FLORIDA CHARTER SCHOOLS: THE EFFECTS OF TYPES AND SOCIOECONOMIC STATUS ON ACADEMIC ACHIEVEMENT

by

Reginald Thompson

Liberty University

A Dissertation Presented in Partial Fulfillment

of the Requirements for the Degree

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Abstract

Descriptors: No Child Left Behind NCLB/Florida Comprehensive Achievement Test FCAT/Achievement tests/Free or Reduced Lunch/Title I/Minorities

No Child Left Behind (NCLB) was established in 2002 with the primary goal of closing the achievement gap between low socioeconomic students and their more advantaged peers. Charter schools are a part of NCLB's school choice policy and are intended to be a form of intervention to close the achievement gap. Much research has been conducted to measure charter school student achievement compared to regular public schools. But little has been done in distinguishing the differences between charter schools and their impact on student achievement. This quantitative study identifies the different types of public charter schools in Florida using Carpenter's (2006) typology study. Using multiple regression models, this study examines the relationships of their Florida Comprehensive Achievement Test (FCAT) school performance grades, percentage of students meeting high standards in math and reading, and three minority/SES measures. The findings show that there is a relationship between the above mentioned variables. They further show that overall traditional charter schools have a slight edge over progressive charter schools in academic achievement and that overall minority/socioeconomic status (SES) measures are a significant predictor of academic achievement for traditional and progressive charter schools in Florida.

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Table of Contents

List of Tables

Page

List of Figures

Page

List of Abbreviations

Adequate Yearly Progress (AYP)

Arizona Instrument to Measure Standards (AIMS)

Comprehensive School Reform (CSR)

Comprehensive School Reform Demonstration Program (CSRP)

Elementary and Secondary Education Act (ESEA)

Florida Department of Education (FDOE)

Florida Comprehensive Achievement Test (FCAT)

Free or Reduced Lunch (FRL)

National Assessment of Educational Progress (NAEP)

National School Lunch Act (NSLA)

National School Lunch Program (NSLP)

No Child Left Behind (NCLB)

Norm-Referenced Test (NRT)

Public School District (PSD)

Socioeconomic Status (SES)

Supplemental Educational Services (SES)

United States Department of Agriculture (USDA)

United States Department of Education (USDOE)

United States Department of Housing and Urban Development (HUD)

Variance inflation Factors (VIF)

CHAPTER ONE: INTRODUCTION

A primary goal of the No Child Left Behind Act (NCLB) of 2002 is to address performance gaps due to socioeconomic disadvantages in all public schools that are federally funded (Zhang, 2009). Standardized testing is emphasized by NCLB as the primary means of evaluating student academic performance and achievement. This goal has led to all states developing instructional programs to address the achievement gap between low and high socioeconomic status (SES) students. There have been a number of studies to evaluate the effectiveness of their efforts. Various studies show that the gap has been narrowed and some studies show the gap has widen. Some even show mixed results with no clear answers. For studies that show that the achievement gap has narrowed, researchers argue about validity of how it is measured. Some of the common SES measures used in research are percentage of minority, percentage of free or reduced lunch, student mobility, and Title I designation of a school. Further, some researchers argue that these are not true measurements of SES. But there is no real agreement on what SES measures should be used or how they should be defined. The above mentioned SES measures are commonly used because they are accessible' inexpensive to use, and tied to federal government guidelines (Harwell & LeBeau, 2010).

As a part of NCLB's school choice policy, charter schools were promoted as a way to close the achievement gap. Charter schools are tuition-free and come under the umbrella of the public school system, but are operated by private entities that trade school accountability for organizational autonomy (Florida Department of Education (FDOE), 2010). Many studies have examined academic achievement of charter schools compared to regular public schools, but not much has been done to evaluate academic achievement

among the different types of charter schools. Carpenter's (2006) created a charter school typology based on a survey of 1182 charter schools in five states and review of the literature to identify the five different types of charter schools: traditional, progressive, general, vocational, and alternate delivery (Carpenter, 2006). His typology was used in this research to identify the different types of charter schools in the Florida public school system. It was be used with measures of student achievement based on the Florida Comprehensive Achievement Test (FCAT) school performance grades and compared to three minority/SES measures: percentage of minorities, percentage of free or reduced lunch students, and Title I/non-Title I school designation. His typology is useful for measuring student achievement among the different types of charter schools and its effect on the achievement gap.

Statement of the Problem

Billions of dollars have been spent on NCLB's efforts to narrow the achievement gap between low-SES and high-SES (Gorey, 2009). NCLB is federal policy in every state and has as one of its primary goals to close the achievement gap between disadvantaged students and more advantaged students. Every leader, politician, educator, and all stakeholders are in agreement that this is a major problem for schools in every state of America. As one form of intervention, the charter school movement is rapidly growing and research has shown mixed results as to whether they are outperforming regular public schools (Braun, Jenkins, Grigg, & Tirre, 2006). Research has shown that charter schools are very diverse and there is not enough empirical evidence to show which type is performing best. There have been recent attempts to classify charter school by type but there is not enough research on student achievement among them. This study

will fill the gap in literature by examining the effects of minority/SES factors on student achievement in the different types of charter schools in Florida public school system.

Statement of the Purpose

Closing the achievement gap is a primary concern to educators, politicians, parents, employers in the workplace, and others (Yaffe, Coley, & Pliskin, 2009). The purpose of this paper is, using multiple regression, to examine how three minority/SES factors (percentage of minorities, percentage of reduced or free lunch, and being a Title I school) predict academic achievement (FCAT school performance grades and percentage of students meeting high standards in reading and math) in two types of charter schools (traditional and progressive). For the purpose of this study, only traditional and progressive charter schools were examined. The sample size was too small for general, vocational, and alternate delivery charter schools. Only charter schools in Florida who participate in the FCAT testing will be used in the study.

Significance of the Study

A review of the literature indicates that educators, politicians, and other community leaders are all focused on closing the achievement gap being one of the primary goals of the NCLB (Zhang & Cowen, 2009). By identifying charter schools by Carpenter's (2006) typology and examining student achievement among them, a blue print can be set for other school systems to measure student achievement among their own charter schools (Carpenter, 2006). By examining their relationships, it can be determined which charter school intervention works best and what affect they have on closing the overall educational achievement gap.

Research Questions

FCAT school performance grades in Florida were implemented as a part of NCLB's efforts in closing the achievement gap. The Florida Department of Education (FDOE) website lists three primary SES factors on their website: percentage of reduced or free lunch students, percentage of minorities, and Title I/non-Title I designation. Charter schools were implemented by NCLB as an intervention to help close the achievement gap.

The following are research questions addressed in this study;

RQ1: Is there a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ2: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ3: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ4: Is there a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ5: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ6: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ7: Is there a difference between the three traditional charter school regression models of and the three progressive charter school regression models.

Hypotheses

Most studies show that students' low-socioeconomic status has an adverse effect on their educational outcomes. Charter schools were implemented as an intervention to help close the achievement gap. There is debate among educators on whether charter schools are performing better than regular public schools on standardized testing. However, there is not enough research on how to characterize charter schools by type and

determining how their academic achievement is affected by minority/SES factors. The null and alternate hypothesis to the above mentioned research questions are:

The Null Hypotheses:

$H1_0$: There is no relationship between traditional charter schools in the Florida public school system's FCAT school performance grades and three minority/SES related demographic measures.

$H2_0$: There is no relationship between traditional charter schools in the Florida public school system's percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H3_0$: There is no relationship between traditional charter schools in the Florida public school system's percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H4_0$: There is no relationship between progressive charter schools in the Florida public school system's FCAT school performance grades and three minority/SES related demographic measures.

$H5_0$: There is no relationship between traditional charter schools in the Florida public school system's percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H6_0$: There is no relationship between traditional charter schools in the Florida public school system's percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H7_0$: There is no difference between the three traditional charter school regression models and the three progressive charter school regression models.

Identification of Variables

In this study the criterion variables is the FCAT school performance grades, percentage of students meeting high standards in reading, and percentage of students meeting high standards in math. The predictor variables are the three minority/SES measures: percentage of minorities, percentage reduced or free lunch, and Title I /non-Title I designation.

Definition of Terms

FCAT (Florida Comprehensive Achievement Test) – The FCAT is designed by the state of Florida to improve student achievement. Students between grades 3 and 11 in all Florida public schools are required to take this test. The FCAT SSS measures a student's performance in reading, writing, mathematics, and science according to the Sunshine State Standards. The norm-referenced test (NRT) compares the performance of students across the nation in reading and mathematics (Dade County Public Schools, 2009).

SES (socioeconomic status) – "a shorthand expression for variables that enable the placement of persons, families, households and aggregates such as statistical local areas, communities and cities in some hierarchical order, reflecting their ability to produce and consume the scarce and valued resources of society" (Hauser & Warren, 1997, p. 178).

AYP (adequate yearly progress) – individual states define AYP in accordance with the United States Department of Education's guidelines that require uniform applicability to schools and students, schools demonstration of continuous and substantial improvement, progress measured by assessments that have statistical reliability and validity, and data that disaggregates according to student subgroups (US Department of Education (USDOE), 2004, p. 1446).

Title I – Implemented as a part of the Elementary and Secondary Education Act of 1965 to meet the special needs of educationally disadvantaged children. State and local education agencies receive financial assistance through Title I (Borman, & D'Agostino, 1995, p. 309).

Free or reduced lunch – President Harry Truman signed the Richard B. Russell National School Lunch Act (NSLA) into law in 1946. The NSLA has as its goal to provide a low-cost healthy meal, promoting the health and well-being of children to improve academic achievement (Harwell & LeBeau, 2010).

NCLB (No Child Left Behind) – The Elementary and Secondary Education Act (ESEA) of 1965 was reauthorized in 2001 as No Child Left Behind Act of 2002. The purpose was to address performance gaps to socioeconomic disadvantages in all public schools that are federally funded (Zhang & Cowen, 2009, p.24).

Charter school – "Charter schools are tuition-free public schools created through an agreement or "charter" between the school and the local school board or a state university." (FDOE, 2010).

Organization of the Study

The study is composed of five chapters, and a bibliography. The introduction is Chapter One which includes the statement of the problem, statement of the purpose, hypothesis, and definition of terms. Chapter Two is an extensive review of the literature on socioeconomic effects on educational achievement, the achievement gap, and charter schools. Chapter Three discusses and details the methodology and the research design of the study. Chapter Four is a presentation of raw data results collected from the FDOE web site, individual charter school websites, and other sources of information. Chapter

Five consists of the summary, discussion, limitations, recommendations for further research, and conclusions. The study concludes with References and Appendices related to the study.

Assumptions and Limitations

A review of literature shows that low socioeconomic status has an adverse effect on academic achievement. Although there is debate on how to define socioeconomic factors, numerous studies use percentage of minorities, percentage of students with free or reduced lunch, and Title I designation as measurements which will be used in this study. Charter schools are very diverse in their approaches and missions. The research conducted on typology of charter schools has been very limited. This study will focus on Carpenter's (2006) typology: traditional, progressive, general, vocational, and alternate delivery. This study is limited to charter schools in the Florida public school system and is not necessarily representative of other school districts across America, can be compared to other charter school systems in the United States. Broward County and Miami Dade County which has the majority of charter schools in Florida are large major school districts in America. These two counties also have a large population of Hispanics and African Americans which reflect the two largest minority populations in the United States.

CHAPTER TWO: LITERATURE REVIEW

There has been extensive research completed on the effects of low socioeconomic status and educational (SES) outcomes. Research literature has established that students and schools of low-SES do not perform as well on standardized tests as their more privileged peers (Perry & McConney, 2010). The narrowing of the academic achievement gap between low and high-SES students is the focus of much research and educational programs. Low-SES is mostly comprised of disadvantaged minorities, because of this, they tend to be the focal point of most research which shows that low SES has adverse effects on grade retention, achievement test scores, and educational outcomes, and high school graduation rate (Rouse & Barrow, 2006). SES is not clearly defined and agreement on how to assess and measure it is unclear. This literature review examines three socioeconomic factors that are commonly used in research at a school: percentage of minorities, percentage of free or reduced lunch, and Title I/non-title I designation. Literature will be reviewed on the No Child Left Behind act (NCLB) of 2002, achievement tests, and SES and educational outcomes to factors that are related to closing the achievement gap. Finally, charter schools will be addressed in this literature review as a form of intervention to close the achievement gap.

No Child Left Behind

The general public was very dissatisfied with quality of public education in the United States. As a result, the Elementary and Secondary Education Act (ESEA) of 1965 was reauthorized in 2001 as NCLB. The purpose of the act was to address performance gaps due to socioeconomic disadvantages in all public schools that were federally funded (Zhang & Cowen, 2009). This brought about a change in educational thinking that

gradually built throughout the 1990s and eventually led to President George W. Bush signing the federal NCLB bill in 2002. Both Democrat and Republican congressmen in a bipartisan effort supported this bill. The policy requires students of all socioeconomic levels achieve a fundamental level of proficiency on state standardized achievement tests by 2014 (Borg, Plumlee, & Stranahan, 2007). Another requirement of NCLB is that academic content be challenging and all children have established achievement standards for every school. The requirements, beginning in 2005-2006, called for mathematics, reading, and science to exhibit that all children have the same expectations in skills, knowledge, and achievement levels (USDOE, 2004, p. 1446).

The elimination of inequity in the United States' public education system is the overall goal of the NCLB Act of 2002 (Zhang, 2009). Many children were ill-equipped to succeed in today's job market because of deficiencies in basic math and reading skills in the public education system. To address the need, one of the primary objectives of NCLB is to hold public schools accountable and improve the academic performance of their students (Borg, Plumlee, & Stranahan, 2007). To hold schools accountable, NCLB established a system of school accountability and created unprecedented federal regulations (Zhang, 2009). The performance of students was measured by assessments achieved through standardized testing. Public schools are held accountable through assessments that are approved by the federal government and based on results. With an objective to ensure that *no students are left behind*, assessment results by states are mandated by NCLB to disaggregate ethnicity, race, of poverty level, limited English, and disability (USDOE, 2001). The assessments identify schools that do not make "adequate yearly progress" (AYP) which are then given an opportunity to improve (Dahmus, 2003).

AYP is defined by the individual states with certain guidelines established by NCLB. The guidelines established by the USDOE require that there is uniform applicability to schools and students; schools demonstrate continuous and substantial improvement; progress measured by assessments has statistical reliability and validity, and data disaggregate according to student subgroups (USDOE, 2004, p.1446). Over time, if AYP is not met by a school, it is disciplined by various sanctions which could include students going to better schools at the public's expense (private or public). Additional funding is given to schools that perform well as reward and positive incentive (Dahmus, 2003).

The accountability of public schools in America is controversial. Some scholars say that there are adverse side effects due to the emphasis on school accountability. They argue that some students need remedial classes as a prerequisite for college because states lower the proficiency-score cutoffs for political reasons. Rather, because the curriculum is being narrowed for math and reading, the needs of disadvantaged students are not being met. Teachers cannot tailor their instruction to help failing students (Yaffe et al., 2009). Even though the intentions of NCLB are good, some educators believe that there are widespread concerns particularly among schools with a high proportion of students from low-income families. They believe that educators are being held accountable for disadvantages beyond their control (Zhang, 2009). Determining whether NCLB emphasis on accountability is helping or hurting the effort to close the achievement gap, is truly a complicated issue. Some educators believe that NCLB's greatest contribution on this issue is that it brings a spotlight on the achievement gap. Now students who have been struggling can get the help that is needed (Yaffe et al., 2009).

Harris (2007) believes that there is a tendency for schools to focus on learning level due to NCLB rather than a preferred emphasis on learning gains. The current system fails to reward schools who make substantial gains. While NCLB is designed to set high standards in order to help low-SES students catch up, it causes some schools to adopt poor practices, making the process counterproductive for the long term. But Harris (2007) believes that the additional school resources is a benefit to disadvantaged students and contributes to the closure of the achievement gap (Harris, 2007).

In the framework of the NCLB Act, Zhang, and Cowen (2009) explored the environmental inequities of public school choice in South Carolina and examined different aspects of academic achievement. The results showed low-SES public schools with large minority enrollments in all settings are more likely to be labeled "in need of improvement" (Zhang & Cowen, 2009). The state of Florida, like many schools and districts across the nation are struggling with the consequences of NCLB. With the goal of NCLB being to narrow the achievement gap by 2014, Florida has failed to make AYP since the inception of the NCLB act of 2001 (Simon, 2010). It is failing largely due to the performance of African Americans, Hispanics, low-SES students, and students with disabilities. This failure is happening despite Florida's above average compliance with federal guidelines (Quality Counts, 2010). The state of Florida and NCLB's accountability system were patterned after the Texas's system. This system has flaws, but is designed for all disadvantaged to achieve academic proficiency. Since Florida started in 1999 before the NCLB act, it can serve as an illustration to other states (Giambo, 2010). The results of Florida's school accountability program can bring understanding of high school graduation requirements resulting from the consequences of

NCLB and how it affects socio-demographic groups in a disproportionate manner (Borg et al., 2007).

Achievement Tests

All states have achievement assessments because of NCLB. These standardized tests are also characterized as high stakes testing. After the passage of NCLB, the number of state tests has increased tremendously. Graduation from high school and grade promotion are now being used frequently to make related high stakes decisions (Yaffe et al., 2009). There are three primary features of these high stakes tests. First, the testing of all students is being required by NCLB for school districts. Second, there is a heavy dependence on measuring academic achievement through the use of standardized tests. Third, a centralized educational system with rewards and punishments are being connected to student performance on standardized tests (Berlak, 2001). One example of an achievement test is the Arizona Stanford 9 Test. It focuses on mathematics in the middle grades and reading in the earliest grades. There has been some improvement in Arizona schools with regard to students from the lowest level being raised to high levels. There are still 25% of the students in this lower level, with the majority being English language learners (Analysis of Arizona Stanford 9, 2001).

