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The Effect of a Mentoring Model on FCAT Achievement and Grade Point Average of Tenth Graders

Lisa G. Jacques

THE EFFECT OF A MENTORING MODEL ON FCAT ACHIEVEMENT AND GRADE POINT AVERAGE OF TENTH GRADERS

DISSERTATION

Presented in Partial fulfillment of the Requirements for

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by

Lisa G. Jacques, B.S., M.P.A.

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APPROVED BY:

_____
Edward Bernstein, Ed. D.
Chairperson, Dissertation Committee

_____
Patrick Gaffney, Ph. D.
Member, Dissertation Committee

_____
Nancy Masztal, Ph. D.
Member, Dissertation Committee

_____
Terry Piper, Ph. D.
Dean, Adrian Dominican School of Education

ABSTRACT

THE EFFECT OF A MENTORING MODEL ON FCAT ACHIEVEMENT AND GRADE POINT AVERAGE OF TENTH GRADERS

Lisa G. Jacques

Barry University, 2010

Dissertation Chairperson: Dr. Edward Bernstein

This study examines the effect of a mentoring model on FCAT achievement and grade point average of tenth grade students. This ex post facto, quantitative study compared data of program participants and non-participants of 10^{th} graders from a large urban school district in Florida.

Of the 180 participants, 90 were placed in a control group, and 90 were placed in an experimental group that was designed to expose them to the intervention provided by the mentoring model. The control group did not receive such exposure. Independent t-tests were performed to compare the mean differences among the groups.

Findings indicated that those tenth grade students who were participants in the mentoring model had a significantly higher FCAT achievement level and grade point

average than those tenth grade students who did not participate ($p<.05$). According to Reglin (1998), successful interventions, such as mentoring, have far-reaching benefits, both to the child and the community.

When gender is examined, female students in the program scored significantly higher than non-participants in all three variables ($p<.05$). Female mentors can help girls overcome barriers to education such as low educational aspirations, low parental expectations, and inadequate information about careers. When interventions are provided, mentors help girls improve their academic performance (Freedman, 1993). As such, female tenth graders had a significantly higher ($p<.05$)level of FCAT achievement and grade point average than non-female participants, supporting Freedman's theory of mentored girls being more successful.

However, there was no significant difference among male mentoring model participants and non-participants ($p>.05$). Therefore, it may be worthwhile to focus specifically on mentoring programs for males who as shown in this study to have a lower performance level overall.

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And to my LORD and SAVIOR, I just praise you and worship who you are and how you continue to mold me and lead me into my destiny…. Don’t ever leave my side.

DEDICATION

This spectacular journey of academic prowess is dedicated to the memory of my awesome mother, Anne Marie Jacques, who was truly the wind beneath my wings and always fed my dreams, and whose passion for education was rooted early in me. I know you are currently watching over me from your palace in heaven. I am so glad you enjoyed the roses while you were here.

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And to my nieces, nephews and godchildren, it is my hope that my path and my examples have set a standard of excellence of which to follow. For your future, my undying love and success for any and all endeavors is my continued prayer.

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CHAPTER I

The Problem

Introduction

Statement of the Problem

During the past decade, intervention programs for youth have become increasingly popular and widespread. One such intervention, mentoring, has blossomed into worldwide initiatives for the betterment of youth. Big Brothers/Big Sisters of America (Tierney, Grossman & Resch, 1995), the most prominent of these programs, now includes more than 500 agencies nationwide and boasts more than 300,000 mentoring relationships in their programs nationwide.

The National Mentoring Partnership and numerous other organizations also have contributed to significant growth in mentoring initiatives at local, state, and national levels. Currently, the National Mentoring Database lists more than 1,700 organizations that support mentoring activities (National Mentoring Workgroup, 1991).

Teachers are dealing with complex issues in the classroom. More and more students than before are coming to school lacking the basic necessities for academic success. School and student performance are major issues for educational leaders; however, efforts to increase academic

performance often become mired in conflict or inertia and ultimately fail (Osher, 1996). According to Mcknight and Kretzmann (1990), school districts have begun improvement efforts by focusing on weakness and remediation, which this perspective has become the commonly used deficits approach.

As of 2006, there were 30% of 10th grade students who were below a 2.0 grade point average (GPA) in a large school district in Florida. During the same school year, 66% of tenth grade students scored below 300 on the reading section of the Florida Comprehensive Assessment Test (FCAT) and 33% scored below 300 on the math portion of the FCAT. Demographically, 64% of those tenth graders tested in 2006 were female and 68% were male. Only 36% of the female students and 32% of the male students received passing scores on the tenth grade reading and math sections of the FCAT.

