

RACE, SOCIO-ECONOMIC STATUS, SCHOOL-LEVEL RESOURCES AND PARENTAL  
INFLUENCES ON FCAT SCORES IN FLORIDA: A QUANTITATIVE STUDY.

by

Tara C. King

B.A. University of Central Florida, 2004

A thesis submitted in partial fulfillment of the requirements  
for the degree of Master of Arts  
in the Department of Sociology  
in the College of Arts and Sciences  
at the University of Central Florida  
Orlando, Florida

Fall term

2005

© 2005 Tara C. King

## **ABSTRACT**

There is an abundance of literature that focuses on the standardized test score difference between minority and non-minority students. Within this literature, socio-economic factors, parental influences, and school-level resources have been used to explain the difference in test scores. The purpose of this study is to identify the variables that are thought to significantly influence test score achievement. The data come from the Florida Department of Education and the US Census. Linear regression analyses results are used to examine the relationship between the independent and the dependent variables. The results showed that overall economic factors are more closely related to FCAT scores than race. More specifically, the percent of students receiving free lunch was negatively correlated with FCAT scores.

I would like to dedicate this thesis to my husband Terry and my two children, Chloe and Patrick. Without the support of Terry, I would not have been able to make it through graduate school while raising a family. Once again, I will always be thankful for his unwavering support. To my children, I hope that I have showed you that an education is your open door for the future.

## **ACKNOWLEDGMENTS**

I would like to thank Drs. Jana Jasinski, Ida Cook, and Liz Grauerholz for their guidance with this research and assistance throughout my graduate studies at the University of Central Florida. They have provided me with knowledge, support, and encouragement. I especially thank Dr. Jasinski for taking time out of her busy schedule to guide me in the right direction. It has been my honor to have her as the Chair of my Committee and as my adviser.

## TABLE OF CONTENTS

LIST OF TABLES .....	viii
LIST OF ACRONYMS/ABBREVIATIONS .....	ix
CHAPTER ONE: INTRODUCTION.....	1
CHAPTER TWO: LITERATURE REVIEW.....	3
Origin of Tests: Historical to Modern-Day.....	3
Explanations: Test Performance Inequality .....	5
Race and Ethnicity .....	6
Parental Income and Socio-economic Status.....	7
Parental Education .....	9
Family Roles and Parental Involvement.....	10
School-level resources .....	11
Conflict Theory.....	13
Hypotheses.....	15
CHAPTER THREE: METHODOLOGY .....	17
Data Analysis Strategy.....	18
Unit of Analysis .....	19
Sample.....	19
Independent Variables: School Level Variables.....	21
Race and Ethnicity- The Percentage of White, Black, Hispanic, and “Other” Students in a School .....	21
The Percentage of Students Receiving Free Lunch in a School .....	22

School-Level Resources: Per Pupil Expenditure, Student/Teacher Ratio, and Teacher Qualification Within a School .....	22
Independent Variables: County Level Variables .....	23
Parental Involvement-PTA Involvement .....	23
Education- The percentage of the population with a BA degree or higher .....	24
Marital Status-Female Headed Households.....	24
Rural/ Urban Counties .....	25
Dependent Variables: School Level Variables .....	25
Mean Math and Reading FCAT Scores .....	25
CHAPTER FOUR: FINDINGS .....	27
CHAPTER FIVE: CONCLUSION.....	39
LIST OF REFERENCES .....	44

## LIST OF TABLES

Table 1: Descriptives : Sample characteristics for the Dependent and Independent Variables	34
Table 2: Bivariate Correlations – Independent variables affect on mean math FCAT score and mean reading FCAT score .....	35
Table 3: Correlation Matrix .....	36
Table 4: Stepwise Regression: Dependent variable- Mean FCAT reading Score.....	37
Table 5: Stepwise Regression: Dependent variable- Mean FCAT Math Score.....	38



## **LIST OF ACRONYMS/ABBREVIATIONS**

FCAT	Florida Comprehensive Aptitude
FLDOE	Florida Department of Education
AFQT	Air Forces Qualifications Test
NEA	National Education Association
PBS	Public Broadcasting System

## **CHAPTER ONE: INTRODUCTION**

In the last decade, standardized testing has become a common practice in American schools used to measure student achievement and proficiency in English, math and science (Linn , 2000). Standardized tests are administered to students as a means of providing school administrators with a measure of student achievement. Since large numbers of students throughout the nation take the same tests, they give educators a standard measurement of achievement and an indication of how well students are performing according to accountability plans (US Department of Education).

Furthermore, in addition to providing a measure of student performance, test scores have become determinants of whether schools receive funding, whether students get promoted to next grade, or if students are able to graduate. According to Linn (2000), it has been long contended by educators and researchers that statewide standardized tests are not the best indicators of scholastic aptitude. The test is often not curriculum driven and may be culturally-biased because it doesn't take into account that some students have recently immigrated to the country. Because of these hindrances, students with low test scores may be retained in grade or forced to attend summer school. There have been proposals to start testing as early as kindergarten (Bracey, 2000).

On the other hand, for people who are concerned with public education, tests may be a way to hold teachers and students accountable (Jencks & Phillips, 1998). According to the National Education Association (NEA), “schools, teachers, and students should all be held to high standards, and NEA believes that accountability should be shared by schools, education employees, policymakers, and parents---with the ultimate goal of helping students (pg. 6)”.

They believe that standardized tests are an important part of the equation for student achievement ([www.nea.org/accountability/index.html](http://www.nea.org/accountability/index.html)).

However, some literature suggests that racial inequality is evident in standardized test scores. According to the National Assessment of Educational Progress (NAEP, 2000), the standardized test scores of Black students have trailed behind White students for the past 30 years in reading, vocabulary, and math. Opponents of testing argue that minorities including immigrants do not have the same opportunities and access to resources as White students needed for test achievement (Jencks & Phillips, 1998). For example, in one high school in Miami-Dade County, FL, with a student body population comprised of 99% minority students, only 41% of students passed the 10<sup>th</sup> grade reading portion of the FCAT. In comparison, in a high school in Seminole County, FL, with a student population that is 68% White students, 65% percent of the students passed the same test in question ([www.Greatschools.net](http://www.Greatschools.net), 2000).

The purpose of this paper is to examine how race and ethnicity are related to test score performance. Secondly, how do additional variables such as student demographics, school-level resources, and family roles affect standardized test performance, specifically the FCAT. This paper will attempt to answer the question, “does race have an independent effect on FCAT scores after controlling for other variables”? More specifically, is race still associated with FCAT scores after controlling for the effects of student demographics, school-level resources, and family roles.

## **CHAPTER TWO: LITERATURE REVIEW**

This research will look at standardized testing in America, specifically the Florida Comprehensive Assessment Test (FCAT). Additionally, it will examine the variables that are thought to influence test performance. These variables include race, income, marital status, education, school-level resources, parental involvement, and population density. Conflict theory, used as a theoretical framework, attributes variations in family characteristics, especially unequal access to educational resources, as determinants of test score inequality. This theoretical perspective suggests that children from low-income families, a large proportion of whom are minorities, tend to live in poor areas, go to poor schools, and receive inadequate education, and that children from wealthy families tend to live in more affluent neighborhoods, go to well funded schools, and have a greater access to educational resources to obtain a good education (Dittmer, 2004). Arguably, differences in parental socio-economic status are likely to be strongly correlated with educational achievement (Rothstein, 2004).