Standardized testing has been placed by NCLB at the top of America's education agenda. Educators, reformers and policy makers, both liberal and conservative agree that there must be a closure in the achievement gap for America to remain a dominant economic force in the world (Yaffe et al., 2009). Some scholars believe that standardized tests have introduced an acceptance bias against females, African Americans, and Hispanics who are outperformed on standardized tests by White and Asian males

(Micceri, 2001). The use of standardized test scores was never meant to be an end in itself, but to be used as the gauge to measure school success. Its present use has distorted the educational system. Lauress L. Wise of the Human Resources Research Organization (HumRRO) spoke at a symposium and stated that the increased attention on the achievement gap has brought help to disadvantaged students and caused a closing of the achievement gap. Based on reports from the National Assessment of Educational Progress (NAEP), White-African American and White-Hispanic score gaps have narrowed (Yaffe et al., 2009). Gough (2001) believes that state tests are encouraging undesirable practices in schools because the tests have become more important than the standards they are designed to measure. Schools are too eager to hold students accountable without providing adequate support to disadvantage students (Gough, 2001).

According to Gorey (2009), based on the academic achievement test performance of African American and White children, there was a large gap that existed in America's schools in the 1960s. In Gorey's (2009) review, he showed that achievement gaps between the two races went from a half standard deviation in elementary to a full standard deviation by 12th grade. During the 60s with the advent of the war on poverty and Head Start, it narrowed only slightly. During the NCLB era, the previous gains seem essentially to have leveled off (Gorey, 2009). Parental, household, and neighborhood factors accounts for 25 to 50% of the African American-White achievement gap in America. School programs of a traditional nature have had a positive impact on closing cognitive gaps in these various socioeconomic factors but not race (Downey, von Hippel, & Broh, 2004; Entwisle & Alexander, 1994) (as cited in Gorey, 2009).

Brian Gong, the Executive Director of the National Center for the Improvement of Educational Assessment, believes that assessments can have a positive effect on narrowing the achievement gap, but not within the current structure, however he does not believe that the annual standardized tests should be thrown out. Gong suggests that the curriculum standards on which tests are based should be refined and developed to help teachers improve instruction which can lead to success in college and the workplace (Yaffe et al., 2009). Simon (2010) believes that many oppose standardized tests because they believe that it promotes the narrowing of curriculum. The extra time devoted to test preparation results in reduced time for academic learning. He wants all students to have an opportunity to learn the state curriculum and favors state level policies to ensure that it happens. Simon also places the burden of this responsibility on educators and administrators (Simon, 2010). NCLB's focus on reading and math scores, has caused some schools to focus their curriculum on the three R's, reading, writing and arithmetic, at the expense of subjects like physical education, art, and music. Another shortcoming of the school accountability system based on a single year-end test is that it does not give teachers day-to-day guidance on helping struggling students (Yaffe et al., 2009).

Since achievement tests are supposed to be designed to prepare students for skills in college and the workplace, some studies have examined the differences and compatibility of achievement tests with college admission tests such as the SAT and ACT (Geiser, 2009). A ten year study was conducted at the University of California by Geiser (2009). His study concluded that a student's success on achievement tests along with grades and curriculum mastery predict success better that general reasoning tests like the ACT and SAT. His study also concludes that achievement tests are fairer to minority,

low-SES, and disadvantaged applicants. Geiser believes that achievement tests positively reinforce the teaching and learning of a rigorous academic curriculum and the SAT which does not focus on curriculum does not predict student performance adequately. The SAT and ACT have traditionally been relied on to select students for college. Because of NCLB emphasis on achievement tests, studies are now being conducted on whether they can be used in place of the SAT and ACT admission tests (Geiser, 2009). Cimetta, D'Agostino, and Levin (2010) conducted a study that compared the Arizona Instrument to Measure Standards (AIMS) high school tests to college admission tests to determine which one can better predict college academic performance. Their study concluded that students that took the AIMS test along with high grade average and students who took the SAT accounted for the same proportion of variance. In addition, Caucasian, Asian American, and Hispanic students were basically equal on the AIMS and SAT in predictive value. The results of this study shows achievement tests in high school are a better predictor of college success than college admission tests (Cimetta et al., 2010).

The state of Florida uses the FCAT (Florida Comprehensive Achievement Test) as its statewide assessment. Their school accountability system is called the Florida A+ program. Decisions about grade promotion, high school graduation, and retention are made through the Florida A+ program which consists of a series of standardized tests. It is also used to determine whether a school in Florida makes AYP. The FCAT exams consist of math, reading, and writing for students in grades 3 to 10 and must be taken by all public school students in Florida. Test results have consequences for both students and schools. To pass to the fourth grade, third grade students must earn a 2 on a scale of 1 – 5. Passing both the reading and mathematics sections of the 10^{th} grade FCAT is a

requirement for high school seniors to graduate (FDOE, 2005a) (as cited in Simon, 2010). The state of Florida uses FCAT results to assign school grades for accountability purposes. Schools are graded on a scale of A – F and must make at least a "C" to make AYP. The school performance grades are determined by the share of students who experience gains in their test scores and the share of students who score at high levels on the FCAT (Greene & Winters, 2010). As mentioned previously, Florida schools are consistent failures on making Adequate Yearly Progress (AYP) (FDOE, 2005d) (as cited in Simon, 2010). Students who attend Title I schools which serve the poor, low socioeconomic, disadvantaged, and minority students overwhelmingly are outperformed by more advantaged students. These students are comprised of disabled students, African American and Hispanic students, and English language learners (Simon, 2010).

In the Florida A+ program, one consequence for schools not making AYP and failing is that all the students in schools that consistently fail the FCAT are given the opportunity to transfer to a private school or another public school with the use of a voucher. A school is deemed chronically failing if it receives an F grade twice over a four year period. If a school improves their tests scores, this threat can be removed. It is designed to provide competition in an effort to motivate schools to improve (Greene & Winters, 2010).

Socioeconomic Status (SES) and Educational Outcomes

Most definitions of SES relate to resources and production. The household of a student who is considered low-SES is characterized by having less education and less income and occupational status as compared to high-SES student. Low-SES students have less resources and capital which are important ingredients for a student's

educational success (Harwell & LeBeau, 2010). When education research literature is examined, it "shows that a variety of variables have served as SES measures, including dwelling value neighborhood quality, race or ethnicity, parent income, teacher salaries, parent occupation, student mobility, home atmosphere, teacher estimates of student's SES, parent education, number of siblings, and student eligibility for a free or reduced price lunch" (Harwell & LeBeau, 2010). Harwell and LeBeau (2010) do not consider poverty or free or reduced lunch as an accurate measure of SES because it is more narrowly defined than SES and linked to income based federal government's poverty levels (Harwell & LeBeau, 2010). However, a study by Mickelson (2010) uses poverty as a SES measure when examining educational achievement. He also stated that there are numerous studies that use free or reduced lunch as a measure of SES (Mickelson, 2010).

Portes and Sensenbrenner (1993) theorize that when minority and/or immigrant children who mostly comprised low-SES develop in an environment with more ethnic social capital, their chances of success increase (Portes & Sensenbrenner, 1993). Baas, (1991) concluded that "the many factors that place young children at risk educationally include poverty, language barriers, learning disabilities, minority ethnic group membership, or a combination of such factors" (Baas, 1991) (as cited in McCollum, McNeese, Styron, & Lee 2007, p.1). Ross, Smith, Slavin, & Madden (1997) stated that identifying realistic and successful means of reducing such students' chances of negative academic outcomes is a big challenge for educational researchers and practitioners (p. 171).

In the discussion of low-SES and educational outcomes, the topic of low-SES schools has to be addressed. Empirical studies have found that low-SES students who

attended high-SES schools perform better academically than low-SES students who attended a low-SES school, regardless of race. Several studies indicate that the academic performance of children, controlling for class and race, are reduced in schools with a large percentage of low-SES students (Goza & Ryabov, 2009). It is also well established in the research literature that on standardized tests of academic achievement, low-SES students and schools do not perform as well as high-SES students and schools (Perry & McConney, 2010, p.1137). A study by Rouse and Barrow (2006) shows that other educational outcomes that are affected by family socioeconomic status include exam scores, high school graduation rates, grade retention, and other educational outcomes (Rouse and Barrow, 2006).

Harris (2007) used census information about public schools in the United States to consider the likelihood that schools would become successful, identified as "high flyers". Sixty thousand schools were included in his study that examined academic achievement. He found that high-SES schools have a 22 time greater chance to reach high achievement than low-SES schools. He also discovered that there is an 89 time greater chance for high-SES with a low minority population to reach high achievement than low-SES schools with a high minority population (Harris, 2007). Results from another study by Zhang and Cowen (2009) measured academic achievement through the use of multiple regression and independent samples *t*-test. They found that academic achievement is sensitive to poverty level, teacher turnover, and neighborhood SES (Zhang & Cowen, 2009).

Teachman (2008) found that there is a strong bi-variate relationship between educational well-being and a student's living arrangements. It was found that children

who lived with biological parents experienced less turbulence than children who lived in alternative families. The more turbulent environment has an adverse and negative effect on a child's school engagement and participation in school extracurricular activities. In parenting context, children living with married, biological parents participated more in religious and community groups and were less likely to suffer from poor mental health. In economic resources, it was found that children who live with alternative families have a greater chance to be victims of financial hardship (Teachman, 2008).

In 1994, Ferryman, Briggs, Popkin, and Rendon (2008) conducted a three city study of the Moving to Opportunity for Fair Housing Demonstration (MTO). Five major cities: Chicago, New York, Baltimore, Los Angeles, and Boston were included in this initiative by the U.S. Department of Housing and Urban Development (HUD). It was designed to help families improve educational outcomes and employment by relocating them from disadvantaged environments. The families targeted, lived in high poverty, high-crime areas, and public housing. The goal was to have access to better schools, city services, and economic opportunities. Results from an initial study of families in Baltimore and Boston showed that there was significant improvement in school quality (Ferryman et al., 2008).

Perry & McConney (2010) believe that the social mobility of low-SES families has the potential for increase with policy interventions targeted at improving school quality for children. Great focus has been placed on school accountability by NCLB which helps disadvantaged students attend private schools through vouchers. Despite the efforts of policy makers, empirical evidence has shown that student academic performance has only increased slightly. The one promising avenue for improving

school quality based on the best empirical evidence is smaller class sizes. In 2002, a constitutional amendment that placed strict limits on class sizes was approved by voters in the state of Florida (Richard, 2003). Policies also placed importance on high teacher quality. However, more money is spent on education outside of school by high-SES parents. Policy attempts to put all students on equal footing can be neutralized by these efforts. This factor makes it even more difficult for poor students to have the same access as their more privileged peers (Perry & McConney, 2010).

Minorities

No matter the setting, whether urban or suburban schools, low-SES or high-SES, the achievement of minority students are below that of non-minority students. It is probably the most prevalent issue for schools in the United States. Statistically, this is shown in every educational measurement including standardized achievement exams, grades, high school completion, and college attendance. Beginning in the 1960s, the achievement gap between minorities and Whites has persisted after it closed somewhat in the1980s (Olszewski-Kubilius, 2006).

It has been shown by a number of studies that negative educational outcomes are influenced by low income or poverty. Urban areas where poverty persists are comprised mostly of African American and Hispanics who have the largest percentage of single parent families. Most studies show that educational outcomes and achievement are higher in two-parent families than single parent families there is sufficient evidence that the educational achievement of African American, Hispanics and other minorities is lower than Whites (Pong, 1997). Most studies show that the large number of single parent families is a primary reason why minorities perform lower than other groups in

academic achievement. One-parent households among minorities are educationally disadvantaged for many reasons. Some researchers have argued that low income of families with an absent father largely explains the educational disadvantage or low incomes of single-parent families (Herzog & Sudia, 1973). Mulkey, Crane, and Harrington (1992) suggest that children's poor academic achievement is attributable to one critical negative factor, the absence of a parent (Mulkey et al., 1992). When persistent poverty is combined with a father being absent, it leads sometimes to children being ashamed or angry about their situation and results in disruptive behavior at school and home (Kelly & Ramsey, 1991). A disproportionate number of the parents of these children are young and minorities (Gadsden, 1995).

Since the 1990s, achievement gaps in test scores have remained basically unchanged. African American and Hispanic students have performed significantly worse on achievement tests than White and Asian students. An article by Stiefel, Schwartz, and Ellen (2006) illustrating the disparity in test scores suggests an underlying educational inequality. The NCLB Act seeks solutions by holding schools accountable and demanding reductions in racial achievement gaps. In taking steps to fill this gap, a group of researchers examined how well elementary and middle school students in the New York City public school system performed on standardized tests during 2000-01 school years. The results showed that the "poverty gaps" were almost equal to the race gaps in some cases. Among African American and Hispanic students, there was a significantly higher incident of poverty. Language barrier for Hispanic explained some of the gap between Whites-Asians and Hispanics. This study concluded that the significant amount of the test score gap was explained by socioeconomic status. Other factors that

influenced results were academic preparation, school size, and the experience of the teaching staff in urban schools (Stiefel et al., (2006). Murray and Herrnstein's *The Bell Curve* (1944) which was founded on genetic inferiority is another explanation that is periodically presented. Some uses this theory for to perpetuate blatant discriminatory practices (as cited in Horn, 2001).

The exception to minority lower educational achievement is Asians. One article examined the factors that lead Asian Americans to obtain a college degree compared to Non-Asians in the United States. Asian Americans have a lower poverty rate and higher median income than any other minority group and tend to be more successful educationally and economically than Non-Asians. In their hypothesis, the article explores reasons why Asian Americans are more likely to attain a college degree compared to other racial or ethnic groups. The authors concluded that Asian Americans are more likely to attain a college degree than Non-Asians due to four factors: parental involvement, immigration status, family structure, and socioeconomic status (Vartanian, Karen, Buck, & Cage, 2007).

When describing minority underachievement, Ogbu, (1978, 1981) applied the oppositional culture theory. The theory is characterized by African American and Hispanic students being ridiculed by their peers against academic achievement. Phrases like "acting White" and selling out" are used. These students rebel against the educational system and students who conform are ostracized (Ogbu, 1978, 1981) (as cited in Goza & Ryabov, 2009). In another article, Tatum (2008) describes the need for African American adolescents to be given a more comprehensive model of literacy instruction. He also presents the results of two qualitative studies exploring the root

causes among some African American male adolescents in literacy. He described four barriers to engagement with reading: their limited vocabulary knowledge, fear of public embarrassment, the lack of focus on reading books and engaging texts, and their negative perception of teacher expectation. His model addresses multiple conceptualizations of illiteracies situated in such factors as class, gender, and race. It also assists teachers in structuring day-to-day activities that maximizes engagement in relevant texts (Tatum, 2008).

Programs like Head Start, supplementary educational programs, and comprehensive school reform programs have been designed to narrow the achievement gap between minority and nonminority students. These programs are targeted for disadvantaged minorities who are at risk of being low achievers but not necessarily high achievement (Olszewski-Kubilius, 2006). A program called Project EXCITE takes a different approach. In an effort to close the achievement gap, it targets middle and high-SES minority students and promotes high achievement among low-SES minorities (College Board, 1999). Their strategy focuses on major factors that hinder academic achievement: family support for achievement, achievement expectations, and access to educational resources (Olszewski-Kubilius, 2006). In another article by Horn (2001), a large minority student population of Hispanics and African Americans is included in their study of the Texas public school system and targeted at-risk low achieving disadvantaged minorities. In this study, the major factors that are identified as hindrances to minority achievement that are excluded in Project EXCITE are: class size, tracking academic coursework, teacher quality, administrator quality, mobility of the disadvantaged, peer pressure, teacher quality, negative stereotyping, the summer vacation effect, excessive

television viewing, test bias, poverty, and related health care issues. It even addresses the controversial issue of genetic inferiority (Horn, 2001).

Free or Reduced Lunch

As recent as 2007, approximately 100,000 non-profit private schools, and state-licensed facilities across the United States participated in the National School Lunch Program (NSLP) (Mirtcheva & Powell, 2009). Costing the federal government over 7.4 billion dollars, 30.5 million children per day are served. Free or reduced lunches can trace its origins to programs in Europe and the United States that were set up to feed hungry children (Gunderson, 2003). During World War II, many men from poor families were denied admittance to the Armed Forces due to poor nutrition. This started large-scale federal involvement to meet the need (Devaney, Ellwood, & Love, 1997). This led to the U.S. Department of Agriculture (USDA) establishing the NSLP with the National School Lunch Act of 1946 that President Harry Truman signed into law. The goal of the NSLA was to promote the health and well-being of children and improve academic achievement by providing low-cost healthy meals. Available evidence generally shows that the NSLP has a small impact on student nutrition and learning (Harwell & LeBeau, 2010).

Today the objective of the program is to provide nutritious lunches based on income, at low or no cost to school children. Students are entitled to free meals at school if their family income falls at or below 130% of the federal poverty level. Since most schools provide only lunch, this eligibility is more commonly known as eligibility for free or reduced price lunch (FRL) since most schools only provide lunch. Students are eligible for reduced lunch if their family income falls within 130 % and 185% of the

poverty level. The NCLB criterion for an individual student's economic disadvantage therefore may be as high as 185% of the federal poverty criterion (Mirtcheva & Powell, 2009). There are no firm statistics kept for the demographics of FRL participants, but typically the program has more African American students that are eligible. Urban areas tend to have more students eligible for an FRL than schools in the suburb or rural areas (Harwell & LeBeau, 2010).