Florida’s high school dropout rate is 12%, one of the highest rates in the United States and 3% percent higher than the national average (Florida Department of Education, 2004). The pregnancy rate is also higher than the national average with 33 births per 1,000 females age 15-17 years (Juvenile Justice Educational Enhancement Program, 2001).

Young people often attribute their safe passage through the tumultuous years of adolescence to the influence of significant, non-parental adults such as teachers, extended

family members, or neighbors (Smink, 1990). The number of studies that examine the effects of natural mentors, however, is limited. While several researchers have provided evaluations of formal mentoring programs such as Big Brother/Big Sister (Slicker & Palmer, 1993; Tierney, Grossman, & Resch, 1995), few have explored the natural mentor relationships that some adolescents form with non-parental adults in the course of their daily lives.

Purpose of the Study

The purpose of this study was to examine the effect of a mentoring model on FCAT achievement and grade point average of tenth grade students. Studies evaluating the benefits of these programs for youth have begun to appear only recently in the literature. The researcher wanted to determine if certain interventions, such as mentoring, had a positive effect. If a positive effect occurred, in what areas did participants improve due to this particular intervention.

Prior reviews (Flaxman, Ascher, 1992; Rhodes, 2002) have been limited due to a lack of available data on which to base conclusions. Furthermore, because of multidisciplinary and applied interest in mentoring as an intervention, reports have appeared in diverse literature sources, and a significant

proportion, have been published privately by foundations and other organizations.

The present research will utilize meta-analysis to review and synthesize existing empirical literature on youth mentoring programs (Durlak & Lipsey, 1995). Factors meriting consideration as sources of influence on the results of mentoring programs include:(a) features of program design and implementation; (b) characteristics of participating youth; (c) qualities of the mentor-mentee relationships that are formed; and (d) issues relating to assessment of youth outcomes.

Theoretical framework for the study

Successful partnerships with students and mentors may lead to increased grade point averages and higher test scores on the FCAT. Within a research context, a growing body of work has highlighted the complexities and diversities of youth transition to adulthood. It is clear there are multiple pathways to adulthood, and these continue to be structured by race, class and gender (Miles, 2000). There has also been greater recognition of young people as social actors themselves whose own views of their social worlds are of value. This recognition has led to innovative approaches to research design, planning, and, in some cases, analysis.

At a theoretical level, Beck's (1992) work on the risk society is helpful in framing such developments. The sociologist theorizes that society, in this era of advanced modernity, is dominated by the ubiquity of risks, not only as the dominant consciousness of the age but also as the challenge that threatens to overwhelm societies. Briefly, Beck (1992) suggested these changes are part of a global shift to a new risk society which is marked by a loosening of traditional ties and structures. Beck’s individualization thesis is useful in examining natural mentoring relationships in relation to the social networks of young people.

In addition, psychologist Abraham Maslow’s hierarchy of needs motivation theory is the primary basis for this research. There are five stages in the hierarchy of needs motivation theory: (a) physiological, (b) safety, (c) social, (d) self-esteem, and (e) self-actualization. This research will look at the possibility of a student moving up the hierarchy, by way of intervention, to reach self-actualization. In self-actualization, the individual seeks his or her full potential which continuously changes as the person changes psychologically.

Rhodes (2002) showed that, in relation to female students, mentors who are drawn from the local neighborhood

can help young mothers in dealing with difficulties encountered in personal relationships and stave off depression. A recent study by Rhodes, found that mentoring relationships can help young people and their mentors develop a form of cultural capital or a set of recipes to deal with the challenges they face in their day to day lives. Taken together, these findings suggest there is a need for programs to develop planned relationships with young people who are experiencing difficulties but who have no obvious intervention. For these reasons, it is important to learn more about the processes of mentoring relationships and how these processes can be translated into policy interventions.

In the United Kingdom (UK), the government patterns its mentoring program from various experiences in the United States and from the theories of functionalist sociologist James Coleman. According to Coleman & Hendry (1999) the traditional methods of socializing youth, such as schools and family, had lost their power and authority. Schools were failing to equip young people to enter the labor market, and the increase in single parent families headed by women was disastrous for large numbers of young people. As a result, young people relied on peers rather than parents, and were hostile to the norms of mainstream society (Coleman & Hendry, 1999).

