen, 2006). When you understand the

purpose of education, curriculum goals will not be narrowed to only reading and math. It becomes obvious that the knowledge vital to be a critical thinker and an informed citizen requires other subjects such as social studies and science. It would be laughable to imagine you could understand the political frame without the knowledge of social studies. It is also obvious that to provide equality and upwardly mobile citizens that students must be engaged in learning that includes music, art, and physical education. A citizenry that has poor physical conditioning and poor health habits result in individual pain and suffering, but also impacts society from increased health care costs. Physical education facilitates learning, relieves stress and anxiety, provides students a different opportunity for success, and helps to prepare the brain for learning.

Furthermore, many studies have indicated that students that are involved in music and art programs exhibit higher academic achievement. The concept of transfer, in which learning in one context assists with learning in a different context, applies when students are involved in a variety of activities—a well-rounded child will think more critically and make better decisions than one that is limited in his or her views and experience. The cumulative effect of transfer, depth of knowledge, and experience accrue overtime and lead to innovation. Steve Jobs is a case in point—when asked how he developed the wonderful products he is famous for, he spoke about a calligraphy class that influenced him in the design of the Apple computer and the need for beautiful typography (Jobs, 2005). If Steve Jobs had not studied calligraphy for 18 months at Reed College, would we have the innovative products such as iPad, iPhone, or the Macintosh computer that marry aesthetics, business application and art? Without his appreciation for the arts

would we have cutting edge animated movies such as *Toy Story*? Steve Jobs said it best in his commencement speech at Stanford University:

I learned about serif and sans serif typefaces, about varying the amount of space between different letter combinations, about what makes great typography great. It was beautiful, historical, artistically subtle in a way that science can't capture. When we were designing the first Macintosh computer, it all came back to me. And we designed it all into the Mac. It was the first computer with beautiful typography. If I had never dropped in on that single course in college, the Mac would have never had multiple typefaces or proportionally spaced fonts. And since Windows just copied the Mac, it's likely that no personal computer would have them. (Jobs, 2005)

Steve Jobs sentiments say it more eloquently than I ever could profess, that all learning is important, and by combining student interest with academic excellence student success can be achieved for all. We are a sum of all of our parts, and should not be measured only by our ability to read, or only on our ability to calculate mathematical equations.

#### *NCLB Accountability*

This study is a cautionary tale, about the reliance on one test to measure achievement, and the danger of setting unrealistic goals that are tied to ever increasing sanctions for failure. Many have charged that due to the NCLB act onerous sanctions and the requirement for 100% proficiency by 2014 has caused the curriculum to narrow in focus and states to lower testing standards (Obama, 2011; Ravitch, 2010a). Numerous teachers and administrators from several states have been charged with cheating in order

to meet the ever-increasing demand of student achievement growth dictated by NCLB (Badertscher, 2011; McNeil, 2008; Office of the Governor: Special Investigators, 2010; Sarrío, 2010). But not all news concerning NCLB is dire. Many studies have indicated that student achievement has increased during the NCLB era, and NCLB has been recognized for disaggregating data in order to understand subgroup performance (Center on Education Policy, 2009a, 2009b, 2011a). Prior to NCLB, student achievement data was based on school-wide averages, which masks problems in subgroup performance.

The management adage, you cannot manage what you do not measure, is very true. But, it is also true that you must be sure you are not measuring one index to the exclusion of other important indices. It is recommended that future educational policy continues to support the disaggregation of student achievement data; however, that all academic subjects are evaluated rather than only reading and math.

#### *NCLB Waiver*

The NCLB act was due for reauthorization in 2007, but congress has failed to take action. Consequently, President Obama requested for states to apply for waivers from the NCLB regulations in September 2011. In a press conference, Obama (2011) praised NCLB for bringing the nations attention to subgroup performance and for holding states and schools accountable for student achievement. However, he also stated that NCLB had narrowed the curriculum, and lowered standards in order to meet arduous student achievement goals. He chided Congress for not acting on the reauthorization of ESEA, and requested for states to apply for waivers from NCLB regulations. The purpose of the waiver is to give states more flexibility to enact innovative approaches for student

success, to broaden the subjects schools are held accountable, and to lessen the dependence on one measure to determine AYP (Obama, 2011).