In this study, the percentage of free or reduced price lunch is used as a SES measure to determine its impact on a charter school's performance grade on the FCAT in Florida's public school system. Some educators feel that reduced or free lunch eligibility is a poor SES measure in educational research. Free or reduced lunch is used in a number of studies and is a quite common educational measure SES (Harwell & LeBeau, 2010). Harwell and LeBeau, (2010) believe that free or reduced lunch eligibility is a poor SES measure in educational research, but is used because it is readily available, accessible, inexpensive, and easy for research since it is tied to federal poverty levels and NCLB standards. They feel that the measure lacks empirical evidence and lacks a clear definition as a measurement of SES (Harwell & LeBeau, 2010)

A number of studies used reduced or free lunch as a measurement of SES. A study by Ross and Lowther (2003) compared five inner city schools with a Co-nect school reform design to four schools in the same district in a matched comparison sample. They used the percentage of minority enrollment, percentage of free or reduced lunch, and student mobility rate to measure SES. Schools were grouped by low or middle SES. They concluded the Co-nect schools proved to have more positive educational outcomes in terms of school climate of the school, teacher attitudes, use of

learner center strategies, and student usage of technology. Schools with lower SES demonstrated more positive results. However, results were mixed for standardized achievement exams mandated by the state. It was not clear whether the Co-nect schools performed better than the schools from the matched comparison sample (Ross & Lowther, 2003).

A study by McCollum et al., (2007) compared reading achievement of third grade students from a Caribbean school district. They identified students who were at risk, had the lowest test scores in the nation, and had a 100% free lunch and transportation, and 95% minority enrollment (McCollum, et al, 2007). Even though the free lunch program was in a country outside of the United States and had different guidelines, it was still an example of free lunch being used as a measurement of SES. Another example of reduced or free lunch being used as a measurement of SES, is a study conducted by Zhang (2009) of 45,000 students in Hawaii's public school system. In this multi-level analysis of the 2002 state-wide assessment to estimate achievement gaps between non-disadvantaged and disadvantaged groups, eligibility for free or reduced price meals at school was use to describe the disadvantaged. The study points out that its use is consistent in all institutional reports or studies that follow the NCLB guidelines. The results showed that there was a 5% variance attributable to economic status on the student level and a 53% variance was attributed to economic status on the school level (Zhang, 2009).

Title I

Title I of the Elementary and Secondary Education Act of 1965 was implemented to provide financial assistance to state and local education agencies for meeting the special needs of educationally disadvantaged students. Title I initially was designed to

improve educational outcomes and opportunities for low-achieving students from low-SES schools by providing a variety of supplemental services (Borman, & D'Agostino, 1995). In the mid-1990s, the Comprehensive School Reform Demonstration Program (CSRP) supported the institution of school-wide comprehensive programs that were externally developed and empirically-based. This happened during the same time Title I reauthorization encouraged school-wide initiatives. In 2002, Title I and CSRP was merged together under the NCLB and many CSRP models have since been developed (Gorey, 2009). Another component of NCLB is Supplemental Educational Services provides economically disadvantaged children attending Title I schools with free tutoring. If a Title I school has not made AYP for at least 3 years, students from low-income families can receive extra academic assistance from Supplemental Educational Services (Ross, Potter, Paek & McKay, 2008).

The Title I Act requires that each state adopts challenging student academic achievement standards and academic content standards. It also requires that states provide all public elementary and secondary school children with the same academic standards (Comments on Proposed Title I Regulations, 2005). States determine the specific criteria schools must meet for Title I eligibility, but must follow the general federal guidelines of the United States Department of Education in that funds shall be used to serve the lowest achieving schools and funds shall be given to schools that demonstrate the greatest need and strong commitment to school improvement. States are currently allocated federal funds through statutory formulas that are based on the cost of education and census poverty estimates in each state (USDOE, 2004).

Historically, funds from Title I had always been provided to students who were educationally disadvantaged, consisting primarily of minorities. Both Title I and NCLB have as one of its primary goals the eradication of academic achievement gaps between races. Though billions of dollars have been spent, there is no clear answer on whether efforts have been effective (Gorey, 2009). In the state of Florida, the majority of Title I schools that are classified as needing improvement is comprised of poor and minorities. On the state achievement test, the FCAT, African American and Hispanic students, English language learners, and students with disabilities consistently performance below grade level (Simon, 2010).

An example of a Title I program is *Success by Ten* which is designed to help every student achieve success by ten years old. It calls for an expansion of Early Head Start and Head Start that provides disadvantaged children with an opportunity to be provided with high quality education during the first five years of their lives. To compensate for them attending low quality schools after the initial program, the second phase Title I spending is devoted to programs that provide proven instruction with an emphasis on reading (Ludwig & Sawhill, 2007).

A study by Borman and D'Agostino (1995) used a meta-analysis study to evaluate Title I programs to consider whether its program services had a significant impact on student achievement. The original expectations of Title I was to close the achievement gap, but evidence from this study showed that Title I has fallen short of closing the achievement gap. However, the findings also showed that the achievement gap would be greater without the intervention of Title I programs. The authors concluded that Title I

has been an important resource to educational instruction in schools that served students who are disadvantaged (Borman & D'Agostino, 1995).

Gorey (2009) conducted a meta-analysis study of Title I related comprehensive school reform (CSR) programs and its effects on academic achievement. His study included a review of well-researched programs. Incorporating the characteristic of race/ethnicity, his article is a synthesis of 34 quasi-experimental outcomes of studies. The results showed that among CSR schools compared with matched traditional schools, the African American-White achievement gap narrowed. In addition, among elementary and middle schools, the achievement gap between and non-Hispanic White and African American students in were completely eradicated (Gorey, 2009). These results contrast the findings by Borman and D'Agostino (1995) which showed no narrowing of the achievement gap between African Americans and Whites (Borman & D'Agostino, 1995).

Charter Schools

The origin of charter schools began in the 1960s as a part of state governments' efforts to implement reforms of school desegregation. Milton Friedman's market-based approach to education was adopted which led to magnet and alternative schools in the 1970s. The phrase "education by charter" was not coined until 1988 by educator Ray Budde (Stillings, 2005). Charter schools are intended to give parents options in the public school system. Parents of disadvantaged students do not have the option of private schools due to affordability. Beginning in 1991, an increasing number of states have passed legislation on charter schools. It is now the focus of the whole community, including the public, policymakers, educators as well as the research community (Braun et al., 2006).

The premise of charter school philosophy is an autonomous school can be more effective than a regular public school which can be bogged down by a bureaucratic school system. A charter school is free to be innovative, cater to the needs of its students, and become an effective organization (Chubb & Moe, 1990) (as cited in Levy, 2010). In 2002, NCLB promoted charter schools under the umbrella of their school choice philosophy to ensure the academic achievement of every child, particularly the disadvantaged student. One of its goals is to use charter schools /school choice as an intervention for narrowing the achievement gap (Macey, Decker, & Eckes, 2009). Because of all the attention and focus charter schools are garnering, it is reasonable to see why researchers are examining every aspect of the charter school movement. There is much debate on the effectiveness of charter schools (Braun et al., 2006). The results have been mixed among the various studies that have been conducted.

According to Crew & Anderson (2003), "charter school theory is modeled after a series of hypotheses are developed about the linkages expected to produce the primary program outcomes, improved student academic performance and change in the operations of regular public schools" (Crew & Anderson, 2003). Their study which examined charter school operation in 1999-2000 showed that charter school students were outperformed by students in public schools (Crew & Anderson, 2003). Hanushek, Kain, and Rivkin (2002) completed a charter school study in Texas using school data, controlling prior student achievement and other background variables. They found that between non-charter and charter schools, there were no significant differences in student achievement (Hanushek, Kain, & Rivkin, 2002) (as cited by Braun et al., 2006). A study by National Assessment of Educational Progress (NAEP) in 2004 comparing math and

reading scores of fourth grade students showed no significant differences in their performance (Braun et al., 2006).

There are other studies and examples that show positive results for charter schools. A study by Greene, Forster, and Winters (2003) showed that charter school students outperformed students in nearby public schools on standardized math and reading scores by .008 and .004 standard deviations respectively (Greene, Foster, & Winters, 2003). In the highly publicized Harlem Children Zone, the Promise Academy which has 20 programs that serve more than 8,000 children and 5,000 adults, data showed that the average Promise Academy sixth grader arrives at their charter school 20% below White students. After three years, that average sixth grader outperforms White students by 45%. Reading scores show similar dramatic changes (Dobbie & Fryer, 2010). Another successful charter school program, Knowledge is Power Program (KIPP) has experienced a narrowing of the achievement gap both in rural and urban communities. Their schools enroll a large percentage of minorities who outperform their district peers. KIPP schools enroll more than 20,000 students and over 90% are African American and Hispanic. Under the Federal Free and Reduced Lunch program, over 80% of KIPP's students qualify (Macey, Decker, & Eckes, 2009).

Some educators and researchers argue that the different enrollment mechanisms and educational approaches make it difficult to compare charter schools to regular public schools. Also on average, charter schools accept more minority and low achieving public school students who do not perform as well on state and national tests (Levy, 2010). Braun et al., (2006) state that there have only been a few experimental studies conducted on charter schools. Other studies have confusing effects and selection bias because there

is no control over which student attend which school and results that compare charter schools to public schools have to be interpreted very cautiously (Braun et al., 2006).

The difficulty in comparing charter schools to non-charter public schools has led some researchers to focus within group differences among charter schools. A study by the National Center for Education Statistics (2004) showed that charter schools constitute a heterogeneous set of characteristics that vary in philosophy, governance, organization, and regulatory environment (as cited in Braun et al., 2006). Braun et al., (2006) examined math and reading achievement of charter schools affiliated with a public school district (PSD) and those that are not to public schools (non-PSD). The results showed that that PSD schools were outperformed by regular public schools and there were significant differences in math and reading scores. However, regular public schools were outperformed by non-PSD charter schools (Braun et al., 2006). Zimmer and Gill (2003) argues that charter schools are so diverse and as a result there is no single charter school effect on academic achievement and to accurately evaluate there has to be consideration of the type of charter school and its characteristics (Zimmer & Gill, 2003).

Carpenter (2006) created a charter school typology based on literature review and a survey of 1,182 charter schools in five states: Arizona, California, Florida, Michigan, and Texas. He characterizes charter school into five types, traditional, progressive, general, vocational, and alternate delivery (Carpenter, 2006). They are also grouped by the type of enrollment: general enrollment and targeted student population. *Traditional* charter schools stress high standards in academics and behavior, rigorous classes, and homework. The student-centered educational philosophy that *progressive* schools subscribe to is aligned with progressivism and constructivism from the early twentieth

century. *General* charter schools are indistinguishable from public schools. *Vocational* charter schools are focused on vocations, career, school-to-work, and business. *Alternate delivery* is characterized by online instruction and interactive television (Carpenter, 2006). Carpenter (2006) recommends that further research be conducted to examine achievement differences based on the type of charter school (Carpenter, 2006). It is the intent of this study to contribute to filling that gap in the literature by examining the relationship of student achievement among the state of Florida charter schools based on the Carpenter's (2006) typology of charter schools.

In Carpenter's (2006) study, the majority of charter schools are traditional or progressive based on their educational approaches. The traditional approach was the predominant approach until the progressive movement began in early twentieth century. It was a loose movement that was a new way of thinking and based on the nature of children and how they learned. Progression education focused on the child-centered aspects of learning (Reese, 2001). In the traditional approach, the teacher is at the center and the student is mostly passive. The educational environment is dominated by lecture from the teacher and one-way communication. The student is expected to mostly listen and take notes. Traditional education is based on perennialist and essentialist approaches. It reflects a realistic and idealist philosophical background (Alacapinar, 2007). Early critics of the traditional approach described their practices as antediluvian and called their views on the nature of children insidious. Proponents of progressive education proclaimed the children are active learners, innocent, best taught by women, should be treated with kindness, and taught with a combination of books and nature (Reese, 2001).

Another charter school typology was created by d'Entremont and Huerta (2007) of New York charter schools. Their study also focused on how the different types of charter schools are funded. They classified charter schools into three types based on what students they targeted: conversion schools, mission schools and market schools (d'Entremont & Huerta, 2007). This typology is similar to Carpenter (2006) study but does not address vocational or alternate delivery. Conversions schools are former charter schools and are created out a desire of administrators, educators and parents to shape the educational outcomes of students. These schools are the same as general charter schools in Carpenter's (2006) study. Mission schools are non-profit organizations which target specific student populations or educational missions. Market schools are partnered with for profit educational management organizations (EMO's) and have the least amount of interaction with public institutions (d'Entremont & Huerta, 2007).

Ernst and Blankenship (2007) published a typology titled, "Building a Typology of Charter Schools in Texas." Two hundred forty-one charter schools in Texas were surveyed. Schools were categorized into three types: highly academic/college preparatory, risk/recovery schools, and non-traditional/alternative schools. The primary focus of highly academic/college preparatory is to prepare students for college (Ernst & Blankenship, 2007). This category of charter schools is similar to Carpenter's (2006) typology study. Risk recovery schools target students who have dropped out or who are at risk of dropping out (Ernst & Blankenship, 2007). This category is similar to the market charter schools in d'Entremont and Huerta (2007) typology of New York charter schools. The non-traditional/alternative schools provide an alternative to traditional schools and provide alternate instructional styles and increased personal attention. These

schools are similar to the vocational and alternate delivery charter schools in Carpenter's (2006) typology study. There are other typologies that have been created by other researchers, but the typologies cited here seem to be the most prevalent and have a lot of similarities (Ernst & Blankenship, 2007).

This literature review examined many aspects of minority and socioeconomic status (SES) factors which affect student achievement in an effort to come up with ways of closing the achievement gap between disadvantaged students and their more advantaged peers. Literature covered NCLB, achievement tests, SES and educational outcomes, minorities, free or reduced lunch, Title I, and charter schools which are an intervention in closing the achievement gap and are the primary focus of this study. Literature on the different charter school typologies is covered. There is much literature on SES factors and academic achievement. Academic achievement among the different types of charter schools and its SES factors is a new area research and this study will add to the growing body of knowledge in this field.

CHAPTER THREE: METHODOLOGY

This chapter describes the methodology that was used in this quantitative study. It is comprised of the population sample, research design, data gathering methods, instrumentation, sampling procedures, and data analysis procedures. Correlational research compares the relationship between variables. The most useful applications of correlational research are: determining relationships, assessing consistency, and making predictions. When several variables are examined, the correlational procedure is called multiple regression. It compares two or more predictor variables with a single dependent variable and helps researchers to find the best possible weighting to yield the maximum correlation (Ary, Jacobs, Razavieh, & Sorenson, 2006). Using multiple regression models, this study examines the relationships between the respective types of charter schools, several school academic achievement measurements, and several minority/SES factors. Data was gathered from the Florida Department of Education (FDOE) website and inputted into SPSS PASW version 18.0 for Windows to determine the correlation between the above mentioned variables. The findings were then used to determine the relationships between charter schools types and academic performance and minority/SES measures. The following research questions are addressed:

RQ1: Is there a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ2: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on

the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ3: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ4: Is there a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ5: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ6: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ7: Is there a difference between the three traditional charter school regression models and the three progressive charter school regression models.

The Null Hypotheses:

$H1_0$: There is no relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures.

$H2_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H3_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H4_0$: There is no relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures.

$H5_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H6_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H7_0$: There is no difference between the three traditional charter school regression models and the three progressive charter school regression models.

Design of the Study

This research study is quantitative in its approach and correlational in nature. This study uses a series of multiple regression models to examine how three minority/SES factors (percentage of minorities, percentage of reduced or free lunch, and being a Title I school) predict academic achievement (FCAT school performance grades, percentage of students meeting high standards in reading and math) in two types of charter schools (traditional and progressive). The relationships can be used to determine how academic achievement is affected by minority/SES factors for traditional and progressive charter schools.

Participants

The sample used in this study is all 314 public charter schools in the state of Florida that participated in FCAT testing in the 2009-10 school year. Currently, in the state of Florida, there are 410 total charter schools that enroll over 137,000 students. Florida ranks third in the United States in the number of charter schools and student enrollment. These public charter schools are primarily funded by their respective school districts and the state of Florida. They are run by private companies but are accountable to the school districts and the Florida Department of Education for academic achievement. Charter schools are accountable to their respective school districts and are required to participate in FCAT school performance grading system (FDOE, 2010).

Purposive sampling is a sample of elements that are judged to be typical, or representative, are selected from the population (Ary, et al., 2006). The sample element used in this research is all charter schools in the state of Florida public school system that are involved in FCAT school performance grading system for the 2009-10 school year.

This is described as a comprehensive sample in which every unit in the sample is used (Ary, et al., 2006). Out of 410 charter schools in the state of Florida in the 2009-2010 school year, 314 charter schools were involved in the study.

Procedures

Before data was gathered, on May, 2, 2011, Liberty University's IRB gave approval for data to be gathered. The study was exempted from further review (IRB Exemption Approval 1103.050211) (Appendix A). Carpenter's (2006) typology checklist (Appendix B) was used to classify the 314 charter schools into one of five types (traditional, progressive, general, vocational, and alternate delivery) based on the school's characteristics. Carpenter's typology checklist gave characteristics of the five types of charter school which consisted of educational approach and curriculum. A school curriculum was classified as traditional if it included the following: math-science, Core Knowledge, back-to-basics, college prep and Edison. A school curriculum was classified as progressive if it included the following: multicultural, ethnocentric, dual language emersion, international/global, International Baccalaureate, progressive, multiple intelligences, constructivist, problem-based, project-based, experiential, Montessori, Paideia, Waldorf, environmental, technology, and arts. A school curriculum was classified as general if it included: general or conversion. Vocational schools were characterized by: vocational, technical, school-to-work, entrepreneurship, and business. Alternate delivery school was characterized by: home study, virtual, and hybrid (Carpenter, 2006). Data was collected from the FDOE website on the 314 charter schools in Florida's public school system that participated in the FCAT school performance grading system for 2009-10 school year. After the list was compiled from the FDOE

website, the schools' website and other educational websites were used to gather information. A charter school's mission, vision, educational philosophy, curriculum, and along with Carpenter's (2006) typology study checklist were used to determine a charter school type. Triangulation was used to increase the reliability of this study. An expert panel was formed to review charter school classification. This panel included two experienced charter school principals in the Broward and Miami Dade school districts. In addition to school website, other public websites were used that contain information on schools.