### **Origin of Tests: Historical to Modern-Day**

The educational system has used testing as a tool for assessing student performance and proficiency in English, math, and science for many years. Historically, tests and the practice of test giving was commonplace in educational systems in America. According to the Public Broadcasting System ([www.pbs.org/kcet/publicschools/](http://www.pbs.org/kcet/publicschools/)), tests and quizzes were commonly used

for assessment as far back as 1870. Often, teachers would use these assessments to measure proficiency in a subject by conducting an oral stand-up quiz at the end of the school day. In the 1870's, the first standardized test of major significance was introduced. In fact, in order to attend high school, students of rural schools were required to pass the Eighth Grade Examination ([www.pbs.org/kcet/publicschools/](http://www.pbs.org/kcet/publicschools/)). This exam was two days long and administered at the county seat. In modern day educational institutions, students are still tested by informal quizzes and exams as a way of measuring students' understanding. In addition to informal quizzes, the standardized test is another type of test that is commonplace in schools today.

According to Kozol (2000)a, testing can be very useful for teachers as a diagnostic tool in addition to being used a warning sign for communities to compare their schools with those in other neighborhoods to identify differences. If communities study these differences sharply enough then they will usually find a close correlation between family income, per-pupil spending and educational achievement. Kozol (2000)a argues that some students do not have the preparation and access to resources that other students have. In other words, there exists a “searing inequality of public education in our society” (Kozol, 1992). Moreover, the inequalities persist between mostly urban minority schools and mostly rural/ non-urban White schools. As a result, educational achievement, specifically test achievement, may be negatively affected by these differences in resources.

## **Explanations: Test Performance Inequality**

A wide range of factors have been suggested to explain racial differences in student achievement test scores, with an emphasis on students' family background (Brooks-Gunn, Kiebanov, & Duncan, 1996). Such explanations can range from ethnicity, income levels, family status, parental involvement and school-level resources. Kozol (1991) argues inequality in access to educational resources is largely responsible for the inequality in test score achievement of students in American schools.

According to Jencks and Phillips (1998), the most common explanations for the test score gap include genes, the culture of poverty, and single-motherhood. However, these explanations are hard to reconcile based on the available evidence. In fact, Jencks and Phillips (1998) argue that there is no existing evidence one way or the other with regard to the gap being innate. Although they believe that the cultural differences in poverty may account for some of the gap, they cannot accept this as the main explanation because the gap persists even among affluent children. Further, they assert that there are no concrete data that support single-motherhood as a determining factor of poor test performance. To further explore this question, this literature review will focus on student demographics which include race and ethnicity, income, and parental education. School-level resource literature will be explored as well as family roles including parental involvement in parental education. Although, some literature offers cultural practices and genetics as possible explanations for the test score gap this paper will not focus on such research.

## **Race and Ethnicity**

*Race and ethnicity* may be correlated with low test scores because of differences in cultural backgrounds, especially language (Bali & Alvarez, 2004). For example, educational research has shown Black students are at a disadvantage on the SAT, and Blacks who speak in Vernacular English do poorly on standardized testing (D'Souza, 1995). Researchers examining schools in Jacksonville, Florida in 2001, found that there were 41 schools with no passing grades at all over three years. Furthermore, the student body of these schools was comprised of an average of 55% Black students (Dittmer, 2001). By comparison, there were 50 schools that passed once with an average student body population of 47% Black while the 12 schools that passed twice averaged 26% Black population. Dittmer argued that these students in these schools are disadvantaged due to language barriers or vernacular English and that these disadvantages result in fewer students passing. Schools were considered to pass if they meet the state's requirements for the school's mean FCAT score.

Differences between minority and non-minority students may be more complex, however. Research has suggested, for example, that Asians are not as disadvantaged in academics as other groups, especially Blacks and Hispanics. According to Goyette and Xie (1999), minority students, with the exception of Asians, fare worse on the standardized tests than their White counterparts. They offer a few reasons as to why this may be true. First, they suggest that Asians often view education as the main vehicle for upward mobility, both social and economic. Also, parental expectations may be higher among Asian groups. Further, they assert that compared to Whites, most Asian groups have higher educational expectations. For example, in their study, 84.8% of Japanese and Korean students expected to graduate from

college as opposed to 58.3% of Whites. In the existing literature, Asians do not seem to be as disadvantaged by standardized testing compared to other minority groups in American schools.

### **Parental Income and Socio-economic Status**

Many researchers contest that *a family's socio-economic status* is a strong predictor of educational achievement and test performance (Wesson, 2000; Gamoran, 2001; Cochran & Malone, 1995). Parental education and family income is probably the best predictor of eventual academic outcomes for youth (Kao, Tienda, & Schneider, 1996; Warren, 1996). According to Wesson (2000),

“High scores have had a high correlation to socioeconomic characteristics such as the parents' occupation or level of education, the family's income bracket, and the location of students' elementary and secondary schools (the highly predictable "zip code" factor). Family income plays such a prominent role in test scores that some testing analysts have facetiously proposed gauging something they call the "Volvo Effect" as a way to save vast amounts of money on standardized tests. Simply count the number of Volvos, sport utility vehicles, and comparably priced luxury cars used to transport students to and from a given school, and use that figure to measure school quality “(Wesson. 2000 pg. 5).

One of the most important findings of examining the relationship between educational achievement and socio-economic research comes from the Coleman Report (1966). The Coleman Report was the first piece of research to focus on more than school inputs by also focusing on school outputs. It suggests that socio-economic differences accounted for the variances of test achievement scores between White and minority students. More recently, Glick



and White (2003) have asserted that child poverty is an important social problem that is correlated with a number of developmental and schooling problems, including test achievement. Others, however, have argued, that income inequality between Whites and Blacks appears to account for some of the test score gaps, but it is quite small (Jencks & Phillips, 1998). They suggest even though the number of affluent Black parents has grown significantly since the 1960's, their children's test scores still shadow behind those of Whites from equally wealthy parents. In that case, they assert that poverty plays some role but it is very modest.

Alternatively, Gamoran (2001) reports that children whose families have greater income and wealth usually have resources available to them that facilitate learning and promote higher test achievement. These resources include books, computers, a study place, tutors, etc. which ultimately give wealthier students an advantage over poorer students. Researchers, including Duncan, Yeung et al., have compared children in families with incomes less than one-half of the poverty threshold with children in families with incomes between 1.5 to 2.0 times the poverty threshold, and have found the former to score between 6 and 13 points lower on standardized tests (Duncan, Yeung, & Brooks-Dunn et al., 1998).

Consistent with Gamoran's theory, Dittmer (2004) concluded that the *percentage of free lunch*, or socio-economic status of student body within a school is the most important variable for modeling the number of "wins", or passing test scores a school will have. For instance,

"It is widely acknowledged by test-development experts that higher socioeconomic backgrounds give students a positive boost in standardized-test achievement. When a test question asks, "What instrument would you use to look closely at the moon?" children from poor, inner-city environments may never have seen a telescope in school or at home. Growing up in an environment in which exposure to certain kinds of information

is unlikely, thus, penalizes students on these tests. A child from a high-income suburban environment, on the other hand, has likely seen and used a telescope in his own home, in a neighbor's home, or at a planetarium, or has learned about telescopes while watching the Discovery Channel with Mom and Dad, or through a host of other opportunities largely unavailable to the child from the lower socioeconomic setting” (Wesson , 2000 pg. 35).

Other researchers have also substantiated this link between higher socio-economic backgrounds and test achievement (Ellinger, Wright III, & Hirlinger, 1995).

### **Parental Education**

*Parental Education* is also a strong predictor of test achievement for both Black and White students alike. US Census data suggests that the divergence in poverty between minority and immigrant children and native children may be strongly correlated with the divergence in parental education (Van Hook et al., 2002). Whites tend to have higher educational levels, career and occupational statuses, and income levels than Blacks, and these advantages benefit educational outcomes (Gamoran, 2001). Moreover, a study conducted on the Air Forces Qualifications Test (AFQT) showed that parental education and family resources (access to newspapers, library cards, and family income, etc.) have a significant positive effect on scores on the AFQT (Cordero-Guzman, 2001). On the opposite side of the spectrum, not having access to these resources is hypothesized to have a negative effect on test score achievement (Jencks & Phillips, 1998).