In February 2012, Obama granted waivers to Georgia and nine other states. Several more states are waiting for approval (Badertscher, 2012). Georgia, Florida, and Oklahoma have conditional waivers for one year since they have not completed all requirements of the waiver. States on provisional status will have to reapply when all aspects of the waiver application is complete. The waiver still requires standardized test scores to be examined in order to determine adequate yearly progress, but additional indices have been added to determine achievement status. To receive the waiver states must implement three key elements (a) college-and career-ready standards and assessments; (b) systems of differentiated recognition accountability, and support; and, (c) a method to evaluate teacher and principal effectiveness and support improvement (U.S. Department of Education, Office of Planning, Evaluation and Policy Development, 2011). The waiver will give states more flexibility on how funding sources are applied. School tutoring will be locally controlled, and outside providers will not be required. School choice provisions of NCLB will not be enforced, and it will be left to the local school system whether to continue the practice.

The NCLB act labeled schools as passing, needs improvement, or failing based on AYP status. The waiver will change these labels to reward, focus, or priority schools. To determine the school's status, achievement data will be used from all core content areas, attendance, graduation rates, and the score on college readiness index. Reward schools are the highest-achieving schools that serve low-income students that demonstrate the greatest student progress; priority schools are the bottom 5 percent; focus



schools have either low graduation rates, large achievement gaps or low subgroup performance. Interventions from the state will be provided for schools that have wide student achievement gaps or low scores (U. S. Department of Education, Office of Planning, Evaluation and Policy Development, 2011).

Under the waiver, Georgia officials have agreed to implement a new school rating system that will judge schools on a wide variety of factors, including test scores, attendance, and college-readiness. Georgia has received a provisional status waiver because they do not have a college readiness index established and the state is in process of developing a teacher evaluation system tied to student achievement data. The principal and teacher evaluation system must include student progress over time and multiple measures of professional practice. The evaluation instrument must also include clear feedback for teachers on how to improve their instructional practice.

Georgia, like many states, applied for and was granted Race to the Top funds. Like the waiver from NCLB, Race to the Top requires teacher evaluation to be tied to student achievement. The difficulty of developing an evaluation instrument tied to student achievement is evidenced by Georgia's attempt. Originally, Georgia planned on piloting their new evaluation instrument in 26 school districts but is now scaling back its pilot program to evaluate only 5,800 teachers rather than the original 47,000 as planned (Badertscher, 2011). Georgia indicated they would be better prepared to assess the evaluation instrument on a smaller scale noting the complexities of developing and evaluating the effectiveness of the instrument (Badertscher, 2011).

Teachers and administrators in Georgia are concerned about the prospect of being evaluated based on student achievement, especially in light of the Atlanta Public School

cheating scandal. Georgia also must develop a new state test that incorporates the ability to compare test scores from year-to-year. Currently, the CRCT is not vertically scaled; therefore, test scores cannot be used to measure student year-to-year growth. Race to the Top and the waiver to NCLB require a value-added measure to determine teacher effectiveness.

### *Recommendations for Policy*

This study has highlighted the effect of using standardized testing and an analysis of subgroup performance to evaluate student achievement. A positive outcome to NCLB is that we have a better understanding of subgroup performance. However, the cheating scandal in Atlanta Public Schools and other districts and states is a warning to individuals, states, and the federal government concerning tying student performance to teacher evaluations. It is my hope that the public understands the danger inherent in holding teachers and administrators accountable for society problems beyond their control. Teachers can make a difference in a child's life, but they cannot take the blame for all problems in society. As history has demonstrated under the onerous guidelines of NCLB, if the accountability measure is impossible to meet, and reputations and livelihoods are held in the balance, students that need the most assistance may suffer from lowered standards or by outright cheating and neglect (Badertscher, 2010, 2011; Gillium & Bello, 2011).

School choice policies are being decided each day throughout the United States. Policy makers must understand that the public education system cannot continually bear the burden of solving society's problems while being stripped of funding. Many people are clamoring for an alternative to the public school. However, it is my belief that all

schools should be held to the same standards and testing requirements as public school if they receive any funding from the local, state or federal government. Public schools educate all students whereas private and charter schools may pick and choose their students leaving the public school at an academic and economic disadvantage.

Private schools are not required to follow testing guidelines, but lobby to receive funding through vouchers. Charter schools rob public schools of FTE funding, and many studies have proven at best they emulate public school performance, and at times, the charter school performance is less effective than public schools (Duncan, 2009). As history has shown, the public school system of the United States has grappled with and addressed the issues of equality, equity and access since its inception. If we keep whittling away at public school support and funding—the achievement gap will become larger, rather than smaller. Especially since charter schools and private schools are not required to teach all students, only the students they choose to enroll.