The following educational websites were included in this study: Greatschools.com, schoolmatters.com, trulia.com, facebook.com, and schooldigger.com. The expert panel was used as raters to determine a charter school typology. They were recruited by referrals from other educators and administrators in the Dade County Public School system. They were selected because of the experience in working with the establishment of charter schools in the Dade County Public School system which improved validity of the research study. They were given an orientation of the research study and two hour training of Carpenter's (2006) checklist. Each was assigned along with this researcher to use this checklist to rate a charter school according to its type: traditional, progressive, general, vocational, or alternate delivery. To giving the rating method maximum inter-rater reliability, the three raters met two times to compare their ratings (Carpenter, 2006). Raters finalized the typology by coming to a consensus on the areas of disagreement. After the charter school typology was competed, the rest of the data for this research was gathered from FDOE website which lists the FCAT school performance grades for all public schools in the state of Florida from 2002 to 2010.

FCAT school performance grades and the percentage of students meeting high standards in math and reading for the 2009-10 school year was used in this study. The study also includes data that represent three socioeconomic factors: percentage of minorities, percentage of reduced or free lunch, and Title I/non-Title I designation. After the data was collected, it was then inputted into SPSS PASW version 18.0 for Windows to determine the correlation of the variables and level of significance.

Instrumentation

Instruments are used in a research project that will approximate relationship between constructs (Ary, et al., 2006). The following instruments were used in this study: Carpenter's (2006) charter school typology checklist to determine charter school types in Florida and 2009-10 FCAT results and minority/SES measures as reported on the FDOE website. In Carpenter's 2006 checklist, he used a number of raters to determine charter school types. His inter-rater reliability was 78% which showed high reliability (Carpenter, 2006). In this study, the three raters (which included researcher) agreed on 252 of 314 charter schools which gave the inter-rater agreement 80.25 % (Carpenter, 2006). According to the FCAT briefing book (2001), FCAT used several methods to determine reliability which was based on a scale from 0.00 to 1.00 with the higher number representing higher reliability. FCAT scoring were over .90 on all grade levels. When the FCAT was correlated with norm-referenced test (SAT-9), correlations were measured from .70 to .80 for all grade levels. The comparison of two slightly different tests indicates strong validity for the FCAT. Measurements on the FCAT used in this study are FCAT school performance grades and percentage of students meeting high standards in reading and math. The state of Florida uses FCAT results to assign school

grades for accountability purposes. Schools are graded on a scale of A-F and must make at least a "C" to make AYP. The school performance grades are determined by the share of students who experience gains in their test scores and the share of students score at high levels on the FCAT (Greene & Winters, 2010). Percentage of students meeting high standards are determined by the number of students who score on level 3 or higher out of five levels (FDOE, 2010). The SPSS PASW version 18.0 for Windows program was used to examine the relationship between the various variables.

Data Analysis Procedures

Data was entered into SPSS PASW version 18.0 for Windows. Descriptive statistics was used to describe the sample demographics and the research variables used in the analysis. Frequency and percentages was calculated for nominal (categorical/dichotomous) data and means/standard deviations were calculated for continuous (interval/ratio) data. The following research question was answered in this study:

RQ1: Is there a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

$H1_0$: There is no relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures.

In order to examine research question 1, multiple linear regression were conducted to assess the relationship between FCAT school performance grades and the

three minority/SES related demographic measures for traditional charter schools. The criterion variable is the FCAT school performance grade which is a continuous variable. The percentage of reduced or free lunch is a continuous predictor variable. The percentage of minorities is a continuous predictor variable. Title I/non-Title I designation is a dichotomous predictor variable.

The assumptions of multiple regression were assessed. Normality and homoscedasticity were assessed by examination of scatter plots. The absence of multicollinearity assumes that predictor variables are not too related and were assessed using VIF. VIF values over 10 suggested the presence of multicollinearity (Stevens, 2009). The following research question was answered in this study:

RQ2: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

$H2_0$: There is no relationship between traditional charter schools in the Florida public school system FCAT percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

In order to examine research question 2, multiple linear regression were conducted to assess the relationship between the percentage of students meeting high standards in reading and the three minority/SES related demographic measures for traditional charter schools. The criterion variable is the percentage of students meeting high standards in reading which is a continuous variable. The percentage of reduced or

free lunch is a continuous predictor variable. The percentage of minorities is a continuous predictor variable. Title I/non-Title I designation is a dichotomous predictor variable.

The assumptions of multiple regression were assessed. Normality and homoscedasticity were assessed by examination of scatter plots. The absence of multicollinearity assumes that predictor variables are not too related and were assessed using VIF. VIF values over 10 suggested the presence of multicollinearity (Stevens, 2009). The following research question was answered in this study:

RQ3: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

$H3_0$: There is no relationship between traditional charter schools in the Florida public school system's FCAT percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

In order to examine research question 3, multiple linear regression was conducted to assess the percentage of students meeting high standards in math, and the three minority/SES related demographic measures for progressive charter schools. The criterion variable is the percentage of students meeting high standards in math which is a continuous variable. The percentage of reduced or free lunch is a continuous predictor variable. The percentage of minorities is a continuous predictor variable. Title I/non-Title I designation is a dichotomous predictor variable.

The assumptions of multiple regression were assessed. Normality and homoscedasticity were assessed by examination of scatter plots. The absence of multicollinearity assumes that predictor variables are not too related and was assessed using VIF. VIF values over 10 suggested the presence of multicollinearity (Stevens, 2009). The following research question was analyzed in this study:

RQ4: Is there a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

$H4_0$: There is no relationship between progressive charter schools in the Florida public school system FCAT school performance grades and the three minority/SES related demographic measures.

In order to examine research question 4, multiple linear regression were conducted to assess the relationship between FCAT school performance grades and the three minority/SES related demographic measures for progressive charter schools. The criterion variable is the FCAT school performance grade which is a continuous variable. The percentage of reduced or free lunch is a continuous predictor variable. The percentage of minorities is a continuous predictor variable. Title I/non-Title I designation is a dichotomous predictor variable.

The assumptions of multiple regression were assessed. Normality and homoscedasticity were assessed by examination of scatter plots. The absence of multicollinearity assumes that predictor variables are not too related and were assessed

using VIF. VIF values over 10 suggested the presence of multicollinearity (Stevens, 2009). The following research question was answered in this study:

RQ5: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

$H5_0$: There is no relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

In order to examine research question 5, multiple linear regression were conducted to assess the relationship between the percentage of students meeting high standards in reading and the three minority/SES related demographic measures for traditional charter schools. The criterion variable is the percentage of students meeting high standards in reading which is a continuous variable. The percentage of reduced or free lunch is a continuous predictor variable. The percentage of minorities is a continuous predictor variable. Title I/non-Title I designation is a dichotomous predictor variable.

The assumptions of multiple regression were assessed. Normality and homoscedasticity were assessed by examination of scatter plots. The absence of multicollinearity assumes that predictor variables are not too related and were assessed using Variance Inflation Factors (VIF). VIF values over 10 suggested the presence of

multicollinearity (Stevens, 2009). The following research question was answered in this study:

RQ6: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

$H6_0$: There is no relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

In order to examine research question 6, multiple linear regression was conducted to assess the percentage of students meeting high standards in math, and the three minority/SES related demographic measures for progressive charter schools. The criterion variable is the percentage of students meeting high standards in math which is a continuous variable. The percentage of reduced or free lunch is a continuous predictor variable. The percentage of minorities is a continuous predictor variable. Title I/non-Title I designation is a dichotomous predictor variable.

The assumptions of multiple regression were assessed. Normality and homoscedasticity were assessed by examination of scatter plots. The absence of multicollinearity assumes that predictor variables are not too related and was assessed using VIF. VIF values over 10 suggested the presence of multicollinearity (Stevens, 2009). The following research question was answered in this study:

RQ7: Is there a difference between the three traditional charter school regression models and the three progressive charter school models.

$H7_0$: There is no difference between the three traditional charter school regression models and the three progressive charter school models.

In order to examine research question number 7, ancillary analysis was conducted to assess if there was a difference in the traditional and progressive regression models. A Levene's test for homogeneity of regression was conducted to assess if there is a different in the strength of the regression models. The Levene's test assesses the homogeneity of error variances across the two groups. By testing the homogeneity of error variances, it tested whether or not the dispersion is different among the two groups. If the test is significant, it will suggest that the two groups' dispersion is different, thus showing a significant difference in the two groups' regression models.

It was considered to do the same multiple regressions models with general, alternative delivery, and vocational charter schools. However, when the data for these three charter school types was collected, the combined total charter schools were 28: general (20), alternative delivery (4), and vocational charter schools. A power analysis using G*Power version 3.1.2 suggests having at least 77 participants for a multiple regression with a medium effect size ($f = 0.15$) and a power of 0.80 (Faul, Buchner, Erdfelder & Lang, 2008). Therefore, no additional regression models were constructed and analyzed. However, their descriptive statistics were used to compare general, alternate delivery, and vocational charter schools to the descriptive statistics of traditional and progressive schools. The descriptive statistics included the means and standards of FCAT school performance grades, percentage of students meeting high standards in

reading, percentage of students meeting high standards in math, percentage of reduced or free lunch, and percentage of minorities. The percentage of Title I general, alternate delivery, and vocational charter schools was also compared to the percentage of Title I traditional and progressive charter schools.

CHAPTER FOUR: RESULTS/FINDINGS

The results in the study are based on descriptive statistics and multiple regression models of traditional and progressive charter schools. Descriptive statistics compares the means of FCAT school performance grades, percentage of students meeting high standards in math and reading, percentage of students with free or reduced lunch, percentage of minorities. Charter school Title I membership was included in the descriptive statistics. Multiple regression models were set up to examine how three SES/minority factors: percentage of students with free or reduced lunch, percentage of minorities, and being a Title I predict FCAT school performance grades and the percentage of students meeting high standards in math and reading. Prior to analysis, the assumptions of normality and homoscedasticity were assessed using scatter plots. The assumption of absence of multicollinearity was assessed by checking the VIF. The following research questions and hypotheses were addressed in the results:

RQ1: Is there a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ2: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ3: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ4: Is there a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ5: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ6: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ7: Is there a difference between three traditional charter school models and the three progressive charter school models?

The Null Hypotheses:

$H1_0$: There is no relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures.

$H2_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H3_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H4_0$: There is no relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures.

$H5_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H6_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H7_0$: There is no difference between the three traditional charter school regression models and the three progressive charter school regression models.

Descriptive Statistics

A total of 160 traditional and 126 progressive charter schools participated in the study. The lowest FCAT school performance grade was 0 (F) and the highest grade was

4 (A), with the average performance grade for traditional charter schools at 3.07 (*SD* = 1.28) and the average performance grade for the progressive charter schools at 2.99 (*SD* = 1.37). The average percentage of students that met the high standards in reading was 68.24 for the traditional schools (*SD* = 19.00) and 68.45 for the progressive schools (18.88). The average percentage of students that met the high standards for math was about the same, with traditional schools having an average of 70.07 (*SD* = 19.65) and progressive schools having an average of 69.22 (*SD* = 18.04). The percentage of students with free or reduced lunch was similar between the traditional (*M* = 52.43, *SD* = 27.28) and progressive (*M* = 46.62, *SD* = 27.25) schools. Lastly, the percentage of minority students was very different between the traditional schools (*M* = 67.28, *SD* = 29.74) and progressive schools (*M* = 55.83, *SD* = 30.95). Means and standard deviations for traditional and progressive charter schools' information is presented in Table 1.

Table 1

Means and Standard Deviations for Traditional and Progressive Schools' Information

	Traditional		Progressive	
	M	*SD*	*M*	*SD*
FCAT School Performance Grades	3.07	1.28	2.99	1.37
Percentage Meeting High Standards in Reading	68.24	19.00	68.45	18.88
Percentage Meeting High Standards in Math	70.07	19.65	69.22	18.04
Percentage with Reduced or Free Lunch	52.43	27.28	46.62	27.25
Percentage of Minorities	67.28	29.74	55.83	30.95

The school data was examined for Title I membership. The majority of the traditional charter schools (90, 56.3%) and the progressive schools (85, 67.5%) were *not*

Title I members. Frequencies and percentages for Title I membership are presented in Table 2.

Table 2

Frequencies and Percentages for Title I Membership

School	*n*	%
Traditional		
Non-Title I	90	56.3
Title I	70	43.8
Progressive		
Non-Title I	85	67.5
Title I	41	32.5

Even though the sample size of general, vocational, and alternate delivery were too small to be used in a multiple regression model, their descriptive statistics is useful in seeing how they compare to traditional and progressive charter schools. The descriptive statistics showed that twenty general (3.0) and four vocational (3.25) charter schools were comparable to traditional (3.07) and progressive (2.99) charter schools in the means of FCAT school performance grades. All four alternate delivery schools received "F" scores and their mean score was 0. Alternate delivery schools scored well below the other types and had a significant higher percentage (85%) of minorities than the other four types. In the areas of the percentage of students meeting high standards in math and reading, general (69.4 math, 71.25 reading) and vocational (62.25 math, 77 reading) schools had similar numbers to traditional and progressive schools. But the numbers are based on a much smaller sample size than the traditional and progressive charter schools.

Research Questions

Research question 1. Is there a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

To examine research question 1, a multiple linear regression was conducted to assess if the demographic measures predict the FCAT school performance grades for traditional charter schools only. Prior to analysis, the assumptions of normality and homoscedasticity were assessed using scatterplots (see Figures 1 and 2). The assumption was found tenable. The assumption of absence of multicollinearity was assessed by checking the VIF. None of the VIFs were over 10, verifying the assumption (see Table 3).

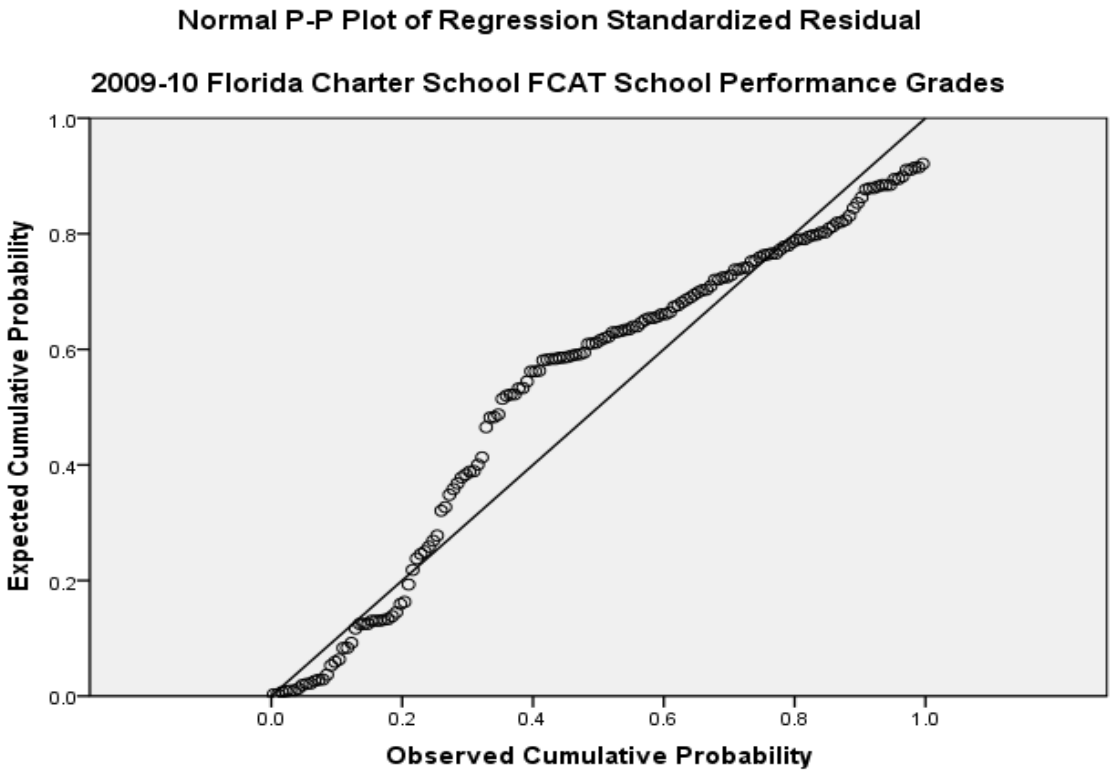

Figure 1. Normality plot for 2009-10 Florida Traditional Charter School FCAT School Performance Grades.