## Family Roles and Parental Involvement

As mentioned earlier, research suggests that children in poverty are less likely to perform well on standardized tests (Dittmer, 2004). To better understand this relationship, some researchers have studied the relationship between parental marital status and test achievement as parental marital status is closely tied to poverty (McLanahan & Sandefur, 1994). It is speculated that single-mother families are more prone to poverty because they have only one potential income earner and are less likely than married parents to be working full –time. Consequently, children in single-parent homes are exposed to a shortage of resources and are less likely to reach educational achievement, more specifically high test score achievement. Below, there is a detailed explanation of the correlation between parental marital status and parental involvement as well.

It has been suggested that parental marital status is predictive of parental involvement and that parental involvement is associated with academic achievement. For example, Jencks and Phillips (1998) found that Black-White differences in parenting practices contribute to the test –score gap. Other researchers have also found that family parental and environmental contributions disadvantage minority students in comparison to Whites students as they age (Bali & Alvarez, 2004). In fact, “it is known that urban, minority parents tend to display very low levels of parental involvement (Esposito, 1999). Specific to Florida, it has been reported that “Parents need to be more involved. In Florida, 55% of 8<sup>th</sup> graders are in a school where a lack of parental involvement is reported to be a problem”. In study after study, researchers have discovered how important it is for parents to be actively involved in their child’s education (<http://www.nea.org/parents/index.html>). According to the NEA, when parents are involved in their child’s education, they do better in school. Additionally, children go farther in school – and

the schools that they attend are better. Furthermore, Strickland (2004) found in her study of home and school influences on reading achievement among low-income children, that the most positively correlated variable related to literacy was parental involvement in school activities. This included things such as PTA participation, volunteerism, and attending school activities. The family makes important contributions to student achievement all the way through high school.

### **School-level resources**

In addition to socioeconomic status and parental involvement, research shows that problems in schools are prevalent in urban, low-income districts and are correlated with problems in student achievement and socialization. Additionally, children who attend urban schools in low-income areas consistently demonstrate the lowest academic achievement and the lowest social skills development (Bernstein, 1992).

One reason for inequality in test scores is that low-income, urban schools do not offer the same quality of courses that prepare students for successful test performance as their more affluent suburban counterparts. Predominantly White and wealthy schools offer more high-ability classes, often more than twice that of low-income schools (Kao & Thompson, 2003). However, Jencks and Phillips (1998) challenge that data by saying that despite the obvious economic inequalities between wealthy suburbs and nearby urban cities, the average Black child and White child attend school districts that spend exactly the same amount per pupil. Other researchers have argued that “school expenditure does not matter” with regard to test score achievement (Hanusheck, 1986)

Alternatively, Childs and Shakeshaft (1986) found that higher levels of instructional expenditures in fact increase test scores. The results of Ellinger et al.'s (1995) research also suggest that per-pupil revenue is the only positively correlated variable that influences tests results. Moreover, the data show that in 1989-90 an increase of \$100 per-pupil funding generated a 0.4 point increase in the test score average of students. Thus, it is likely that although higher revenues will produce higher test scores, the availability of funding is limited. Kozol (2000)<sup>b</sup> offers an example of low school resources,

“Nearly 30 years ago, as student populations in the New York City public schools began to turn from ethnic Whites to black and brown, the city started to dismantle its school libraries. A fiscal crisis in the middle 1970’s provided what appeared to be a neutral rationale for cutting back the funds that paid for books and for the skilled librarians who, up until that time, had introduced them to young children. Libraries in many elementary schools were soon reduced to little more than poorly stocked collections of torn, tired-looking, or outdated books” ( Kozol b, 2000 pg. 47).

Based upon the literature and the theoretical framework of conflict theory it is hypothesized that White non- minority students will perform better on standardized tests as a result of higher socio-economic status, parental education, family roles, parental involvement, and school level resources. The literature suggests that race is a determining factor for standardized test performance because non-minority students usually hold a higher socio-economic status compared to minority students. Naturally, higher incomes are correlated with the availability of resources such as books, computers, and other learning tools. In other words, higher socio-economic statuses which are more often held by non -minority students affords them more access to tools that facilitate the learning process. Parental marital status is another

determining factor of test achievement because intact families typically have more resources. Also, higher levels of parental involvement are critical because they help the student stay focused in school in order to achieve high test scores. Finally, greater levels of school resources allow students access to higher quality classes to prepare them for standardized tests. In other words, a gap in test scores persists between wealthy and poor students because of a difference in availability of resources.

### **Conflict Theory**

This research will be guided by conflict theory, a theoretical framework brought to the forefront of social theory by Karl Marx. As a German theorist, Marx viewed society and organizations, including the educational system, as a system that functions so that each participant and its group struggle to compete for resources. Within society, individuals and groups benefit from a particular structure, usually the economic structure, and strive to maintain its equilibrium. The economic structure in society molds the superstructure, which includes ideologies, social institutions, the state, and the educational system, the main focus of this paper (Mark & Engels, 1848). According to conflict theory, dominant social institutions serve to perpetuate and reproduce the economic class structure. Thus, a constant struggle persists including competition over valuable resources. The competing groups compete over access to educational resources and access to knowledge furthering the perpetuation of educational stratification. In one of Marx's most studied works, *Manifesto of the Communist Party*, he said of struggles, "The history of all hitherto existing society is the history of class struggles".

Using the framework of conflict theory, it is argued that wealthy affluent families have greater access to resources and educational systems resulting in greater educational attainment. These resources include access to schools with adequate funding that provide computers, equipment, text books, and advanced classes for the students. Consequently, the wealthier children have greater life chances than their less advantaged classmates. Poorer students usually belong to minority groups. As a result, minority students are less prepared for educational achievement and economic stability in the future. Therefore, there is an existing gap that persists between White and minority students. Some scholars would argue that it is because of the structure of the educational system. According to Hammond (2000), most schools are organized to prepare less than a quarter of the students for future success in the workplace- those students are placed early in the educational process into gifted classes, advanced placement programs, and honors classes. These opportunities are least available to Black, Hispanic, and Native American students. As a consequence of structural inequality, students from racial and ethnic backgrounds face continuous barriers to educational equality.

Hammond (2000) asserts that the existing conflict persists between poor schools that serve considerable numbers of Black students and schools that serve predominantly White students. The poor schools that serve minorities are less likely than predominantly non-minority schools to offer advanced curricula that are needed to close the educational attainment gap. In other words, this conflict is exacerbated by minorities' lack of access to quality teachers, and high quality materials. She argues that despite the rhetoric of equality in American schools and the effects of finance reform, the differences between school expenditures between Whites and minorities continues to be substantially unequal and disparate.

In conclusion, the defining characteristic of any society, from a Marxist view, is inequality. Some argue that the educational system serves as a battle ground for those who hold the economic power in society and those fighting to gain power. According to conflict theory, the educational system is used by those in power as a way to maintain a constant equilibrium within the economic system while dominating those they wish to keep powerless. It is in the interests of those who have wealth to keep and extend what they own, whereas it is in the interests of those who have little or no wealth to try to improve their life chances.

### **Hypotheses**

HO 1: It is hypothesized that there is a positive relationship between mean FCAT reading and math test scores and:

- Percentage of White students in a school
- Socio-economic status
- Percentage of educated adults in a county
- Parental involvement
- School level resources

HO2: It is hypothesized that there is a negative relationship between mean FCAT reading and math test scores and:

- Greater percentages of minority students in a school
- Greater percentages of female headed-households within a county



- Higher percentages of students receiving free lunch within a school
- Urban county

The purpose of this study is to determine whether race has an independent effect on FCAT scores after other variables are introduced.