In conclusion, when developing educational policy we cannot afford to forget the lessons learned through NCLB. We must make sure that we close the student achievement gap while setting realistic measures, and establish rewards and interventions that address the needs of the *whole* child toward that purpose. In life, we use our combined experiences and knowledge to create solutions to problems—regardless of our position or employment. The world’s problems are complex and to be a world-leader the United States needs citizens that have a wealth of knowledge to draw upon to create solutions. This knowledge base needs to be deep and not filled with rote knowledge devoid of real-world application.

### *Recommendations for Practice*

Forty-eight states have agreed to develop common standards in math and literacy, with only Texas and Alaska dissenting (Phillips & Wong, 2010). The goal of the Common Core Curriculum is fewer standards that require students to use critical thinking skills. The framework includes three parts: (a) content and skills; (b) core cognitive skills of problem solving, reasoning, and collaboration; and (c) an assessment system that links all of the parts together (Phillips & Wong, 2010). The Common Core Standards are research and evidence based, aligned with college and work expectations, and is rigorous and internationally benchmarked. Teachers need to embrace the guidelines of the Common Core State Standards and make learning authentic with real-world connections.

Even though the public views public education as a failure that needs to be reformed, this study and many others indicate that students are making gains in achievement. However, the student achievement gap is not decreasing due to the wide gap between Whites and minorities. Even though Black and Hispanic students are making more gains than White students in achievement overall, the gap between Whites and minorities is very large and difficult to close. To close the achievement gap extraordinary measures need to be taken, and the key to lessen this gap is the teacher.

Educational research has discovered that an effective teacher is the best weapon against poor student achievement (City, Elmore, Fiarman, & Teitel, 2009; Dufour & Eaker, 1998; Schmoker, 2006). William Sanders value-added study (Sanders & Horn, 1994, as cited in Schmoker, 2006) found that three years of effective teaching can close the achievement gap and increase student achievement by 35–50 percentile points, regardless of the student's socio-economic status. Teachers should participate in

Professional Learning Communities in conjunction with teacher rounds to focus on exemplary instructional practice, which will affect the instructional core of the school (City et al. 2009; Dufour & Eaker, 1998). Schools should use self-reflection and self-assessment to improve student self-efficacy and improve teacher instructional practice. Self-assessment leads to students having greater self-esteem and motivates them to learn. Frequent feedback is also necessary, especially for at risk students (Black & William, 1998; Guskey, 2003; Dufour & Eaker, 1998; Wiggins & McTighe, 1998).

John Dewey recognized in the early nineteenth century that student interest is important for student motivation and learning (Dewey, 1916). Student interest in a subject surpasses the effect of extrinsic rewards and other intrinsic motivation. Additionally, many research studies have linked authentic learning to student motivation and engagement (Schmoker, 2006; Wiggins, & McTighe, 1999). Students who find value in their work will retain the information longer and be able to transfer the learning to other contexts.

Teachers should incorporate authentic literacy as promoted by the Common Core State Standards, so students can analyze and justify their positions through writing, discussion, or debate. Educational experts have promoted authentic literacy as the key for equal citizenship (Ravitch, 2010a; Schmoker, 2006). Numerous studies (British Broadcasting Study, 2002 cited in Schmoker, 2006, p. 57), and experts (Delpit, 1995, as cited in Schmoker, 2006, p. 56) support the idea that students that can read, write, and discuss events from multiple perspectives and sources are able to make connections, recognize patterns, and as a result have greater economic success in life (Wiggins & McTighe, 1998). These attributes are all standards in the Common Core State Standards.

Ted Sizer (as cited in Schmoker, 2006, p. 61) claims that writing is an integral part of literacy and is the “litmus paper of thought.” By teaching all students how to read critically, write effectively, discuss and debate issues, students will be successful and learn the “language of the elite” (Schmoker, 2006). Ultimately, by incorporating higher-level thinking, critical reading and writing students will become informed citizens ready to take their place upon the world stage and the debilitating achievement gap will close.

#### *Recommendations for Future Research*

Due to the waiver for the NCLB act and the establishment of the Common Core State Standards, the following recommendations are made for future research:

1. To continue to disaggregate data based on subgroup achievement and examine whether the achievement gap is closing between or within student groups as measured by assessments developed for the Common Core State Standards.
2. To track individual students across time that participate in school choice to examine the effect of school choice on individual student achievement.
3. To monitor and examine the effect on morale and performance of administrators and teachers evaluated by observation instruments that are tied to student achievement.
4. To continue to study the effect of pay for performance on student achievement and on the behavior and actions of school employees.
5. To analyze the new requirements established by the waiver to NCLB on student achievement and the student achievement gap.