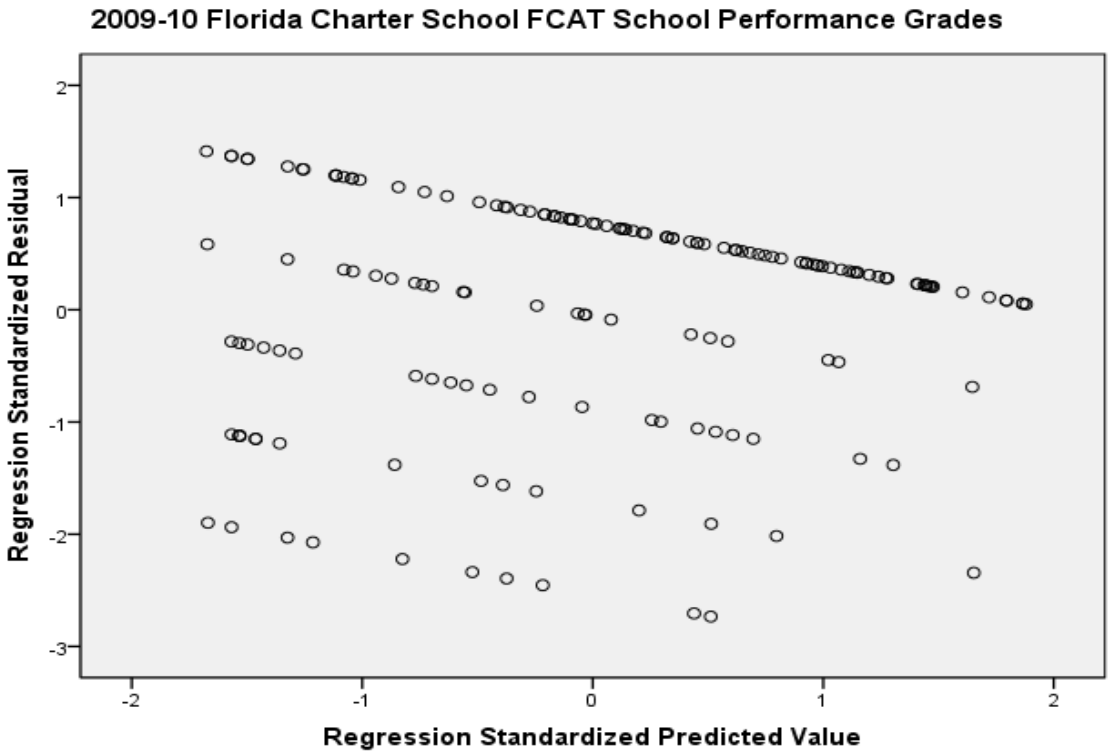

Figure 2. Regression residuals plot for 2009-10 Florida Traditional Charter School FCAT School Performance Grades.

Table 3

Test for Absence of Multicollinearity Checking VIF FCAT School Performance Grades for Traditional Charter Schools

Demographics	Tolerance	VIF
Percentage of reduced or free lunch students	.443	2.257
Percentage of minority students	.547	1.828
Being a Title I school	.578	1.731

The results of the multiple linear regression were significant, F (3, 156) = 7.78, p < .001, suggesting that percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation as a whole successfully accounted for (R^2) 13.0% of the variance in the FCAT school performance grades for traditional charter schools. The results show (see Table 4) that the percentage of students with free or reduced lunch was a significant predictor, B = -0.02, p = .003, suggesting for every percentage increase in the number of students with free or reduced lunch, the FCAT school performance grades decreased by 0.02 points. The percentage of minorities were not a significant predictor at B = 0.00, p = .968. Being a Title I school also was not a significant predictor at B = -0.06, p = .808. The null hypothesis is rejected; there is a relationship between traditional charter schools FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Table 4

Multiple Linear Regression with the Demographic Measures Predicting FCAT School Performance Grades for Traditional Charter Schools

Source	*B*	*SE*	β	*t*	*p*
Percentage of reduced or free lunch students	-0.02	0.01	-0.34	-3.05	.003
Percentage of minority students	0.00	0.00	0.00	-0.04	.968
Being a Title I school	-0.06	0.25	-0.02	-0.24	.808

Note. F (3, 156) = 7.78, p < .001, R^2 = 0.130

Research question 2: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting the high standards in

reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

To examine research question 2, multiple linear regression was conducted to assess if the demographic measures predict the percentage of students meeting the high standards in reading for traditional charter schools only. Prior to analysis, the assumptions of normality and homoscedasticity were assessed using scatterplots (see Figures 3 and 4). The assumption was found tenable. The assumption of absence of multicollinearity was assessed by checking the VIF. None of the VIFs were over 10, verifying the assumption (see Table 5)

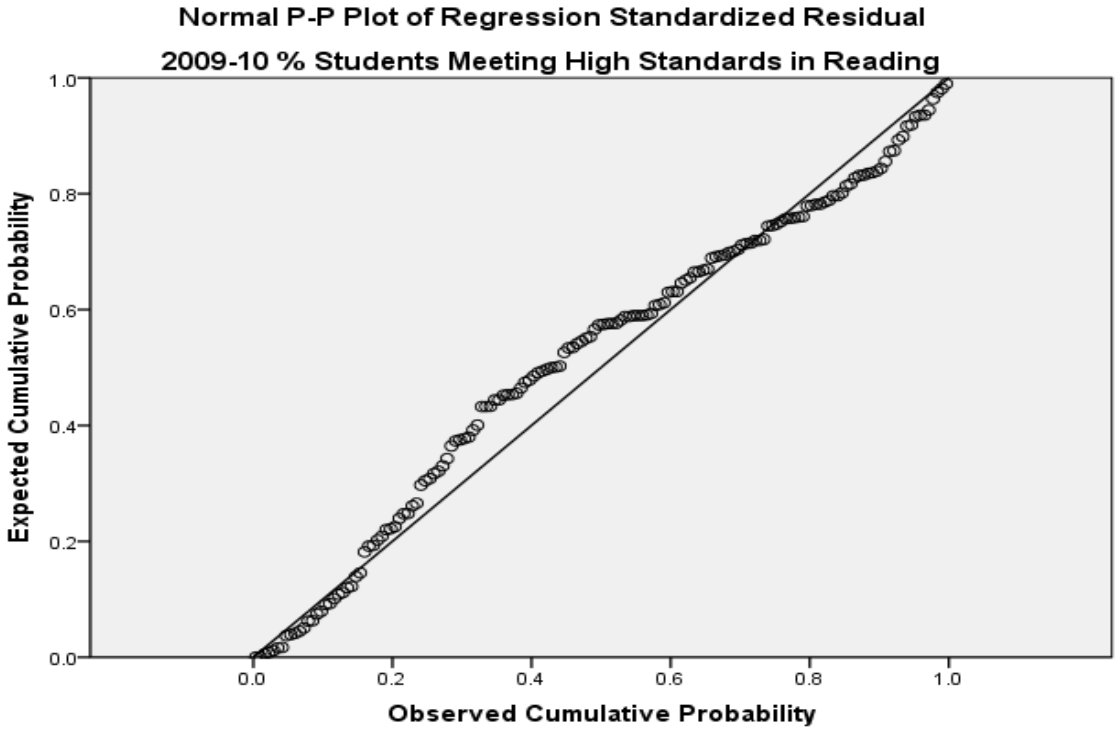

Figure 3. Normality plot for 2009-10 percentage of students meeting the high standards in reading for traditional charter schools

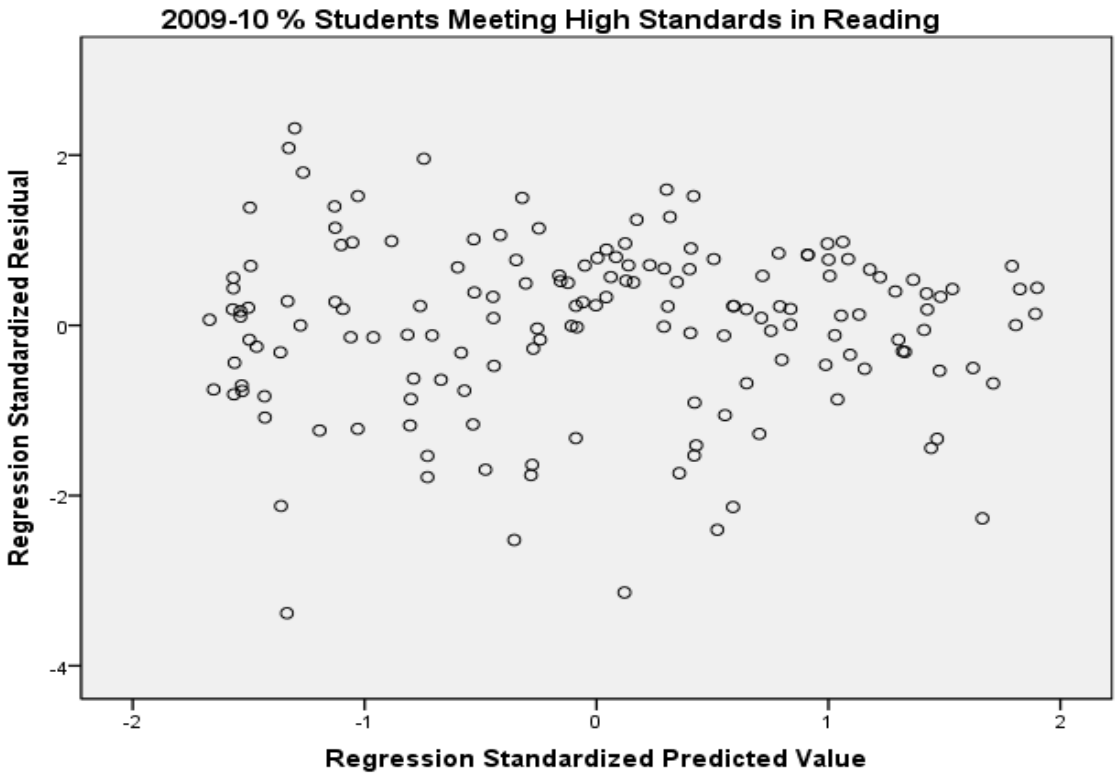

Figure 4. Regression residuals plot for 2009-10 percentage of students meeting the high standards in reading for traditional charter schools

Table 5

Test for Absence of Multicollinearity Checking VIF for Percentage of Students with High Standards in Reading for Traditional Charter Schools

	Tolerance	VIF
Percentage of reduced or free lunch students	.443	2.257
Percentage of minority students	.547	1.828
Being a Title I school	.578	1.731

The results of the multiple linear regression were significant, F (3, 156) = 22.00, p < .001, suggesting that percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation as a whole successfully accounted for (R^2) 29.7% of the

variance in the percentage of students meeting the high standards for reading for traditional charter schools. The results show (see Table 6) that the percentage of students with free or reduced lunch was a significant predictor, $B = -0.35$, $p < .001$, suggesting for every percentage increase in the number of students with free or reduced lunch, the percentage of students meeting the high standards for reading decreased by 0.35 points. The percentage of minorities were not a significant predictor at $B = -0.03$, $p = .652$. Being a Title I school also was not a significant predictor at $B = -1.19$, $p = .725$. The null hypotheses is rejected; there is a relationship between traditional charter schools percentage of students meeting the high standards in reading and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Table 6

Multiple Linear Regression with the Demographic Measures Predicting Percentage of Students with High Standards in Reading for Traditional Charter Schools

Source	*B*	*SE*	β	*t*	*p*
Percentage of reduced or free lunch students	-0.35	0.07	-0.50	-4.93	.001
Percentage of minority students	-0.03	0.06	-0.04	-0.45	.652
Being a Title I school	-1.19	3.37	-0.03	-0.35	.725

Note. F (3, 156) = 22.00, $p < .001$, $R^2 = 0.297$

Research question 3: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting the high standards in

math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

To examine research question 3, multiple linear regression was conducted to assess if the demographic measures predict the percentage of students meeting the high standards in math for traditional charter schools only. Prior to analysis, the assumptions of normality and homoscedasticity were assessed using scatterplots (see Figures 5 and 6). The assumption was found tenable. The assumption of absence of multicollinearity was assessed by checking the VIF. None of the VIFs were over 10, verifying the assumption (see Table 7).

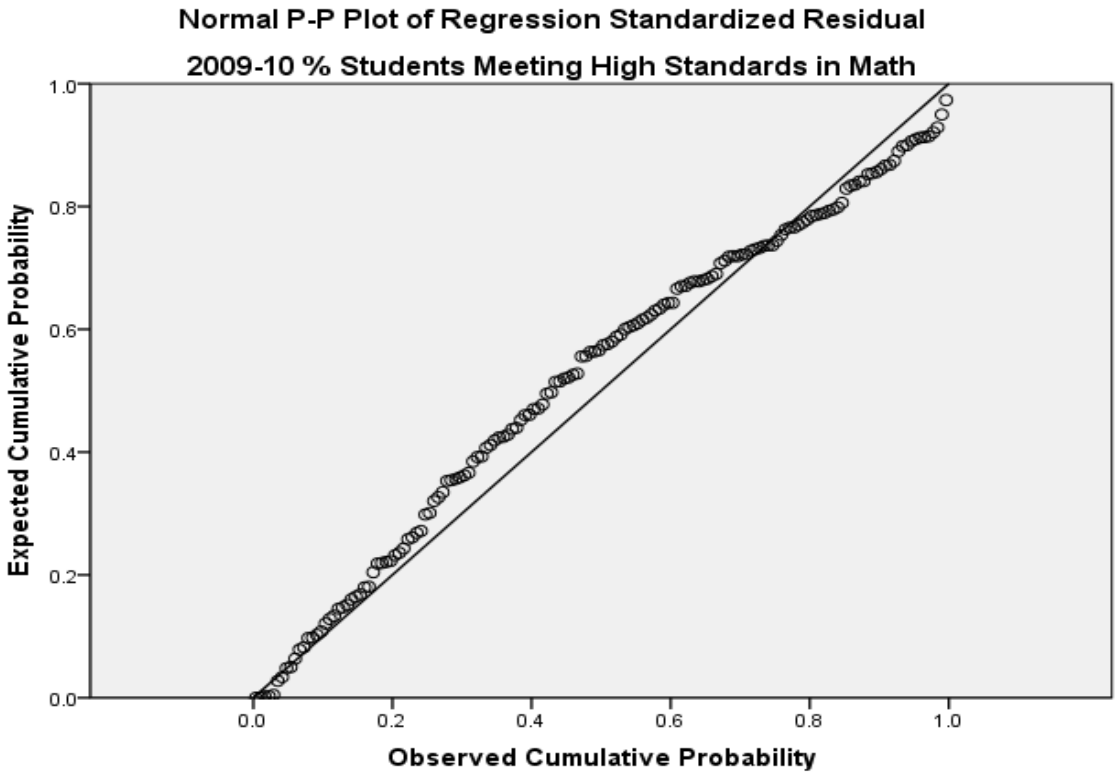

Figure 5. Normality plot for 2009-10 percentage of students meeting the high standards in reading for traditional charter schools

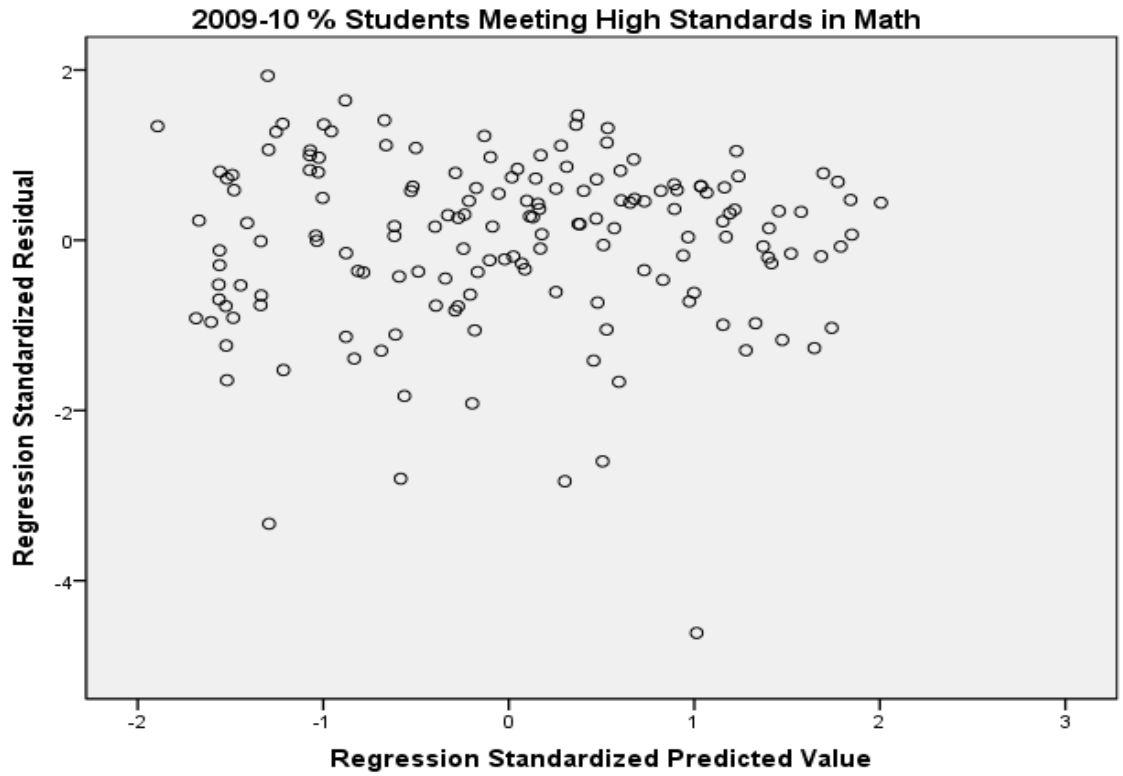

Figure 6. Regression residuals plot for 2009-10 percentage of students meeting the high standards in math for traditional charter schools

Table 7

Test for Absence Of Multicollinearity Checking Variance Inflation Factors (VIF) for Percentage of Students with High Standards in Math for Traditional Charter Schools.