## **CHAPTER THREE: METHODOLOGY**

The major purpose of this research is to examine factors that influence student test performance in Florida, specifically the FCAT test. This research will analyze existing statistics from varied data sets. More specifically, the variables that are hypothesized to affect test performance were taken from four separate data sets. The data sets are as follows: US Census Bureau (2000), County and City Data Book, The Florida Department of Education (FLDOE) (2005), The Parent Teacher Association of Florida (PTA) (2005), and Greatschools.net (2005), a non-profit organization that publishes school information on elementary, middle, and high schools.

The US Census deems itself “the official resource for social, demographic, and economic statistics in the United States” ([www.census.gov](http://www.census.gov)). Additionally, The Florida Department of Education represents 3,231 public schools within the state of Florida. They are the main information source for the public’s use concerning student statistics, teacher qualifications, student accountability, teacher certification, scholarships, and the like ([www.fdoe.org](http://www.fdoe.org)). According to the PTA website, the Florida PTA is the largest statewide volunteer organization working exclusively to better the education of children and youth in Florida. “The organization was founded in 1921 as a branch of the National PTA, Florida PTA is made up of 1,368 local units with more than 368,361 Florida members seeking to connect home, school and community for all school children” ([www.floridaspta.org](http://www.floridaspta.org)). The data from Greatschools.net is a “free resource available to everyone”. They declare that GreatSchools.net is the objective resource of information on elementary, middle and high schools. This group works as a nonprofit

organization and provides information about public, private and charter schools in all 50 states. Additionally, this organization releases complete school profiles for California, Arizona, Texas, Florida, Colorado, New York, Washington, Pennsylvania and New Jersey. Greatschools.net obtains their data for the state from the Florida Department of Education and compiles it into an all-inclusive source that publicly reports student demographics, teacher qualifications, per pupil expenditure, and the student /teacher ratio, etc. The data for this study will come from the 2004-2005 data set.

### **Data Analysis Strategy**

This study will use frequencies, bivariate correlations, and stepwise regression in the analyses to examine the hypotheses. Frequencies will be used to get an overall understanding of what the sample looks like. Bivariate correlations will be used to get an understanding of the relationships between the independent variables and the dependent variables. Additionally, a correlation matrix will be examined to determine if multicollinearity exists between the independent variables. Lastly, multiple regression, or stepwise regression will be used to determine the relationships between the independent variables and the two dependent variables, mean FCAT scores for reading and math. Stepwise regression allows variables to be added into models one step at a time. This type of analysis was chosen to examine whether or not the relationship between race and FCAT scores changes once additional variables are added into the model. The first step will include only the race variables. The second step will add school-level resource variables to the model and the third step will include county level variables. The purpose of stepwise regression is to see how each variable affects the others by adding them into

the model step by step. The main purpose is to examine if race is still significant after other variables are added into the equation.

### **Unit of Analysis**

This research project considered individual high schools within counties/ districts in Florida as the unit of analysis and includes county-level census data, PTA data reported by county level , and Florida Department of Education data that corresponds to the particular school districts.

### **Sample**

There are 67 counties in Florida with a total of 3,231 public schools in the state. For the purposes of this study, the search was first narrowed to include only high schools, 365 in all, identified by the Florida Department of Education ([www.fldoe.org/schoolmap/](http://www.fldoe.org/schoolmap/)). This figure excludes treatment centers, technical schools, and alternative high schools, because they are not currently required to administer the FCAT test. This data set was obtained using the FDLOE website. The FDLOE divides the state of Florida into six regions that include school districts.

The sample was selected by first identifying the Florida Department of Education's six named regions and then identifying the districts that were encompassed by those regions. From there, the high schools that exist within those districts were identified. It is important to note that the districts and counties coincide with each other in Florida.

More specifically, listed below are the counties / districts within each region:

**Region 1** includes the following counties/school districts: Escambia, Santa Rosa, Okaloosa, Walton, Holmes, Washington, and Bay. There are a total of 29 schools.

**Region 2** includes: Jackson, Calhoun, Gulf, Gadsden, Liberty, Franklin, Wakulla, Leon, Jefferson, and Madison. There are a total of 19 schools.

**Region 3** includes: Hamilton, Suwannee, Taylor, Lafayette, Dixie, Levy, Gilchrist, Columbia, Baker, Union, Bradford, Alachua, Marion, Nassau, Duval, St. Johns, Clay, and Putnam. There are a total of 63 schools.

**Region 4** includes: Flagler, Volusia, Lake, Sumter, Seminole, Orange, Brevard, Osceola, Indian River, Okeechobee, St. Lucie, Martin. There are a total of 74 schools.

**Region 5** includes: Palm Beach, Collier, Monroe, Broward, and Miami-Dade. There are a total of 92 schools.

**Region 6** includes: Hernando, Pasco, Polk, Hillsborough, Pinellas, Manatee, Sarasota, Hardee, Desoto, Charlotte, Lee, Highlands, Glades, and Hendry. There are a total of 88 schools.

Within the six districts, there are a total of 365 high schools which was the population of schools from which the sample for the analysis was selected. A total of 30% of high schools from each of those 6 regions, for a sample of 131 schools, was selected for analysis. SPSS was used to select the sample of schools from each district. The number of schools was rounded up

to the nearest whole number. For example, if 30 % of region 1 schools equals 8.7, then it was rounded to 9 schools.

### **Independent Variables: School Level Variables**

Within those schools and counties, there are numerous characteristics of students and parents that will be the independent variables and used in the analysis. These variables include race and ethnicity, the percentage of students receiving free lunch, the percentage of county with a BA degree or higher, the percentage of county that are female –headed households, and rural/urban counties, school-level resources: per pupil expenditure, student/teacher ratio, and teacher qualifications.

#### **Race and Ethnicity- The Percentage of White, Black, Hispanic, and “Other” Students in a School**

The first variable will be *race and ethnicity*, and will be obtained from the Greatschools.net website. They report the race and ethnicity of the student body that is comprised within one school. The data includes 6 categories which consists of the % White, % Hispanic, % African-American, % Multi-racial, % Asian, and % Native American by school. The % Multi-racial, the % Asian, and the % Native American were collapsed into one variable named “Other”. The majority of the “Other” category consisted of Asian students.

### **The Percentage of Students Receiving Free Lunch in a School**

Greatschools.net will provide the data needed for the second variable, the *percentage of students that are receiving free or reduced lunch*.

### **School-Level Resources: Per Pupil Expenditure, Student/Teacher Ratio, and Teacher Qualification Within a School**

Thirdly, *school-level resources* will be taken from the Greatschools.net data set and will encompass three variables. They will be per pupil expenditure, student/teacher ratio, and teacher qualifications. They will be measured by using the school expenditure per pupil or monies spent per student, student /teacher ratio, and teacher qualifications. More specifically, teacher qualifications will measure the percentage of teachers with an advanced degree defined as a masters or doctorate degree.

## **Independent Variables: County Level Variables**

The analysis includes data from the 2000 county level census that coincides with the school districts/counties for the 131 high schools randomly chosen ([www.census.gov/prod/www.cedb.html](http://www.census.gov/prod/www.cedb.html)). More specifically, these data are made available on the census website in the Statistical Abstracts of the United States, or national data books that contain a compilation of statistics concerning social and economic information in the US. Within these abstracts, data for all counties and cities with a population of more than 25,000 people are published. Additionally, the county level data book was used to obtain needed information. This county level data was used to identify demographics which include *education, and marital status (family roles) and rural/urban counties* that is not made available from the Florida Department of Education or Greatschools.net website. An explanation of each measurement will follow.