A strong body of empirical evidence also has shown that the notion of a generation gap has been exaggerated and that parents remain the most significant people in the lives of many young people (Coleman & Hendry, 1999). Nevertheless, this argument retains an apparent hold on popular images of youth and is an increasingly powerful theme in current UK debates around the family, childhood, and youth (Silva & Smart, 1999). It also has been translated into rationales for intervention programs in both the United States and the UK.

The literature has shown that in Florida, grade point average and FCAT achievement scores are important indicators of student success in school (Chandler & Sweller, 1992). Student grade point average is indicative of student performance in academics and the student's ability to receive the curriculum (McEvoy & Welker, 2000; Chandler & Sweller, 1992). FCAT scores identify the skills currently being measured as a result of the No Child Left Behind Act (FLDOE, 2006).

Research Questions

According to Fraenkel and Wallen (2006), the research question must be of interest to the researcher, the topic must be researchable, and the questions for the study must be tailored to specifically answer the underlying theme of the research. This research was guided by the following research questions.

Research Questions

1. What effect does a mentoring model have on FCAT achievement in reading?
2. What effect does a mentoring model have on FCAT achievement in math?
3. What effect does a mentoring model have on grade point average?

The dependent variables in this research will be grade point average and FCAT achievement, while the independent variable will be the participation by tenth grade students in the a mentoring model.

Hypothesis and null hypotheses

This study presents the hypothesis that there is a relationship between FCAT achievement and higher grade point

averages as a result of participation in the 21st Century Program. Thus the following null hypotheses were generated.

Ho1 - There is no difference in the FCAT reading scores of tenth grade students who participate in the mentoring model compared to tenth grade students who do not participate.

Ho2 – There is no difference in the FCAT math scores of tenth grade students who participate in the mentoring model compared to tenth grade students who are not participants.

Ho3 - There is no difference in the grade point average of tenth grade students who participate in the mentoring model compared to tenth grade students who are not participants.

The following six null hypotheses are based on gender and will also be examined.

Ho4 – There is no difference in the grade point average of tenth grade female students who participated in the 21st Century Program and tenth grade female students who did not participate.

Ho5 – There is no difference in the grade point average of tenth grade male students who participated in the mentoring model and tenth grade male students who did not participate.

Ho6 – There is no difference in the FCAT reading achievement of tenth grade female students who participated in

the mentoring model and tenth grade female students who did not participate.

Ho7 – There is no difference in the math achievement of tenth grade female students who participated in the mentoring model and tenth grade females who did not participate.

Ho8 - There is no difference in the reading achievement of tenth grade male students who participated in the mentoring model and tenth grade male students who did not participate.

Ho9 – There is no difference in the math achievement of tenth grade male students who participated in the mentoring model and tenth grade male students who did not participate.

Significance of the Problem

A meta-analysis of existing research by Frymier (1989) identified 45 factors that contribute to students being at risk. Of these, lack of academic retention is the direct result of low achievement in school. This in turn, increases the probability of students dropping out of school. A growing number of children are enrolled in school and community-based after-school programs that promote learning, protect youth from negative peer pressure, and create opportunities for them to form relationships with non-parent adults (Rhodes, 2002).

The challenges that educators face with the No Child Left Behind Act, present opportunities for the improvement of the

nation’s educational programs (Bracey, 2002). The Florida A-Plus Program assigns each K-12 public school a grade based on the performance of its students. The schools’ grades are based on their students FCAT results in reading, writing, and math, and the percentage of students scoring within five levels. The five levels use the traditional A, B, C, D, and F grades used in schools, with A being the highest and F the lowest.

According to the National Mentoring Working Group (1991), students who are mentored are 59% more likely to improve their grades, and are 73% more likely to raise their goals and expectations. Educational leaders who recognize research-based best practices can use the findings to increase educational outcomes for high school students. Practical application of research practices can make a difference not only in a school’s academic achievement and school rating, but also in student lives and futures (McEvoy & Welker, 2000).

Successful intervention programs that include mentoring as an intervention should include definite goals and a plan to help students achieve the most from the time spent with a mentor. Participants should develop a vision for their future (Lee & Crammond, 1999). For example, in 1998, the U.S. Department of Education launched the 21st Century Community Learning Center Program by awarding support to rural and inner-city schools to create safe, drug-free supervised

environments for children and youth during the non-school hours (FLDOE, 2006). Since many adults who gather or work in such settings are from the community they serve, they are well positioned to be natural mentors for adolescents (Fine & Weis, 2003).