	Tolerance	VIF
Percentage of reduced or free lunch students	.443	2.257
Percentage of minority students	.547	1.828
Being a Title I school	.578	1.731

The results of the multiple linear regression were significant, F (3, 156) = 16.41, p < .001, suggesting that percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation as a whole successfully accounted for (R^2) 24.0% of the variance in the percentage of students meeting the high standards for math for traditional

charter schools. The results show (see Table 8) that the percentage of students with free or reduced lunch was a significant predictor, $B = -0.36$, $p < .001$, suggesting for every percentage increase in the number of students with free or reduced lunch, the percentage of students meeting the high standards for math decreased by 0.36 points. The null hypotheses is rejected; there is a relationship between traditional charter schools' percentage of students meeting the high standards in math, and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Table 8

Multiple Linear Regression with the Demographic Measures Predicting Percentage of Students with High Standards in Math for Traditional Charter Schools

Source	*B*	*SE*	β	*t*	*p*
Percentage of reduced or free lunch students	-0.36	0.08	-0.51	-4.81	.001
Percentage of minority students	0.02	0.06	0.03	0.35	.728
Being a Title I school	-0.38	3.63	-0.01	-0.10	.917

Note. F (3, 156) = 16.41, $p < .001$, $R^2 = 0.240$

Research question 4: Is there a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

To examine research question 4, a multiple linear regression was conducted to assess if the demographic measures predicts the FCAT school performance grades for

progressive charter schools only. Prior to analysis, the assumptions of normality and homoscedasticity were assessed using scatterplots (see Figures 7 and 8). The assumption was found tenable. The assumption of absence of multicollinearity was assessed by checking the Variance Inflation Factors (VIF). None of the VIFs were over 10, verifying the assumption (see Table 9).

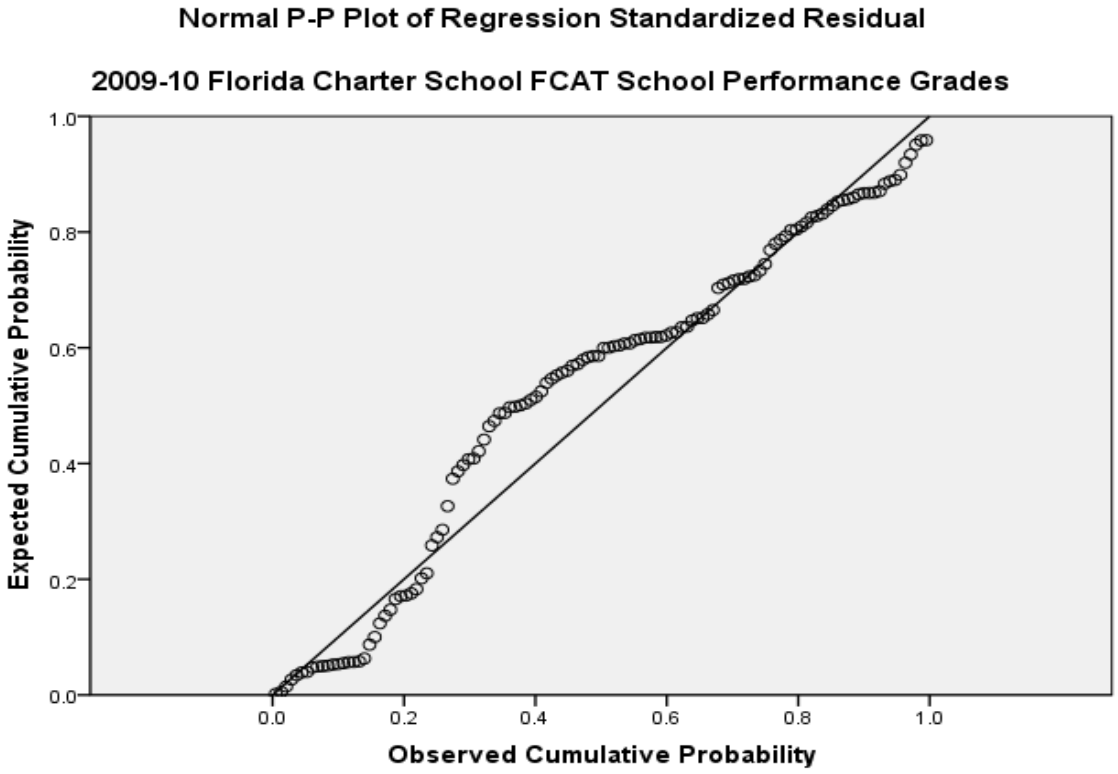

Figure 7. Normality plot for 2009-10 Florida Progressive Charter School FCAT School Performance Grades

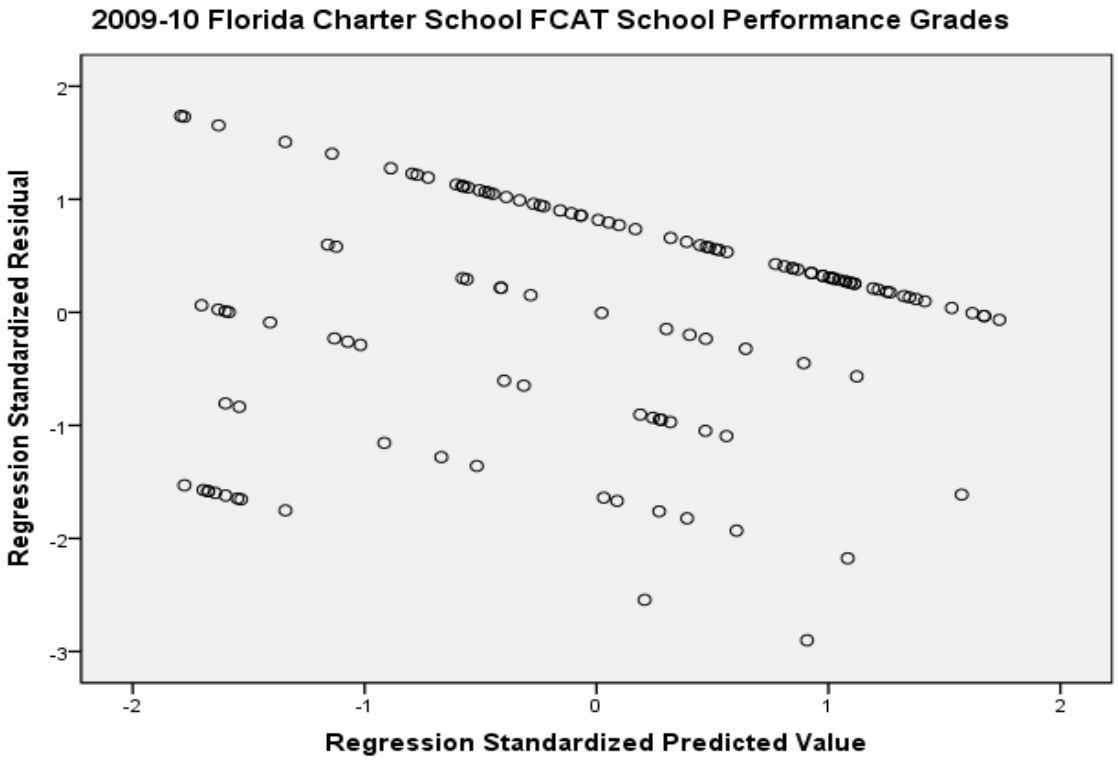

Figure 8. Regression residuals plot for 2009-10 Florida Progressive Charter School FCAT School Performance Grades

Table 9

Test for Absence of Multicollinearity Checking VIF FCAT School Performance Grades for Progressive Charter Schools.

Demographics	Tolerance	VIF
Percentage of reduced or free lunch students	.389	2.568
Percentage of minority students	.613	1.631
Being a Title I school	.530	1.886

The results of the multiple linear regression were significant, F (3, 122) = 10.87, p < .001, suggesting that percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation successfully accounted for (R^2) 21.1% of the variance in

the FCAT school performance grades for progressive charter schools. The results show (see Table 10) that the percentage of students with free or reduced lunch was a significant predictor, $B = -0.01$, $p = .033$, suggesting for every percentage increase in the number of students with free or reduced lunch, the FCAT school performance grades decreased by 0.01 points. The results also showed that the percentage of minority students was a significant predictor, $B = -0.01$, $p = .046$, suggesting for every percentage increase in the number of minority students, the FCAT school performance grades decreased by 0.01 points. Being a Title I school was not a significant predictor at $B = -0.10$, $p = .764$. The null hypothesis is rejected; there is a relationship between progressive charter schools' FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a title I school).

Table 10

Multiple Linear Regression with the Demographic Measures Predicting FCAT School Performance Grades for Progressive Charter Schools

Source	*B*	*SE*	β	*t*	*p*
Percentage of reduced or free lunch students	-0.01	0.01	-0.28	-2.15	.033
Percentage of minority students	-0.01	0.01	-0.21	-2.02	.046
Being a Title I school	-0.10	0.32	-0.03	-0.30	.764

Note. F (3, 122) = 10.87, $p < .001$, $R^2 = 0.211$

Research question 5: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

To examine research question 5, a multiple linear regression was conducted to assess if the demographic measures predicts the percentage of students meeting high standards in reading on the FCAT for progressive charter schools only. Prior to analysis, the assumptions of normality and homoscedasticity were assessed using scatterplots (see Figures 9 and 10). The assumption was found tenable. The assumption of absence of multicollinearity was assessed by checking the VIF. None of the VIFs were over 10, verifying the assumption (see Table 11).

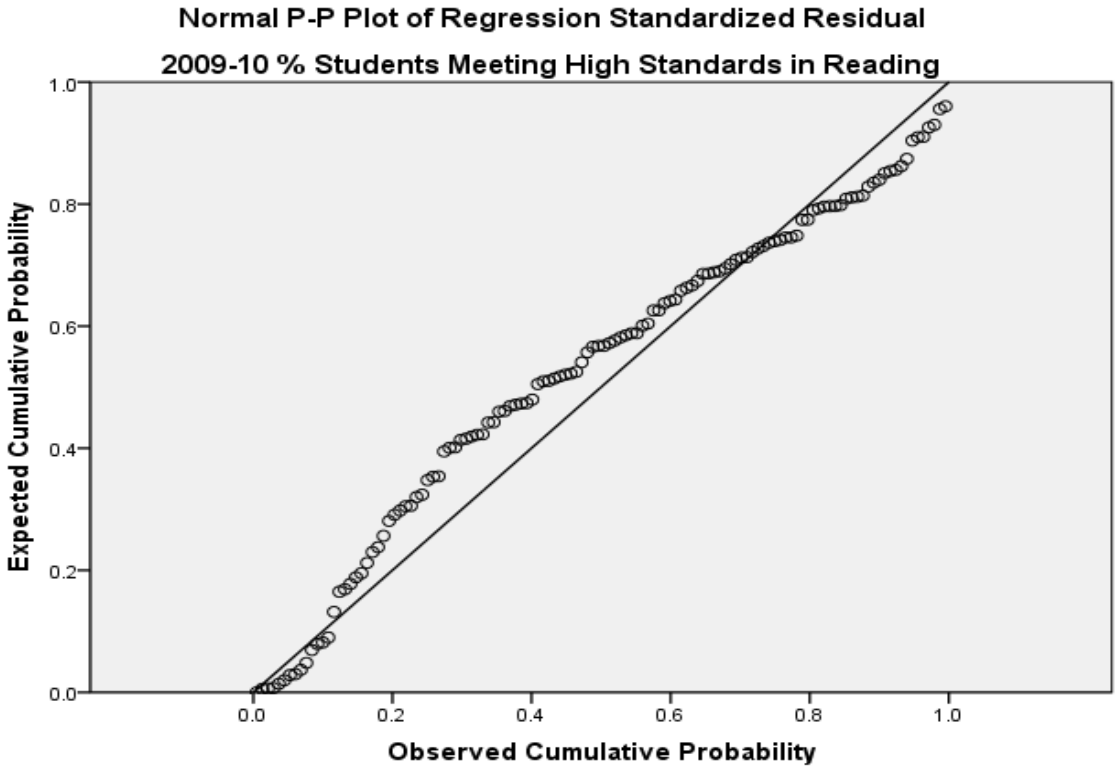

Figure 9. Normality plot for 2009-10 Percentage of Students Meeting the High Standards in Reading for Progressive Charter Schools

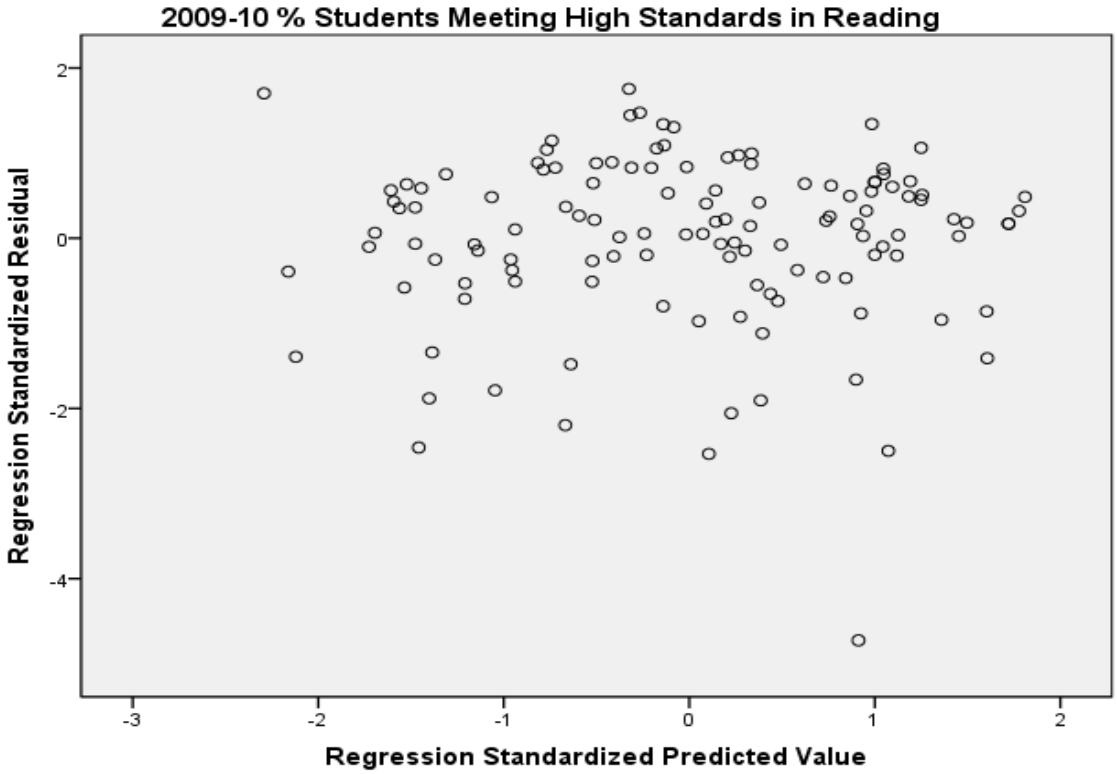

Figure 10. Regression residuals plot for 2009-10 Percentage of Students Meeting the High Standards in Reading for Progressive Charter Schools

Table 11

Test for Absence of Multicollinearity Checking VIF for Percentage of Students with High Standards in Reading for Progressive Charter Schools.

Demographics	Tolerance	VIF
Percentage of reduced or free lunch students	.389	2.568
Percentage of minority students	.613	1.631
Being a Title I school	.530	1.886

The results of the multiple linear regression were significant, F (3, 122) = 14.74, p < .001, suggesting that percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation successfully accounted for (R^2) 26.6% of the variance in the percentage of students meeting the high standards for reading for progressive charter

schools. The results show (see Table 12) that the percentage of students with free or reduced lunch was a significant predictor, B = -0.29, p = .001, suggesting for every percentage increase in the number of students with free or reduced lunch, the percentage of students meeting the high standards for reading decreased by 0.29 points. The results also showed that the percentage of minority students was a significant predictor, B = -0.13, p = .033, suggesting for every percentage increase in the number of minority students, the percentage of students meeting the high standards for reading decreased by 0.13 points. Being a Title I school was not a significant predictor at B = 3.82, p = .374. The null hypotheses is rejected; there is a relationship between progressive charter schools' percentage of students meeting the high standards in reading and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Table 12

Multiple Linear Regression with the Demographic Measures Predicting Percentage of Students with High Standards in Reading for Progressive Charter Schools

Source	*B*	*SE*	β	*t*	*p*
Percentage of reduced or free lunch students	-0.29	0.09	-0.41	-3.33	.001
Percentage of minority students	-0.13	0.06	-0.21	-2.16	.033
Being a Title I school	3.82	4.27	0.10	0.89	.374

Note. F (3, 122) = 14.74, p < .001, R^2 = 0.266

Research question 6: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

To examine research question 6, a multiple linear regression was conducted to assess if the demographic measures predicts the percentage of students meeting high standards in math on the FCAT for progressive charter schools only. Prior to analysis, the assumptions of normality and homoscedasticity were assessed using scatterplots (see figures 11 and 12). The assumption was found tenable. The assumption of absence of multicollinearity was assessed by checking the VIF. None of the VIFs were over 10, verifying the assumption (see Table 13).