## **Parental Involvement-PTA Involvement**

Additionally, *parental involvement* will be measured by Parent-Teacher Organization (PTA) membership within each region in Florida. The membership data are available via the PTA website ([www.Floridapta.org/membership](http://www.Floridapta.org/membership)) by county only. The PTA's county level data will be used to determine the membership of parents in the organization to measure *parental involvement*. The data are reported by county /district to report the parental membership totals. This data does not correspond with my unit of analysis, individual high schools. Yet, I will



collect this data to measure parental involvement. It is important to note that this particular data has limitations because it is only available for county level and not school level.

### **Education- The percentage of the population with a BA degree or higher**

Furthermore, the US Census data were accessed as mentioned earlier, to get an overall understanding of educational *attainment* of the parents within the counties that coincide with the schools. Yet, it is important to note that these data have limitations, too, because it is only a percentage of the population 25 years and older that has a bachelor's degree or higher in 2000 ([www.quickfacts.census.gov](http://www.quickfacts.census.gov)). This does not necessarily reflect the percentage of parents with a college degree but rather an overall understanding of the education levels within a given district. Nonetheless, it was used to get an overall description of the population within a certain county. This data will be taken from Table B-5 (named Education, Income, and Poverty) which reports on education, income, and poverty to measure education levels within a particular county.

### **Marital Status-Female Headed Households**

Also, the Census data will be used to determine the *marital status or female-headed households with their own children* within those areas. This was measured by the percentage of female headed households with their own children within a particular county. Table B-3 (named

Group Quarters population and Households) will be used to obtain data on households for measurement of the proportion of female headed-households with their own children in a county.

### **Rural/ Urban Counties**

Lastly, the Florida Statute 3.C.1 will be used as an indicator of rural counties which is defined by the State of Florida as counties that have a population density of less than 100 people per square mile. Next, the dependent variables will be discussed as well as their measurement. This data will be taken from Chapter 381.0406 Section 2a Florida Statute 3.C.1, reported by the State of Florida ([www.doh.state.fl.us](http://www.doh.state.fl.us)).

### **Dependent Variables: School Level Variables**

#### **Mean Math and Reading FCAT Scores**

In order to understand how the independent variables affect test performance, mean FCAT test scores were examined for each school in the sample. The dependent variable will be the schools' test scores. These data were taken from the Florida Department of Education

website (<http://fcats.fldoe.org/>), which comes directly from The State Report and District Results Report. From that report, I will use the mean scale score which ranges from 100-500 for each school chosen for the sample to determine test performance to describe the overall test performance for each school.

In summary, the variables are derived from school-level and county level data. The county level variables will be taken from the US Census website ([www.quickfacts.census.gov](http://www.quickfacts.census.gov)) and The Parent Teacher Association (PTA) website ([www.Floridapta.org/membership](http://www.Floridapta.org/membership)). Additionally, the school level data will be taken from Greatschools.net, which uses the Florida Department of Education as the main source of information.

## CHAPTER FOUR: FINDINGS

First, **frequencies** (Table 1) were calculated to get an overall understanding of the sample characteristics. Among the 131 schools chosen for the sample, the mean percent of White students was 58.5, mean percent Black was 24.1, mean percent Hispanic was 15.9, and the mean for the “Other” category was 3.2. The ranges for these categories were 1-98, 0-94, 0-93, and 0-9, respectively. Additionally, the mean percentage of students that receive free or reduced lunch was 37.62, the percentage of teachers with an advanced degree was 35.85, the mean ratio of students to teachers was 17.62, and the mean per pupil expenditure was \$5,017.30. On a county level, the mean percentage of people with a BA degree or higher was 16.51, the mean percentage of female headed-households was 58.36, and the mean PTA membership was 20,133 people. As far as FCAT scores, the mean math FCAT score was 321, while the mean reading score was 295.

**Bivariate correlations** (Table 2) were conducted to examine the associations between the independent variables and the 2 dependent variables. There was a positive relationship between percent White in a school and math (.393\*\*) and reading (.418\*\*) FCAT scores. The relationship between percent Black in a school and math and reading scores were significant, but negative (-.394\*\*) and (-.391\*\*) respectively indicating that as the percent of the student population included a greater proportion of Black students, the mean FCAT scores were lower. The percent of students receiving free lunch was negatively correlated with math (-.665\*) and reading (-.705\*) FCAT scores. In other words, as the independent variable, percent of students receiving free lunch increases the mean FCAT score decreases.

These findings are supportive of the theoretical framework, conflict theory, that guides this research. The resources needed for test achievement are more abundant in the

predominantly White non-minority schools. Hence, the higher proportions of White students equates to higher mean FCAT scores as predicted. In contrast, higher proportions of minority students within a school are generally associated with lower levels of educational resources needed for test achievement. Additionally, teacher qualifications were significantly correlated with math and reading scores with coefficients of (.292\*\*) and (.313\*\*). In other words, schools in which a greater percentage of teachers held an advanced degree had higher FCAT scores. Again, higher teacher qualifications are usually present within schools that are populated with children of higher socio-economic statuses. Also, the county level education rate was positively correlated with math and reading FCAT scores with coefficients of (.302\*\*) and (.253\*\*) respectively. This is also consistent with the literature suggesting that parental education is a strong predictor of children's educational achievement, including standardized test achievement. It is also consistent with research finding that parental education and family income is probably the best predictor of eventual academic outcomes for youth (Kao, Tienda, & Schneider, 1996; Warren, 1996).

Lastly, there was one finding that was contrary to the original hypothesis that female headed households would be associated with lower test scores. The variable female-headed households was positively correlated with reading FCAT scores (.211\*\*). Initially this seems counterintuitive, however, Jencks and Phillips assert that there are no concrete data that support single-motherhood as a determining factor of poor test performance. Additionally, the data in this study that were used to measure female-headed household were an indicator of the percent of female-headed households with own children under 18 and no husband present with a county. As a result, the data are not directly related to the schools that were used in the analyses. In other words, the data are not a direct measure of how many students in a school are living in a female-

headed household. Secondly, the census uses the definition of female-headed household to include all children under 18. It may be that there is a difference between the children under 18 in female-headed households and the high school population of students used in the analysis. There may be a greater percentage of children in these homes below the high school level which is not representative of the high school population used. Third, the measure defines a female headed household as having "no husband present" which does not take into account that women may have a fiancé, long-time boyfriend, or other means of financial assistance. Lastly, these female-headed households may be headed by women who are financially able to provide for themselves and their children without a male figure. In sum, this positive correlation may be a result of limited data, unreliable measures, difference in unit of analyses, or social phenomena not explored in this research.

Table 3 represents a **correlation matrix** of the independent variables. The correlation matrix displayed the interrelationships of several variables with the purpose of finding if any independent variable is too highly correlated with any other independent variables. Within the entire matrix, there were 5 correlation coefficients, or Pearson's R, that were above .50 and significant. The percent White and the Percent Black was fairly strong but negative (-.653). Likewise, the percent White was strongly but negatively correlated with the percent Hispanic at (-.653). Also, the percent White was negatively correlated with the parental involvement variable, or PTA involvement. The next variable, percent Black, was negatively correlated with the percent White at (-.653). The percent Hispanic was strongly but negatively correlated with the percent White at (-.651) and positively correlated with parental involvement with a Pearson Correlation of (.526). Rural county status was strongly correlated to the county level education variable, with a coefficient of (-.615) indicating a negative correlation. Furthermore, the

parental involvement variable was correlated with the percent White and the percent Hispanic, the coefficients were (-.599) and (.526) respectively. The last significant correlation to be reported in the matrix was between per pupil expenditure and teacher/ student ratio at (-.507). It is important to note that the tolerance and the VIF (variance-inflation factor) was checked also and multicollinearity was not present in the analysis. VIF is simply the reciprocal of tolerance. The common cut-off criterion for deciding when a variable displays too much collinearity is 4.00. The tolerance statistics were above .41 which is higher than the .20 which is used to determine if multicollinearity is present. In addition, all VIF were low, with values of under 1.4, indicating that multicollinearity was not a problem.