According to Glasser and Ross (Lee & Cramond 1999) the main difference between successful and unsuccessful people, is successful people have long-range goals. Unsuccessful people do not plan, set goals and work toward them. Unsuccessful people do not plan, set goals, or work toward them. Unsuccessful students think they have no control over their future and seem to feel that what happens to them is in someone else's hands.

The lack of research on intervention programs that utilize the mentoring process in the United States may be attributed to research method and design since it is difficult to prove that mentoring is the direct cause of improvement. Many researchers also agree it is also difficult to control extraneous variables in this type of study. Some studies of volunteer programs for mentoring show that a loss of mentors created problems for the program. If a mentor drops out or decides to stop mentoring, students may feel abandoned or lost. This may cause students to revert back to their previous behavior patterns. Very little information exists concerning

the long-term effect of mentoring because most programs are so new.

Research Design

This was an ex-post facto study in which the researcher did not manipulate the independent variable. The study attempted to identify a cause and effect relationship and make comparisons between groups. The research design guided how the study was controlled as well as how the data were analyzed (Kerlinger & Lee, 2000). The design is reflects the paradigms, worldviews, or differences in the basic set of beliefs or assumptions that guide the way researchers approach their investigations (Fraenkel & Wallen, 2006; Slife & Williams, 1995).

Definition of Terms

21st Century Program: A federally funded grant that creates learning centers at designated high schools throughout the United States. These centers provide services such as FCAT tutoring, band, drama, mentoring, ESOL tutoring, social skills, health and fitness, and driver's education.

Grade Point Average: The average grade earned by a student, calculated by dividing the grade points earned by the

number of credits attempted. In education, a grade (or mark) is a teacher’s standardized evaluation of a student's work. In some countries, evaluations can be expressed quantifiably and calculated into a numeric grade point average which is used as a metric by employers and others to assess and compare students. The concept of grading students' work quantitatively was developed by tutor William Farish, and first implemented by the University of Cambridge in 1792.

FCAT reading achievement: In this study, FCAT reading achievement is Florida’s official numerical score on the tenth grade FCAT, which tests students’ knowledge and comprehension of written work.

FCAT math achievement: In this study, FCAT math achievement is Florida’s official numerical score on the tenth grade FCAT, which tests students’ knowledge and comprehension of quantity, shape and arrangement of numbers.

Mentor or natural mentor: An adult who sustains a relationship with a young person and offers support and guidance. The mentor also may provide tutoring with schoolwork and can encourage students stay in school and maintain good grades. Mentors can be recruited from churches, businesses, school campuses, and the community.

Assumptions

There are many assumptions related to this study. A major assumption is that all the voluntary participants are of similar background and abilities. In regard to academic achievement, it is assumed that the records provided by the school district on grade point average and FCAT achievement were entered into the district database correctly.

Limitations of the Study

This study utilizes only three high schools within a school district in Florida, that participated in the 21st Century Program; thus, the data may not be generalizable to other schools in the district. Furthermore, participation by students in the mentoring model is on a voluntary basis. Only one year, tenth grade, of participation in the 21st Century Program will be examined.

Chapter Summary

School and student performance are at the forefront of issues facing educational leaders today. Identifying effective methods of educational success is vital. The challenges educational leaders and teachers face with the NCLB, present many opportunities for the improvement of educational programs in South Florida. There are several major areas of concern school leaders face with the implementation of the NCLB Act. The Act not only calls for students to achieve state test standards but to make adequate yearly progress (FLDOE, 2001 & 2002). Schools in Florida face great challenges to improving student progress due to the immense mobility and growth in the state.

By researching and monitoring the effects and outcomes of tenth grade students' scores on the FCAT, a more streamlined academic focus can begin, on the way students relate to interventions, and how the effect of these interventions correlate with student achievement on this high-stakes, standardized test.

CHAPTER II

Literature Review

Introduction

This chapter reviews literature pertinent to youth interventions, specifically mentoring and academic achievement, beginning with the background on one of the best known mentors in the United States and his work over the years. This chapter will include supporting research studies about various interventions and other special advisements provided to youth across the country.

One of the best known mentors in America is probably Eugene M. Lang. In 1981, Lang went back to the elementary school from which he had graduated, Public School 121 in East Harlem, to deliver that year's commencement address. Instead, he delivered his now famous promise to the 61 sixth graders assembled that day: "If you stay in school and graduate, I'll pay your college tuition" (Evans, 1992, p. 2). Five years later, when 52 of those students were still attending classes, statistics indicated that the number should have been around 30 (Evans, 1992).