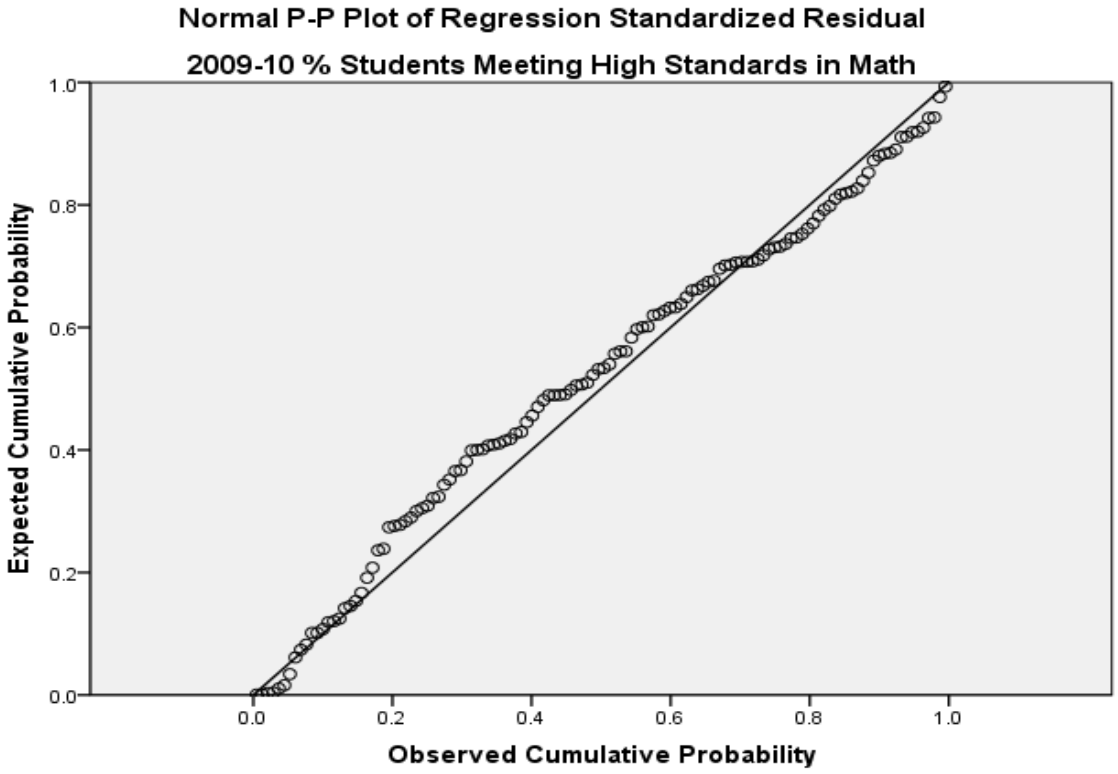

Figure 11. Normality plot for 2009-10 percentage of students meeting the high standards in math for progressive charter schools

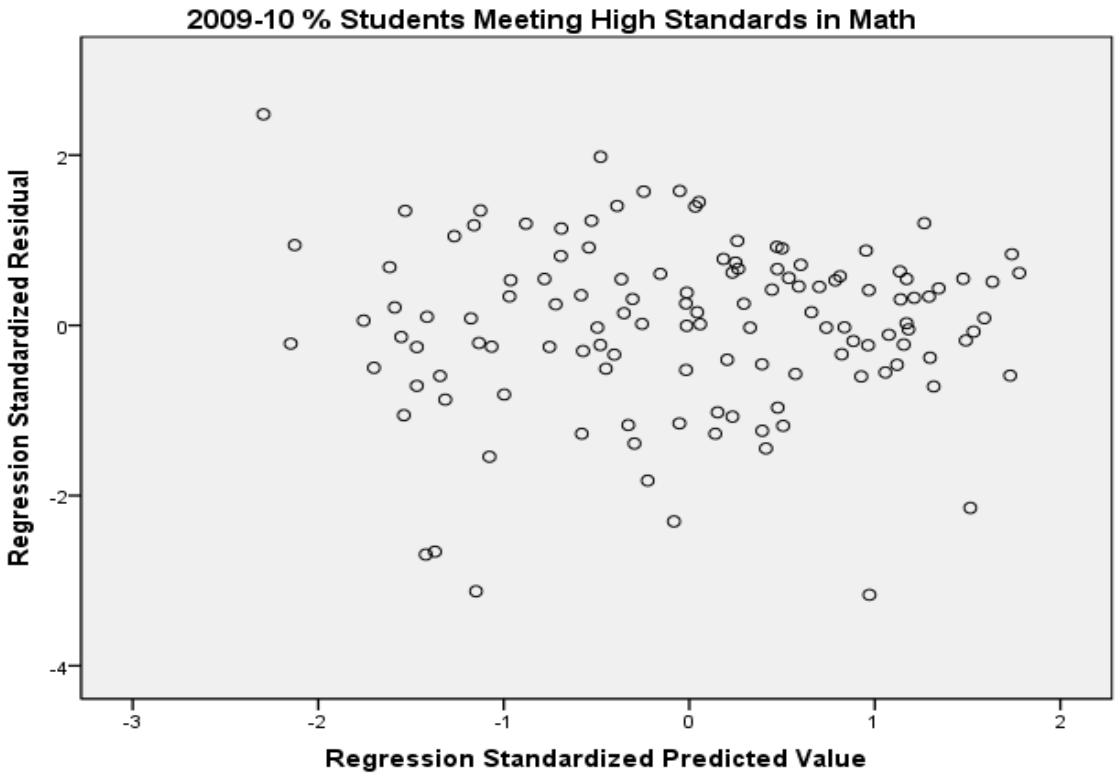

Figure 12. Regression residuals plot for 2009-10 percentage of students meeting the high standards in math for traditional charter schools

Table 13

Test for Absence of Multicollinearity Checking VIF for Percentage of Students with High Standards in Math for Progressive Charter Schools.

Demographics	Tolerance	VIF
Percentage of reduced or free lunch students	.389	2.568
Percentage of minority students	.613	1.631
Being a Title I school	.530	1.886

The results of the multiple linear regression were significant, F (3, 122) = 16.71, p < .001, suggesting that percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation successfully accounted for (R^2) 29.1% of the variance in

the percentage of students meeting the high standards for math for progressive charter schools. The results show (see Table 14) that the percentage of students with free or reduced lunch was a significant predictor, B = -0.34, p = .001, suggesting for every percentage increase in the number of students with free or reduced lunch, the percentage of students meeting the high standards for math decreased by 0.34 points. The percentage of minorities was not a significant predictor at B = -0.07, p = .221. Being a Title I school also was not a significant predictor at B = 3.42, p = .396. The null hypotheses is rejected; there is a relationship between progressive charter schools' percentage of students meeting the high standards in math and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Table 14

Multiple Linear Regression with the Demographic Measures Predicting Percentage of Students with High Standards in Math for Progressive Charter Schools

Source	*B*	*SE*	β	*t*	*p*
Percentage of reduced or free lunch students	-0.34	0.08	-0.51	-4.20	.001
Percentage of minority students	-0.07	0.06	-0.12	-1.23	.221
Being a Title I school	3.42	4.02	0.09	0.85	.396

Note. F (3, 122) = 16.71, $p < .001$, $R^2 = 0.291$

Research question 7: Is there a difference in the three traditional charter school regression models and the three progressive charter school regression models?

Three Levene's tests were conducted to assess if there was a difference in the regression models by charter school type (traditional vs. progressive). The results of all three Levene's tests (see Table 15) were not significant, suggesting that there was no difference between the three traditional charter school regression models and the three progressive

charter school models. The null hypothesis is accepted; there is no difference between the three traditional charter school regression models and the three progressive charter school models.

Table 15

Levene's Test for Three Regression Models by Charter School Type

Model	*F*	*df1*	*df2*	*p*
FCAT school performance grade	0.21	1	284	.647
Percentage meeting high standards in reading	0.06	1	284	.800
Percentage meeting high standards in math	1.35	1	284	.246

General, vocational, and alternate delivery charter school are not addressed in the multiple regression models due to small sample sizes, but are illustrated for this study in descriptive statistics as a means of comparison to traditional and progressive schools. Means and standard deviations for general, vocational and alternate delivery charter schools' information is presented in Table 16 and 17. Title I statistics are presented in Table 18.

Table 16

Means and Standard Deviations for General and Vocational Schools' Information.

	General		Vocational	
	M	*SD*	*M*	*SD*
FCAT School Performance Grades	3.00	1.297	3.25	.957
Percentage Meeting High Standards in Reading	71.25	18.64	77.00	13.76
Percentage Meeting High Standards in Math	69.40	19.03	62.25	26.285
Percentage with Reduced or Free Lunch	63.55	23.53	43.00	31.12

Percentage of Minorities	51.50	30.55	61.75	40.50

Table 17

Means and Standard Deviations for Alternate School's Information.

	Alternate	
	M	*SD*
FCAT School Performance Grades	0	0
Percentage Meeting High Standards in Reading	12.75	6.850
Percentage Meeting High Standards in Math	3.5	4.35
Percentage with Reduced or Free Lunch	41.75	7.18
Percentage of Minorities	85	12.138

Table 18

Frequencies and Percentages for Title I Membership.

School	*n*	%
General		
Non-Title I	10	50.00
Title I	10	50.00
Vocational		
Non-Title I	2	50.00
Title I	2	50.00
Alternate Delivery		
Non-Title I	4	100.00
Title I	0	0

Summary

Multiple regression models were used in this study to examine the ability of three minority/SES related demographic measures (percentage of reduced or free lunch (RFL), percentage of minorities (M), and Title I/non-Title I designation (T1) to predict academic achievement (FCAT school performance grades (FCAT), the percentage of students meeting high standards in reading (HSR), the percentage of students meeting high standards in math (HSM)) in two types of charter schools (traditional and progressive). The pooled means and standard deviations traditional charter schools were FCAT 3.07 (*SD* = 1.28), HSR 68.24 (*SD* = 1.28), HSM 70.07 (*SD* = 19.65), RFL 52.43, (SD = 27.28), and M 67.28, (*SD* = 29.74), respectively. The pooled means and standard deviations of progressive charter schools were FCAT 2.99 (*SD* = 1.37), HSR 68.45 (*SD* = 18.88), HSM 69.22 (*SD* = 18.04), RFL 46.62, (SD = 27.25), and M 55.83, (*SD* = 30.95), respectively. The percentage of Title I that were not Title I was 56.3 % (90) for traditional charter schools and 67.5 % (85) for progressive charter schools (85, 67.5%). Levene's test for difference between multiple regression models of traditional charter schools and progressive charter schools: FCAT (*F* = 0.21, *p* = .647), HSR (*F* = 0.06, p = .800), and HSM (*F* =1.35, *p* = .246).

The multiple linear regressions for (FCAT, HSR, and HSM) were significant for traditional charter schools. The null hypotheses is rejected for traditional charter schools FCAT; there is a relationship between traditional charter schools in the Florida public school system FCAT and the three minority/SES related demographic measures (RFL, M, and T1). The null hypotheses is rejected for traditional charter schools HSR; there is a relationship between traditional charter schools in the Florida public school system

HSR and the three minority/SES related demographic measures (RFL, M, and T1). The null hypotheses is rejected for traditional charter schools HSM; there is a relationship between traditional charter schools in the Florida public school system HSM and the three minority/SES related demographic measures (RFL, M, and T1).

The multiple linear regressions for (FCAT, HSR, and HSM) were significant for progressive charter schools. The null hypotheses is rejected for progressive charter schools FCAT; there is a relationship between progressive charter schools in the Florida public school system FCAT and the three minority/SES related demographic measures (RFL, M, and T1). The null hypotheses is rejected for progressive charter schools HSR; there is a relationship between progressive charter schools in the Florida public school system HSR and the three minority/SES related demographic measures (RFL, M, and T1). The null hypotheses is rejected for progressive charter schools HSM; there is a relationship between progressive charter schools in the Florida public school system HSM and the three minority/SES related demographic measures (RFL, M, and T1).

CHAPTER FIVE: DISCUSSION

This chapter will cover the discussion aspects of this study. It will consist of the summary of the findings, discussion in light of relevant research, limitations and recommendations for future research, and conclusion. The discussion analyzes the findings of this study and how it relates to Carpenter's (2006) typology study, Carpenter's (2007) Colorado charter school typology study, and other relevant research. This will also be referred also the Florida charter school typology study or Florida study. The following research questions and their hypothesis will be discussed:

RQ1: Is there a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ2: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ3: Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ4: Is there a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ5: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ6: Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

RQ7: Is there a difference between the three traditional charter school regression models and the three progressive charter school regression models?

The Null Hypotheses:

$H1_0$: There is no relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures.

$H2_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H3_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H4_0$: There is no relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures.

$H5_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading on the FCAT and the three minority/SES related demographic measures.

$H6_0$: There is no relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math on the FCAT and the three minority/SES related demographic measures.

$H7_0$: There is no difference between the three traditional charter school regression models and the three progressive charter school regression models.

Summary of the Findings

A total of 160 traditional and 126 progressive charter schools participated in the study. The lowest FCAT school performance grade was 0 (F) and the highest grade was 4 (A). On average, traditional charter schools scored slightly better than progressive charter schools on FCAT performance grades. The average percentage of students that met the high standards in reading for traditional charter schools was almost the same as progressive charter schools. The results were very similar with traditional and progressive charter schools for the average percentage of students that met the high standards for math. With the average percentage of students with free or reduced lunch,

traditional charter schools had a slight edge. The percentage of minority students was very different between the traditional charter schools and progressive charter schools. Traditional charter schools had a significant edge in this category. The significant majority of the traditional charter schools and the progressive charter schools were not Title I members. Traditional charter schools having a slight edge for non-title I schools.

Even though the sample size of general, vocational, and alternate delivery were too small to be used in a multiple regression model, their descriptive statistics is useful in seeing how they compare to traditional and progressive charter schools. The descriptive statistics showed that general vocational charter schools were comparable to traditional and progressive charter schools in the means of FCAT school performance grades. Alternate delivery schools scored well below the other types and had a significant higher percentage of minorities than the other four types. In the areas of the percentage of students meeting high standards in math and reading, general and vocational schools had similar numbers to traditional and progressive schools. But the numbers are based on a much smaller sample size than the traditional and progressive charter schools.

Research question 1. Is there a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

The multiple linear regression for this model was significant. Within the model, the percentage of students receiving reduced or free lunches was a significant predictor for FCAT school performance grades. The percentage of minority students and being a Title I school was not a significant predictor of FCAT school performance grades. The

null hypotheses is rejected; there is a relationship between traditional charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Research question 2. Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in reading and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

The multiple linear regression for this model was significant. Within the model, the percentage of students receiving reduced or free lunches was a significant predictor for the percentage of students meeting high standards in reading. The percentage of minority students and being a Title I school was not a significant predictor the percentage of students meeting high standards in reading. The null hypotheses is rejected; there is a relationship between traditional charter schools in the Florida public school system percentage of students meeting the high standards in reading and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Research question 3. Is there a relationship between traditional charter schools in the Florida public school system percentage of students meeting high standards in math and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

The multiple linear regression for this model was significant. Within the model, the percentage of students receiving reduced or free lunches was a significant predictor

for the percentage of students meeting high standards in math. The percentage of minority students and being a Title I school was not a significant predictor the percentage of students meeting high standards in math. The null hypotheses is rejected; there is a relationship between traditional charter schools in the Florida public school system percentage of students meeting the high standards in math and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Research question 4. Is there a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

The multiple linear regression for this model was significant. Within the model, the percentage of students receiving reduced or free lunches was a significant predictor for FCAT school performance grades. The percentage of minority students was a significant predictor for FCAT school performance grades. Being a Title I school was not a significant predictor for FCAT school performance grades. The null hypotheses is rejected; there is a relationship between progressive charter schools in the Florida public school system FCAT school performance grades and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Research question 5. Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in

reading, and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

The multiple linear regression for this model was significant. Within the model, the percentage of students receiving reduced or free lunches was a significant predictor for the percentage of students meeting high standards in reading. The percentage of minority students was a significant predictor for the percentage of students meeting high standards in reading. Being a Title I school was not a significant predictor the percentage of students meeting high standards in reading. The null hypotheses is rejected; there is a relationship between progressive charter schools in the Florida public school system percentage of students meeting the high standards in reading and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Research question 6. Is there a relationship between progressive charter schools in the Florida public school system percentage of students meeting high standards in math and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and Title I/non-Title I designation)?

The multiple linear regression for this model was significant. Within the model, the percentage of students receiving reduced or free lunches was a significant predictor for the percentage of students meeting high standards in math. The percentage of minority students was not a significant predictor for the percentage of students meeting high standards in reading. Being a Title I school was not a significant predictor the percentage of students meeting high standards in math. The null hypotheses is rejected;

there is a relationship between progressive charter schools in the Florida public school system percentage of students meeting the high standards in math
and three minority/SES related demographic measures (percentage of reduced or free lunch, percentage of minorities, and being a Title I school).

Research question 7. Is there a difference between the three traditional charter school regression models and the three progressive charter school regression models? The results of all three Levene's tests were not significant. The null hypothesis is accepted; there is no difference between the three traditional charter school regression models and the three progressive charter school models.

Discussion and Implications in Light of the Relevant Literature

In this study, charter schools were categorized based on Carpenter's (2006) typology study. He categorized charter schools into five categories based on their enrollment and educational approach: traditional, progressive, general, vocational, and alternate delivery. In Carpenter's study, over 80 % of charter schools were categorized as traditional or progressive. The Florida charter schools used in this study showed similar results. Traditional and progressive schools represented over 91% of total charter schools in the state of Florida. Nine percent of charter schools were classified as general, vocational, or alternate delivery. There are not many studies that examine charter school types and academic achievement. Carpenter (2006) recommended that further research be conducted in academic achievement based on charter school types (Carpenter, 2006). In his study of charter schools types in the Colorado school system which will be examined further, he measured academic achievement and several socioeconomic factors (Carpenter & Kafer, 2009).

In the review of literature, scholars debate about the use of free or reduced lunch as a SES measure. Some scholars feel that it is not an accurate measure of socioeconomic status. Its common use in education research and is tied to federal government guidelines which are used for federal funding for schools. Research shows that when free or reduced lunch statistics are compared with educational outcomes, there is commonly a negative correlation between the two (Harwell & LeBeau, 2010). This means that students who receive free or reduced lunch generally have lower academic achievement and educational outcomes. The results of this study tend support overwhelming literature on free or reduced lunch as an SES measurement. For traditional charter schools, in all three models of multiple regression, reduced or free lunch percentages of schools were a significant predictor of FCAT school performance grades and percentage of students meeting high standards in math and reading. There were similar results for progressive charter schools. In every regression model for progressive charter schools, the percentage of free or reduced lunch was a significant predictor of FCAT school performance grades and percentage of students meeting high standards in math and reading. A study by McCollum, McNeese, Styron, and Lee (2007) compared reading achievement of third grade students. They identified students who are at risk who had the lowest test scores with a 100% free lunch and transportation and 95% minority enrollment. Their results showed that free lunch was a significant predictor of reading achievement among third grade (McCollum, et al., 2007). Zhang's (2009) study of the Hawaii school system used reduced or free lunch as a SES measurement and showed that it was a significant predictor of academic achievement on a school level (Zhang, 2009).