Lastly, **Stepwise Regression** (Table 4) was used to determine the relationships between the independent variables and the dependent variables by adding three sets of variables in steps. SPSS allows you to enter variables into a regression in blocks, and it allows stepwise regression. It allows the researcher to identify the best predictor from several of other possible predictors ([www.spss.com](http://www.spss.com)). It allows the researcher to build a custom model depending on the original hypotheses and purpose of the study. Additionally, this method, stepwise regression, was used to test the effects of the independent (predictor) variables on a single dependent variable.

The first model included the dependent variable, mean reading FCAT score, with the percentage of Black, percentage Hispanic, and the percentage of the “Other” category. The percentage of White students was the reference category. Each of the race variables were significant indicating that race is significantly associated with FCAT reading scores. Specifically as the percentage of Hispanic and Black students increased in a school, the mean FCAT reading scores decreased. This substantiates the existing literature reviewed for this study. Furthermore, as the percent of “Other” students increases so did mean FCAT scores.

Model 2 adds in the second set of variables, per pupil expenditure, % teachers with advanced degrees, student teacher ratio, and % receiving free lunch. The results for this model show that the percentage of Black and “Other” students remained significant and in the same direction, after adding the second set of independent variables into the model. However the percentage of students who are Hispanic did not remain significant when the new variables were introduced into the model. Among the variables entered in the second step, only percentage of students who receive free lunch was significantly associated with FCAT reading scores ( $p=.000$ ). The relationship was moderate but negative, indicating that as the percentage of free lunches increase in schools, mean FCAT scores decrease.

Model 3 introduced county level variables into the regression including rural/ urban status, the percentage of the county with a B.A. degree or higher, the percentage of female-headed households in the county, and county PTA membership. Two variables remained significantly associated with FCAT reading scores, the percentage of “Other” students, and the percentage of students receiving free lunch. The relationship between the percentage of “Other” students and FCAT reading score was positive indicating that as the percent of “Other” students increases, so does the mean FCAT score for the school. This finding is consistent with research suggesting that Asian students, the majority of the “Other” category, are not as disadvantaged in academics as other groups, especially Blacks and Hispanics (Goyette & Xie, 1999). This may be an explanation of why the “Other” variable is positively correlated with FCAT scores. The relationship between free lunch and FCAT score was negative indicating that as the percentage of student receiving free lunch decreases the mean FCAT reading score increases. Surprisingly, county level education was not significant which counters the literature. However, it may be due to the measurement of the variable.



An additional stepwise regression (Table 5) was used to determine the relationship between the independent variables, and the dependent variable mean math FCAT score. The first model included the dependent variable, mean math FCAT score, with the percentage of Black students, percentage of Hispanic students, and the percentage of the students in the “Other” category. The reference category was the percentage of White students. The percentage of both Black and Hispanic students were each significantly and negatively associated with mean math FCAT score. The percentage of “Other” students was positively associated with math FCAT scores, indicating that as the percentage of “Other” students increases so does the mean FCAT score for math.

Model 2 includes the second set of variables, per pupil expenditure, % teachers with advanced degrees, student/ teacher ratio, and % receiving free lunch. This model shows that two of the three race variables (percent Black and percent Hispanic) were not significant when these new variables were introduced into the model. On the other hand, the percentage of “Other” students remained significant ( $p = .003$ ) and positive. Alternatively, per pupil expenditure, percentage teachers with advanced degree, and the student teacher ratio were all not significant in Model 2. However, there was a significant association between percentage of students who receive free lunch and mean FCAT scores ( $p = .000$ ). The relationship was negative indicating that as the percentage of students who receive free lunch in a school decrease then consequently the mean FCAT scores increase within a school.

Model 3 introduces county level variables into the regression which include rural/ urban status, the percentage of county with a B.A. degree or higher, the percentage of female-headed households, and PTA membership. The model indicates that three variables remained significant; the percentage of “Other” students, the percentage of student receiving free lunch,

and the percentage of the county that has a Bachelor's degree or higher. The relationship between the percentage of "Other" students and FCAT score is positive indicating that as the percent of "Other" students increases so does the mean math FCAT score for the school. The relationship between free lunch and math FCAT score is negative indicating that as the percentage of students receiving free lunch decreases then the mean FCAT scores increases. Lastly, the association between the county level education and the mean math FCAT is positive indicating that as the education level increases within a county so do FCAT scores.

In sum, it is important to note that the two separate regression models for mean reading and mean math scores are very similar. The only thing that is dissimilar is the county level education variable which is significant with math scores only.

**Table 1: Descriptives: Sample characteristics for the Dependent and Independent****Variables**

<u>Variables</u>	<u>%</u>	<u>Mean</u>	<u>Range</u>	<u>N</u>
% WHITE		58.5	1-98	128
% BLACK		24.1	0-94	127
% HISP		15.9	0-93	124
% OTHER		3.2	0-9	97
% RECEIVING FREELUNCH		37.62	2-90	127
%TEACH with MA or PHD		35.85	0-66	128
TEACHER/STUDENT RATIO		17.62	7-23	129
PER PUPIL EXPENDITURE		\$5017.30	\$ 3707-7710	130
% COUNTY WITH A BA DEGREE		16.51	5.20-37.10	130
PTA MEMEBERSHIP		20133	60-56188	100
% FEMALE HEADED HOUSEHOLDS		58.36	48.90-67.30	130
MEAN MATH FCAT SCORE		321	280-352	129
PERCENT PASS MATH FCAT		76.7	251-352	129
MEAN READING FCAT SCORE		295	251-352	129
PERCENT PASS READING FCAT		50.9	21-82	129
PERCENT RURAL	40.8			

N= 131

**Table 2: Bivariate Correlations – Independent variables association with mean math and reading FCAT scores**

Variables	Mean Math Score	Mean Reading Score
% WHITE	.393**	.418**
% BLACK	-.394**	-.391**
% HISP	-.191*	-.235**
% OTHER	.264**	.380**
% RECEIVING FREELUNCH	-.665**	-.705**
%TEACH with MA or PHD	.292**	.313**
TEACHER/STUDENT RATIO	.125	.115
PER PUPIL EXPENDITURE	-.091	-.114
% COUNTY WITH A BA DEGREE	.302*	.253**
PTA MEMEBERSHIP	-.135	-.105
% FEMALE HEADED HOUSEHOLDS	.165	.211*

N=131

- 
- \* Significant at .05
  - \*\* Significant at .01

**Table 3: Correlation Matrix-**

	1	2	3	4	5	6	7	8	9	10	11	12
1.% white	1	-.65**	-.65*	-.07*	-.47**	.01	-.24**	.28**	.25**	-.59**	-.02	.28**
2.% Black		1	-.14	.01	.36**	-.06	-.04**	-.15	.16	-.22*	.23**	-.09
3. %Hispanic			1	-.02	.28**	.09	.36**	-.18*	-.11	-.52**	.16	-.32*
4. % other				1	-.23*	.15	.13	-.33**	.31**	-.19	-.14	.14
5.% free lunch					1	-.28**	-.31**	.25**	-.23**	.09	.31**	-.15
6.Teach. Qual.						1	.37**	-.26**	.35**	.13	-.11	.08
7.Ratio							1	-.35**	.28	.41**	-.50**	-.24**
8.Rural								1	-.61**	-.47**	.23**	.09
9.Education									1	.14	-.01	.11
10.PTA member.										1	-.18	-.31**
11.Per pupil Exp.											1	.06
12.Female-household.												1