## Conclusion

The recognition of success, whether the success is small or large is a recurring theme in leadership books in order to effect change. I believe that success breeds success and a winning attitude coupled with a plan of action can overcome adverse situations. With this in mind, I would like to take this moment to celebrate the success MCSD has demonstrated in removing schools from the failure list and from reducing the achievement gap between student groups. It is recognized that the achievement gap is still large between Whites and both minority subgroups. However, as this research has highlighted, the *meets* proficient category displays no achievement gap between subgroups in 2008–2011 and the minority subgroups are increasing at twice the rate as Whites when *meets/exceeds* are combined. I implore the public and the media to highlight the positive aspects of public school with half the zeal that is used to report the negative affects of the public education system. With teamwork, effective instructional strategies and a winning spirit we can close the achievement gap in the United States.





## APPENDIX B

### UNIVERSITY IRB APPROVAL TO CONDUCT RESEARCH



**THE UNIVERSITY OF  
SOUTHERN MISSISSIPPI**

**INSTITUTIONAL REVIEW BOARD**

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

#### **NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

**PROTOCOL NUMBER: 11102401**

**PROJECT TITLE: The Impact of The No Child Left Behind Act  
and School Choice on Student Achievement**

**PROJECT TYPE: Dissertation**

**RESEARCHER/S: Wendy Pettett**

**COLLEGE/DIVISION: College of Education & Psychology**

**DEPARTMENT: Educational Leadership & School Counseling**

**FUNDING AGENCY: N/A**

**IRB COMMITTEE ACTION: Exempt Approval**

**PERIOD OF PROJECT APPROVAL: 11/01/2011 to 10/31/2012**

**APPROVED BY: Lawrence A. Hosman, Ph.D.  
Institutional Review Board Chair**

## APPENDIX C

### NOTIFICATION LETTER TO MIDDLE SCHOOL PRINCIPALS OF STUDY

November 4, 2011

Dear REDACTED:

The No Child Left Behind Act of 2001 (NCLB) is the reauthorization of the Elementary and Secondary Education Act and mandates that all students, regardless of their disability, language, race, or socio-economic status to reach 100% proficiency in English and math on a state created test by 2014 (U.S. Department of Education, 2007a). Due to the guidelines of NCLB, many middle school students that attend schools that do not make Adequate Yearly Progress (AYP) have been given the choice to attend other middle schools in the county. Whether school choice has impacted student achievement is important to investigate due to the increased pressure in the nation to provide an alternative to a public school education. Furthermore, there are conflicting reports as to the impact of NCLB school choice on student achievement, and the student achievement gap.

Many experts claim that NCLB school choice emphasizes basic proficiency to the detriment of student's ability to think critically and deemphasizes the quest for excellence. By the longitudinal examination of eighth grade math students Criterion Reference Competency Test results from 2002 through 2011 the question of whether the student achievement gap has been narrowed for the average and the advanced student will be answered, and if this impact is the same for choice receiving and sending schools. The study will also answer if the achievement gap is narrowing for Blacks, Hispanics and Whites at the same rate, or at different rates within and between groups.

This letter serves as notification that eighth grade math scores on the CRCT will be examined in MCSD from 2002-2011. The test scores will be obtained from the Georgia Department of Education Adequate Yearly Progress (AYP) website which is considered public domain. Additionally, the county will provide the number of students that have participated in NCLB school choice, the sending and receiving schools, and the mean scale score by ethnicity for eighth grade math for each middle school. To maintain the privacy and confidentiality of the school district and the participants, the individual schools or school district will not be identified and the county will be referred to as the Metropolitan County School District (MCSD).

This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

Your signature below indicates that you have read the information provided and understand that your school's eighth grade CRCT test scores will be examined from 2002-2011 to aid in the assessment of the impact of the NCLB Act on the student achievement gap. If further information is needed regarding the research study, you can

contact Wendy Pettett at REDACTED or at REDACTED. Additionally, please acknowledge the receipt of this letter by signing and returning through inner county mail addressed to Wendy Pettett at REDACTED, or by emailing REDACTED. Thank you for your cooperation in this study.

Signature \_\_\_\_\_  
Principal Date Middle School

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