The results of this study showed the percentage of minorities was a significant predictor of FCAT school performance grades among progressive charter schools whereas among traditional charter school it was not a significant predictor. The results were similar for the percentage of minorities being a significant predictor for students meeting high standards in reading among progressive charter schools. It further showed that the higher the percentage of minorities, the lower the percentage of students who met high standards in reading. Review of the literature shows that this is in line with other research that shows that minorities do not perform as well as Whites in reading. Among traditional charter schools, the percentage of minorities was not a significant predictor for students meeting high standards in reading. This is contrary to the literature for students meeting high standards in math among progressive charter schools, results showed that the percentage of minorities was not a significant predictor. Since the 1990s, achievement gaps in test scores have remained basically unchanged. African American and Hispanic students have performed significantly worse on achievement tests (reading and math) than White and Asian students (Stiefel et al., 2006). The percentage of minorities was a significant predictor for students meeting high standards in math among traditional charter schools. The results for traditional charter schools show that math scores are significantly affected by the percentage of minorities at a school. The multiple regression models of traditional charter schools shows that the percentage of minorities is a significant predictor of the percentage of students meeting high standards in math is similar to the literature on minorities and math academic achievement. Compared to other literature, traditional charter schools are more in line with other research which indicates that being a minority is a significant predictor of academic achievement in an

adverse way. Olszewski-Kubilius's (2006) study showed that matter what the setting is, whether urban or suburban schools, low-SES or high-SES, the achievement of minority students are below that of non-minority students. Statistically, this is shown in every educational measurement including, standardized achievement exams, grades, high school completion, and college attendance (Olszewki-Kubilius, 2006).

Billions of dollars are spent on Title I programs that are designed to meet the needs of minorities and disadvantaged students and close the achievement gap (Gorey, 2009). The findings of this study show that in all applicable models, Title I status was not statistically significant with academic achievement. In the state of Florida, the majority of Title I schools that are classified as needing improvement is comprised of poor and minorities. On the state achievement test, the FCAT, African American and Hispanic students, English language learners, and students with disabilities consistently performance below grade level (Simon, 2010). A study by Borman and D'Agostino (1995) used a meta-analysis study to evaluate Title I programs to consider whether its program services had a significant impact on student achievement. The original expectations of Title I was to close the achievement gap, but evidence from this study showed that Title I has fallen short of closing the achievement gap. However, the findings also showed that the achievement gap would be greater without the intervention of Title I programs (Borman & D'Agostino,1995). Considering that billions of dollars are spent on Title I programs, there needs to be consideration on whether funds are being adequately utilized and maybe it can be spent better on charter schools or public schools that better serve the needs of minorities and disadvantaged students. Title I is not a

commonly used measurement of SES, but it must be pointed out again that there was not a significant predictor of academic achievement in the findings of this study.

The research questions addressed in this study sought to determine if there is a relationship between academic achievement of traditional and progressive charter schools and three minority/SES factors. The multiple regression models showed that there is a relationship between these variables. The findings are in line with the literature that consistently shows that among schools in general that there is a relationship between academic achievement and SES factors.

Levene's test showed that there is not a significant difference between traditional charter schools and progressive charter schools in the multiple regression models, even though the statistics do show that traditional charter schools have a slight edge in overall academic achievement with progressive charter having a slight edge in students meeting high standards in reading. This is despite the fact that traditional charter schools have a significant higher percentage of minorities in Florida.

In the descriptive statistics of this study, the first statistic that stood out was the percentage of minorities that attend traditional charter school versus the percentage of students who attend progressive charter schools. The mean for traditional charter schools was 65% compared to 59% in progressive charter schools. The difference was notable and might indicate several factors. It appears that educators of charter schools in Florida who have a larger majority of minorities prefer to use the traditional approach which probably is more geared to preparing students for FCAT testing. FCAT tend to be more focused on the rigors of reading, writing, and arithmetic. Some educators feels that "teaching to the test" is less desirable because it deemphasizes extracurricular activities

and then have teachers veered away from innovative teaching methods under the pressure of getting a passing grade on the FCAT (Greatschools.com, 2011). While politicians believe that it is the best way achieve accountability, educators argue that are dangers in "teaching to the test". They believe that it makes curriculum too restrictive and hinders children's imaginative thinking (Burke, 2011).

That being said, the findings showed that traditional charter schools outperformed progressive charter schools with a mean school performance grade of 3.07 to 2.99. This was despite the fact that traditional charter schools tend to have a higher percentage of minority students. This finding could indicate that minorities perform better when the teacher-centered traditional approach is used. Some educators counter by saying that too much emphasis is placed on FCAT testing and it takes away from students being more balanced (Greatschools.com, 2011). The student-centered progressive approach tends to focus on the whole student whereas the traditional tend to focus on preparation for the rigors of college with an on emphasis on reading, writing, and arithmetic (Reese, 2001).

There is only one other known study that measures academic achievement and socioeconomic factors using Carpenter's (2006) typology survey. The study, *A Typology of Colorado Charter School*, was conducted by Dick Carpenter, Ph.D. and Krista Kafer in 2007. Dick Carpenter is the same author of 2006 Charter school typology. Their study sought to answer the question, "What types of charter schools best serve students or groups of students?" Based on the methods and typology created by Carpenter's 2006 study for the Thomas B. Fordham Institute, Colorado charter schools were categorized into five types: traditional, progressive, general, vocational, and alternate delivery. The

study also grouped charter school into two other categories: open enrollment and targeted enrollment (Carpenter & Kafer, 2009).

Their study measured the percentages of the different types of charter schools, student demographics including percentages of minorities and percentages of free or reduced lunch students. It also measured teacher to pupil ratios, age of charter school, safety and discipline infractions, and student achievement according to mean math and reading scores (Carpenter & Kafer, 2009). The Colorado charter school study is quite different from the research of Florida charter schools in this dissertation in design and structure. Carpenter's Colorado study is called an executive summary and does not attempt to be a pure research model with a research design and methodology. It cannot be called a pure quantitative research with a hypothesis or a qualitative research. But it does provide useful information on the types of charter schools, academic achievement, socioeconomic data, and other relevant data (Carpenter & Kafer, 2009). Both studies use Carpenter's (2006) typology study as a basis for categorizing charter schools, but the Florida study does not divide charter schools types by open or targeted enrollment. In both studies, over 90% of charter schools are open enrollment.

The Florida charter school study uses multiple regression models to identify the relationship between charter school types, socioeconomic factors, and academic achievement. It seeks to examine if three minority/SES measures is a significant predictor of academic achievement among charter schools. It also focuses on two types of charter schools in its study: traditional and progressive. The Colorado study is broader in scope but does not have a true scientific basis. The two studies cannot be directly compared; however, there are a few interesting similarities and differences between the

two studies. In the Colorado study the breakdown of charter school types are as follows: traditional 65.46%, progressive 26.61%, general 2.87%, vocational 2.15%, and alternate delivery 2.87% (Carpenter, 2007). The Florida study of charter school types are as follows: traditional 51%, progressive 40%, general 6.3%, vocational 1.3%, and alternate delivery 1.3%. It is noted that the combination of traditional and progressive schools presents very similar numbers for both the Colorado and the Florida study; 92% and 91% respectively.

Both the Colorado and the Florida studies measure the percentage of minorities and percentage of free or reduced lunch students in the different types of charter schools. In the Colorado study, a little over 90% of students are classified as open enrollment with traditional charter schools averaging 33% minorities compared to 37% minorities in progressive charter schools. In the Florida study, the mean percentage of minorities in traditional schools was 67.28% and 55.83% for progressive charter schools. The percentage of minorities was considerably higher in the Colorado charter school study. The highest percentage in the Colorado study was with alternate delivery with a mean of 63%. But it must be noted that there were only four alternate delivery charter schools used in the Colorado study. In the Florida charter school study, the mean percentage of minorities in alternate delivery school was 85% with a total of only four schools.

In academic achievement, the two studies used different measurements to quantify academic performance. The Colorado study used mean math and reading scores for students who attended charter schools, and the Florida study uses FCAT school performance grade based on the FCAT, percentage of student meeting high standards in math and reading. The Florida study focuses on school percentages and the Colorado

study focuses directly on student test scores. In both studies, standardized tests were the basis for measurement of academic achievement.

The primary comparison in the two studies is between traditional and progressive schools which comprise the majority of charter school types. In FCAT school performance grades, traditional charter schools slightly outperformed progressive charter schools, even though traditional had a considerably higher mean percentage of minorities than progressive schools. A small sample of twenty general charter schools had the advantage in students meeting high standards in math with a mean of 71.25%. Vocational charter schools had the advantage in students meeting high standards in reading with a mean of 77%, with a small sample of only four schools. In the Colorado study, traditional charter schools outperformed progressive charter schools in all three school scale scores measured in the study: mean math, mean reading, and mean math/reading. With a small sample size, alternate delivery schools had the highest mean reading score of 679.80 (Carpenter & Kafer, 2009). Table 19 shows the comparison of scores between traditional and progressive charter schools of the Colorado study.

Table 19

School Scale Score by Type, Traditional and Progressive

	Math	Reading	Mean Math/Reading
Traditional	568.15	665.71	622.52
Progressive	542.37	651.53	607.53

In both the Colorado and Florida studies, traditional charter schools overall outperformed progressive charter schools even though their academic achievement measurements were different. The educational approach of traditional charter school had

a slim edge in academic performance and a case can probably be made that it better prepares students for standardized testing in both settings. But certainly there is need for more studies of the two primary types of charter schools, especially of an experimental nature. The Florida study, traditional charter schools had a higher mean in percentage of minorities than progressive charter schools (65% to 59%), but in the Colorado study, progressive charter schools had a higher mean percentage of minorities than traditional charter schools: 37% to 33%. Yet, the traditional charter schools outperformed progressive charter schools in academic achievement in both studies.

Limitations and Recommendations for Future Research

There have been studies which categorized charter schools by types in various forms. However, research on charter school typology and academic achievement is very limited. Carpenter's (2006) typology study categorized charter schools in five states and identified charter schools types by educational approach. This study of charter schools in Florida is based on Carpenter's typology and compares charter schools types, three SES factors and academic achievement. It was limited to charter schools in the state of Florida who took FCAT testing in the school year 2009-10. Academic achievement was measured by using FCAT school performance grades and the percentage of students meeting high standards in math and reading. The percentages for math and reading only considered students who met high standards and not overall achievement. No individual FCAT scores were used in this study. SES factors were measured by the use of percentages of minorities, free or reduced lunch, and Title I status. Individual measurement was not used. The application of these kinds of measurement was used primarily due to Florida's over-emphasis on FCAT testing. This study is very different

from Carpenter & Kafer's (2009) study on charter school typology in the state of Colorado which used standardized school scale scores (Carpenter & Kafer (2009). So far, the Colorado and Florida studies are the only states using Carpenter's (2006) typology. The results of this study have direct application to the state of Florida education system and limited application to the Colorado charter school study. The results of future studies that use Carpenter's (2006) typology can also be compared to the Florida typology study.

The internal threats to this study includes the accuracy of the charter school typology and the use of FCAT school performance grades and percentage of students meeting high standards in math and reading as measurement of academic achievement. To control for the accuracy of charter school typology, various methods was used to verify classification of a charter school which include accessing various educational websites, using Carpenter's (2006) typology checklist, and using a panel of experts (two charter school principals). To justify the use of FCAT school scores as a measurement of academic achievement, the studies shows the reliability and validity of FCAT scores as well as its correlation to SAT-9 scores. The threat to external validity relates to the generalization of academic achievement in the Florida charter schools to academic achievement in other states. It is difficult to control for or determine external validity since the 2007 Colorado charter school typology study is the only similar study. More research is needed on measuring charter school typology and academic achievement.

It is recommended that futures studies be conducted using Carpenter's (2006) typology study, especially in the states that were surveyed: Arizona, California, Florida, Michigan, and Texas. A typology catalog also needs to be developed to list charter

schools by name and type based on Carpenter's (2006) typology study. It can establish a basis for comparison of academic achievement across state lines. However, it has to be noted that standardized testing is different in the different schools system. A more accurate comparison of academic achievement can be the use of standardized tests that are used on a national scale. However, general measures of academic achievement can be useful in determining which charter school types are most effective. Other typology of charter schools are similar to Carpenter's (2006) typology study and a general measure of academic achievement can also be beneficial to do the body of research in this area.

The methodology of this dissertation study uses existing data, but an experimental research can more accurately measure academic achievement among the different types of charter schools. A longitudinal study over several years would be very useful. Further research also needs to be conducted on what type of charter school is best suited for minorities and students of low socioeconomic status in various areas of academic and socioeconomic measurements. With NCLB being so focused on closing the achievement gap between minorities and Whites, this type of research would be very beneficial in the targeting of educational funding.

Conclusion

In the preliminary stages of researching charter school types and academic achievement, it appears that the educational approach of traditional charter schools has a slight edge over progressive charter schools in academic achievement using standardized testing as the measurement. But it the opinion of this researcher that it is not enough to determine that traditional charter schools better prepare students for standardized testing, but it does gives some indicators, even considering the results of the Colorado charter

school study that confirms the advantage of traditional charter schools in academic achievement. There has to be a lot more research conducted in academic achievement and charter school typology.

In considering SES factors, the multiple regression models of this study show that there is a relationship between three minority/SES measurements (percentage of minorities, percentage of reduced or free lunch, and Title I designation) and academic achievement based on FCAT testing for traditional and progressive charter schools. For the most part, the findings are in line with the literature that clearly shows that there is a significant correlation between the two factors. There were several findings that stood out in this study: the percentage of minorities in the two major types of charter schools and the impact of reduced or free lunch percentages on academic achievement. Traditional charter schools had a considerable higher percentage of minorities than progressive schools but yet had higher academic achievement. The multiple regression models show that minorities appear to have that advantage academically in traditional charter schools over progressive charter schools in Florida. In traditional charter schools, the percentage of minorities was not significant in math achievement which illustrates that minorities performed well in math as compared to Whites. In every regression model, free or reduced lunch percentages had a negative correlation on academic achievement which in line with the literature. Finally, Title I school designation was not statistically significant in academic achievement in every multiple regression model. But overall, the findings show that there is not a significant statistical difference between traditional and progressive charter schools when minority/SES factors are used to predict academic achievement based on the FCAT.

Charter school typology is in its early stages of research. Much research has been conducted on academic achievement of charter school compared to public schools, but very little has been conducted on the types of charter schools and academic achievement. In this tough economic time, legislators, educators, and community leaders are looking for best way to serve the needs of students, especially efforts designed to close the achievement gap between disadvantaged and advantaged students (Braun et al., 2006). Charter schools have the ability to be more flexible in meeting the needs of students, especially minorities and special needs students. More research will determine what types of charter schools meet the needs of different groups of students, with present research showing two most prominent types of charter schools are traditional and progressive.

It is the intent of this researcher to use this study as a basis to establish charter schools that are particularly designed to meet the needs of minority boys who are delinquent and academically deficient. Further research should help determine whether the teacher-center, core curriculum traditional approach or the student-centered, constructivist progressive approach works best. Or maybe some combination of the two or other types of charter school approach is more suitable. From the findings in this study and the Colorado typology study, it appears that traditional charter schools are more suited for standardized testing for minorities. There is much debate over the validity of standardized testing being a true indicator of educational achievement, but it cannot be ignored since college, board exams, and organizational testing use these to measure academic ability. Some educators feel that it should be used in conjunction with various other means and should not be the sole means of measurement.

In considering the different types of charter schools and educational approaches, the moral decline in society and school cannot be ignored. Educational achievement can lead to success and more prosperous lifestyle. Having just knowledge is not enough and it cannot be the end all. “What shall it profit a man, if should gain the whole world and lose his own soul” (Mark 8:36). “The fear of God is the beginning of knowledge . . .” (Proverbs 1:7). The spiritual aspect of education should be considered as part of the solution to meet the needs of disadvantaged students. With charter schools being privately run, they have the flexibility to incorporate spirituality as a part of their educational approach. As a predominantly Christian nation, it is an opportunity to make Jesus the foundation of improving academic achievement of minorities and special needs students. We as Christian administrators and educators have to be at the forefront of the effort and not take a back seat to secular education and a populist movement to make God obsolete in our educational system.

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APPENDIX A

LIBERTY
UNIVERSITY

The Graduate School at Liberty University

May 2, 2011

Reginald Thompson
IRB Exemption 1103.050211: Charter School Types and SES Effects of FCAT School Performance Grades

Dear Reginald,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your application, and that no further IRB oversight is required unless your data collection extends past the one year approval granted by this memo, in which case you would submit the annual review form attached to your approval email.

Your study falls under exemption category 46.101 (b)(4), which states:

(4) Research involving the **collection or study of existing data**, documents, records, pathological specimens, or diagnostic specimens, **if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.**

Please note that this exemption only applies to your current research application, and that any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption, or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

Fernando Garzon, Psy.D.
IRB Chair, Associate Professor
Center for Counseling & Family Studies

(434) 592-5054
LIBERTY
UNIVERSITY.
40 Years of Training Champions for Christ: 1971-2011

APPENDIX B

JOURNAL OF SCHOOL CHOICE

Charter School Typology with Instructional Sub-Themes

Traditional
math-science
Core Knowledge
back-to-basics
college prep
Edison

Progressive
multicultural
ethnocentric
dual language immersion
international/global
International Baccalaureate
progressive
multiple intelligences
constructivist
problem-based
project-based
experiential
Montessori
Paideia
Waldorf
environmental
technology
arts

Vocational
vocational
technical
school-to-work
entrepreneurship
business

General
general
conversion

Alternative Delivery
home study
virtual
hybrid