- \* Significant at .05
- \*\* Significant at .01

**Table 4: Stepwise Regression: Dependent variable- Mean FCAT reading Score**

	MODEL 1				MODEL 2				MODEL 3			
	B	Beta	SE	Sig.	B	Beta	SE	Sig.	B	Beta	SE	Sig
% BLACK	-.317	-.350	.079	.000	-.136	-.150	.076	.000	-.130	-.143	.086	.138
%. HISP	-.244	-.234	.091	.009	-.090	-.087	.090	.320	-.093	-.089	.094	.324
% OTHER	3.406	.424	.699	.000	2.232	.278	.614	.000	2.25	.280	.650	.001
PER PUPIL EXPEN.					.002	.090	.002	.307	.001	.055	.002	.547
%TEACH with MA or PHD					.357	.157	.182	.053	3.02	.133	.188	.133
TEACHER/STUDENT RATIO					-.153	-.024	.627	.808	-.181	-.028	.636	.776
% RECEIVING FREE LUNCH					-.517	-.523	.101	.000	-.516	-.523	.108	.000
RURAL COUNTIES									4.41	.121	3.7	.234
% COUNTY BA DEGREE									.359	.138	.259	.169
% FEMALE HOUSEHOLD									-.194	-.033	.482	.68
Model Significant	.000				.000				.000			
F=	10.65				13.18				10.65			
R square=	.266				.523				.568			

\* Significant at .05    \*\* Significant at .01

**Table 5: Stepwise Regression: Dependent variable- Mean FCAT Math Score**

	MODEL 1				MODEL 2				MODEL 3			
	B	Beta	SE	Sig.	B	Beta	SE	Sig.	B	Beta	SE	Sig
% BLACK	-1.190	-.288	.061	.002	-.050	-.076	.058	.385	-.060	-.092	.064	.346
% HISP	-.166	-.218	.070	.020	-.035	-.046	.069	.615	-.064	-.084	.069	.358
% OTHER	2.286	.390	.535	.000	1.414	.242	.468	.003	1.4	.239	.48	.004
PER PUPIL EXPEND					.002	.125	.001	.175	.001	.070	.001	.446
%TEACH with MA or PHD				.	.225	.136	.139	.109	.149	.090	.139	.287
STUDENT/TEACHER RATIO				.	-.196	-.042	.478	.682	-.274	-.058	.468	.561
% RECEIVING FREE LUNCH					-.418	-.582	.077	.000	-.397	-.552	.079	.000
RURAL COUNTIES									4.34	.163	2.70	.112
% COUNTY WITH BA DEGREE									.518	.273	.191	.008
%FEMALE HOUSEHOLD									-.644	-.152	.355	.073
Model significant		.000				.000				.000		
F=		14.755				15.57				11.066		
R square=		.335				.565				.577		

## CHAPTER FIVE: CONCLUSION

This study attempted to examine the relationship between race and standardized test score achievement. More specifically, this study attempted to determine whether or not observed racial differences remained after additional variables that could potentially affect FCAT scores for minority and non-minority students were considered. The main purpose was to understand how race, school-level resources, and parental influences affect both math and reading FCAT scores in Florida.

There is an abundance of literature that focuses on the standardized test score difference between minority and non-minority students. Within the existing literature, socio-economic factors, parental influences, and school-level resources have been used to explain racial differences in test scores. As discussed earlier, using the theoretical framework of conflict theory, it is hypothesized that White non-minority students perform better on standardized tests due to higher socio-economic statuses, parental education, family roles, parental involvement, and school level resources. It has been argued that race is a determining factor for standardized test performance primarily as a result of socio-economic status differences. Higher incomes are correlated with the availability of resources such as books, computers, and other learning tools. As a result of higher socioeconomic status, non-minority students are afforded greater access to tools that facilitate the learning process. Parental marital status is another determining factor of test achievement because intact families typically have more resources. Also, higher levels of parental involvement are critical because they help the student stay focused in school in order to achieve high test scores. Finally, higher levels of school resources allow students access to higher quality classes to prepare them for standardized tests. In



other words, a gap in test scores persists between wealthy and poor students because of a difference in availability of resources.

As hypothesized this study found racial differences in FCAT reading and math test scores. After looking at the characteristics of the schools, the data make it clear that schools with the largest percentage of Blacks and Hispanics have lower test scores. This is consistent with the literature concerning standardized test scores. For example, as mentioned previously, according to the National Assessment of Educational Progress (NAEP), the standardized test scores of Black students have trailed behind White students for the past 30 years in reading, vocabulary, and math.

In the multiple regression models, when race was the only variable included in the model it was significant. However, as other variables were introduced into the regression models, the relationship between race and FCAT scores changed. For example, when considering mean FCAT reading scores, when per pupil expenditure, teacher qualifications, and student/teacher ratio were added into the equation, race (Black and Hispanic) did not remain significant. Within the regression models, the “Other” race variable was the only one to remain significant. Additionally, within that model, the percentage of students who receive free lunch within a school was most strongly related to FCAT scores. Additionally, as rural/urban county status, county level education, and female-headed households were introduced in the last step, the percent of “Other” students stayed significant as well as percent receiving free lunch. Also, the county-level education variable, measuring the percent of the population 25 and older with a BA degree or higher, was significant for math FCAT scores. Race was only significant when introduced by itself, excluding all 8 of the other independent variables.

As this study used school-level and county level data, the variables as well as the results, that follow are limited. Hence, usage of actual data showing parental income, parental marital status, and

parental education, may have been more accurate. Most importantly, further studies are needed to fully understand the female-headed household variable in relationship to test score achievement. Although this study offers some suggestions as to why it is positively correlated with FCAT scores, more data are needed to understand this phenomenon. This project sought to extend the literature regarding standardized test scores, particularly the Florida Comprehensive Achievement Test (FCAT). Although the literature suggests that race and ethnicity may be correlated with low test scores (Bali & Alvarez, 2004), the results of this paper did not find a correlation once other relevant variables were included in the model, with the exception of the “Other “ category. As mentioned, this may be due to the differences in Asians attitudes toward education, etc. Goyette and Xie (1999) suggest that Asians often view education as the main vehicle for upward mobility, both social and economic. Also, they assert that parental expectations may be higher among Asian groups. However, this study was consistent with Dittmer’s (2004) study concluding that the percentage of free or reduced lunch within a school is the most important variable for modeling test score achievement. In the current study, this variable remained significant as all the other variables were added to the model.

Lastly, this study has added to the literature in this area and added insight into standardized test score achievement. The results of this study suggests that economic factors are more relevant to test scores than race and that county education levels are also correlated with test score achievements. This is supportive of the guiding theoretical framework that suggests that there is a constant battle for resources, mainly economic resources. In conclusion, future research in this area may be needed to understand how economic and education factors impact FCAT scores when other variables are controlled for. Perhaps it would be advantageous to exclude race from all analysis and focus on socio-economic factors solely and focus on economic structures.

Furthermore, the findings of this study may present implications for educational policy reform that impacts standardized tests score practices in American schools. These findings suggest that race and ethnicity are not directly related to test score achievement so immigrants and students who speak another language will not receive additional preparation for the FCAT. Additionally, the variable most associated with test score achievement, the percent of students receiving free lunch, is considered an economic issue. If the history of American society is a predictor of the future, the gap between the wealthy and the poor will continue to persist and even strengthen. This is not good news for the educational system in America that works as systems to keep this dynamic in motion. This has implications for lower income students who come from economically challenged areas. According to the framework of conflict theory, within society, individuals and groups benefit from a particular structure, usually the economic structure, and strive to maintain its equilibrium. The economic structure in society molds the superstructure, which includes ideologies, social institutions, the state, and the educational system. According to conflict theory, dominant social institutions serve to perpetuate and reproduce the economic class structure. Thus, a constant struggle persists including competition over valuable resources. The competing groups struggle to gain access of educational resources and access to knowledge furthering the perpetuation of educational stratification. This conflict over resources can be clearly seen in the results of this study.

In effect, the percent of free lunch in a school may be indicative of how well the school is funded, how well the school prepares the students for testing, the number of advanced classes offered, the teacher qualifications, and student /teacher ratio, etc. which ultimately predicts FCAT success or failure. As mentioned above, the FCAT test score gap is in fact an economic battle between the haves and the have nots, the wealthy and the poor, the high income students and low income students, the powerful and the powerless; a constant struggle. In sum, using the theoretical

framework of conflict theory, according to this study, White non- minority students perform better on standardized tests due to higher socio-economic status which affords higher quality educational experiences and increased life chances.

## LIST OF REFERENCES

- Bali, V., Alvarez, M. (2004). The race gap in student achievement scores: Longitudinal evidence from a racially diverse school district. *Policy Studies Journal* 32 (3) 359-350.
- Bernstein, L. (1992). Where is reform taking place? An analysis of policy changes and school climate. *Journal of Teacher Education* 14 (3) 297-302.
- Bracey, G. (2000). A short guide to standardized testing. *Phi Delta Kappa Fastbacks* 459, pgs. 7-52.
- Brooks-Gunn, J., Klebanov, P., and Duncan, G. (1996) Ethnic differences in children's intelligence tests scores: Roles of economic deprivation, home environment, and maternal characteristics. *Child Development* 65 pgs. 346-360.
- Childs, T.S., Shakeshaft, C. (1986) A meta-analysis of research on the relationship between educational expenditures and student achievement. *Journal of Educational Finance* 12 pgs. 249-263.
- Cochran, C.L., Malone, E.F. (1995). *Equality and achievement in education*. Boulder: Westview Press.
- Coleman, J. (1961). *The adolescent society: The social life of the teenager and its impact on education*. New York.
- Cordero-Guzman, H. (2001). Cognitive skills, test scores, and social stratification : The role of family and school-level resources on racial/ethnic differences in scores on standardized tests (AFQT). *The Review of Black Political Economy* 28 (43) 1-57.
- Dittmer, J. (2004). Assessing school assessment: A case study of the geographic implications of the A+ plan in Jacksonville, Fl. *Southeastern Geographer* 44 (2) 170-185.

- D'Souza, D. (1995). *The end of racism: Principles for a multicultural society*. New York, NY: The Free Press.
- Duncan, G, Yeung, W., Brooks-Gunn, J et al. (1998). How much does childhood poverty affect the life chances of children? *American Sociological Review* 63 (3) 406-423.
- Ellinger, K., Wright, D., Hirlinger, M. (1995). Brains for bucks? School revenue and student achievement in Oklahoma. *The Social Science Journal* 32 (3) 299-308.
- Esposito, M. (1999). Learning in Urban Blight: School climate and its effects on the school performance of urban, minority, low income children. *School Psychology Review* 28 (3) 1-16.
- Gamoran, A. (2001). American schooling and educational inequality: A Forecast for the 21<sup>st</sup> century. *Sociology of Education*. Pgs. 135-53.
- Glick, J. E., White, M.J. (2003). The academic trajectories of immigrant youths. *Demography* 40, 759-784.
- Goyette, K., Xie, T. (1999). Educational expectations of Asian youths: Determinants and ethnic differences. *Sociology of Education* 72 (1) 22-36.
- Hammond, L. (2000). The school reform movement and the education of African American Youth: A retrospective update. 69 (4) 263-287.
- Hanushecks, E. (1996). *Improving American schools: The role of incentives*. National Academic Press pg. 268.
- Jencks, C., Phillips, M. (1998). America's next achievement test: Closing the black white test score gap. *American Prospect* 9 (40) 44-53.
- Kao, G., Thompson, J. (2003). Racial and ethnic stratification in educational achievement and attainment. *Annual Review of Sociology* 29 (26) 417-425.

- Kao, G., Tienda, M., and Schneider, B. (1996) Racial and ethnic variation in educational achievement. *Res. Sociol. Educ.Social.* 11, 263-97.
- Kozol, J. (1991). Rich child, poor child. *Electronic Learning Journal* v10, pg. 56
- Kozol, J. (1992). *Savage Inequalities: Children in American schools.* New York, NY: Harper Perennial.
- Kozol, J. (2000)a. A conversation with Kozol. *School Administrator* 57 (10), 16.
- Kozol, J. (2000)b. An unequal education: Under endowed school libraries in the South Bronx. *School Library Journal* 46 (5) 46-9.
- Linn, R. (2000). Testing and accountability. *Educational Researcher* pgs. 4-15.
- Marx, K., Engels, F. (1848). *Manifesto of the Communist Party.* London: Oxford University Press.
- McLanahan, S., Sandefur, G. (1994). *Growing up with a single parent: What hurts, what helps.* Cambridge, MA: Harvard University Press.
- Racial Disputes in Minnesota Basic Standards Test Scores 1996-2000. Roy Wilkens Center for Human Relations and Social Justice. Hubert H. Humphrey Institute of Public Affairs. University of Minnesota. ([www.scimathmn.org/keyfind.pdf](http://www.scimathmn.org/keyfind.pdf))
- Rothstein, R. (2004). A wider lens on the Black-White achievement gap. *Phi Delta Kappa* 86 (2) 104-110.
- Strickland, D. (2004). The role of literacy in early childhood and education. *The Reading Teacher* 58 (1) 86-88.
- Van Hook, J., Brown, S., Kwenda, M. (2002). A decomposition of trends in poverty among children of immigrants. *Demography* 41 (4) 649-70.
- Warren, J.R. (1996). Educational inequality among white and Mexican-origin adolescents in the

American Southwest. Sociological Education 69 pgs.142-58.

Wesson, K. (2000). The Volvo effect: And other thoughts on schools and standardized testing. Education Week 20 (12) 34-36.

Florida Department of Education. The State Report and District Results Report. Retrieved on November 14, 2005 from <http://www.fldoe.org/website>.

Florida Department of Health. Chapter 381.0406 section 2a Florida Statue 3.C.1. Retrieved November 14, 2005, from [www.doh.state.fl.us](http://www.doh.state.fl.us).

Florida Department of Education (FLDOE). Assessment and Performance: Scores, Reports, and Searchable FCAT Database. Retrieved on November 19, 2005, from <http://www.fldoe.org>.

Florida Parent Teacher Association (PTA). Parental Involvement Facts. Retrieved on November 20, 2005, from <http://www.Floridapta.org/membership>.

GreatSchools.net. School Overview. Basic School Information. Retrieved on November 20,2005, from <http://www.greatschools.net>.

National Education Association (NEA). Parents and Community: Guide to testing at your child's School. NEA accountability systems. Retrieved on November 14, 2005, from <http://www.nea.org/parents/index.html>.

National Association of Education Progress. (NAEP) Digest of Education: Statistics tables and Figures. (1995). Retrieved November 14, 2005 from <http://nces.ed.gov/programs/digest/d95/dtab125.asp>.

Public Broadcasting System. Evolving Classrooms: Testing. Retrieved on November 14, 2005, from



<http://www.pbs.org/kcet/publicschools/>.

US Census: Table B-5 named Education, Income, and Poverty. Retrieved on November 14, 2005,

from [www.quickfacts.census.gov](http://www.quickfacts.census.gov).

US Census: Table B-3 named Group Quarters population and Household. Retrieved on November

14, 2005, from [www.quickfacts.census.gov](http://www.quickfacts.census.gov)