According to Reglin (1998), successful interventions, such as mentoring, have far-reaching benefits, both to the child and the community. As mentors gain greater understanding of issues schools face, they become powerful forces for

involving communities in restructuring schools and enriching the lives of young people. Mentoring empowers students to succeed in life. It provides a powerful way for adults to connect with youth who are isolated from adults in their schools, homes, and communities (Reglin, 1998). Mentoring is underutilized as a strategy even though history repeatedly documents that numerous successful people who had mentors in their lives (Flaxman, 1992).

Early childhood intervention proved successful according to the Perry Preschool Project in Michigan in the early 1960s. This longitudinal study was designed to answer the question, can high-quality early education help to improve the lives of low-income children and their families and the quality of life in the community as a whole? (Evans, 1992). During the early 1960s, this initiative, designed to solve a local problem, culminated into a study of 123 economically disadvantaged African-American youths in Michigan who were at risk of failing in school. Students were randomly drawn into two groups: one group attended a high-quality preschool and the other (control group) received no preschool education. Studies of the participants at age 19 supported the finding that high quality early childhood intervention can improve the lives of low-income children and their families (Evans, 1992).

The 21st Century Program

The 21st Century Program is a federally funded grant program that creates learning centers at designated high schools throughout the United States to assist students in meeting state and local academic achievement standards in core academic subjects such as reading and mathematics. The program provides students with opportunities for academic enrichment activities through mentoring and a broad array of other activities such as drug and violence prevention, counseling, art, music, recreation, technology, and character education programs, during non-school hours. All services provided through this program serve to reinforce and compliment the regular academic programs of the students' schools; the programs also offer families of student participants opportunities for literacy and related educational development.

The School System and the FCAT

The Florida Comprehensive Assessment Test (FCAT) is administered annually in late February and early to mid-March to all public school students in grades 3 through 11 in Florida. Students in grades 3 through 10 are required to take the reading and math tests every year. Private and parochial

school students are not required to take the FCAT; most of these schools administer another standardized test instead, such as the Stanford Achievement Test, which is exactly the same as the FCAT Norm Reference Test (NRT) taken by public school students.

FCAT science is administered annually to public school students in the fifth, eighth, and eleventh grades. In the fourth, eighth, and tenth grades, public school students take the FCAT Writing+ exam (formerly called "Florida Writes!"). Unlike the other tests, the FCAT Writing+ exam is administered in early February to allow adequate time for scoring before the end of the school year. Students' results from the FCAT are compiled and used to generate a grade for each public school under former Governor Jeb Bush’s A-Plus plan. Under this plan, public schools receive a grade from A to F, depending on student performance and the degree to which the bottom 25% of the school has improved compared to past performance. The higher a public school scores, the more funding it receives.

Promotion and graduation

When originally introduced, students in fourth grade were required to pass the reading section of the FCAT in order to be promoted to the fifth grade. After passage of the No Child

Left Behind Act by the United States Congress in 2001, mandatory passing of the test was moved from fourth grade to third grade to align Florida with federal statutory requirements. In addition to the third grade requirement, public school students in Florida must also pass the tenth grade FCAT, not only in reading but also in mathematics, in order to be eligible to receive a high school diploma. Grade 3 and graduation are the only two instances in which federal or state statutes require a student to pass the FCAT. The test is given at other grades to provide diagnostic information, both for students and schools. However, many Florida counties have adopted other promotional requirements tied to the FCAT; these are at the discretion of each individual county school board.

Options after failing the FCAT

Students are allowed approximately five additional opportunities to pass the FCAT prior to graduation. Originally, students were given four chances to pass the test after failing it in tenth grade in October and March of both their junior and senior years in high school. However, starting in 2006, students were provided an additional test administration during the summer between school years. Students, however, may not retake the Grade 10 FCAT during the summer between their sophomore and junior year because

additional time is needed for remediation. If students do not pass the FCAT prior to their scheduled graduation, they may continue to retake it until they pass it in order to earn a standard high school diploma.

If a student completes the minimum number of credits for high school graduation but does not pass the FCAT, he or she may still be allowed to receive a regular diploma. Students may substitute the appropriate subject-area score from either the ACT or SAT. A score of 15 on either the reading or mathematics sections of the ACT or a 280 on the Reading and a 370 on the Mathematics sections of the SAT can be used to waive the FCAT requirement after the student has failed the tenth grade test at least three times.

Students may only use scores from the ACT or SAT for a graduation substitution of the FCAT after they have failed to pass the state standardized test. Any ACT or SAT scores obtained prior to failing the FCAT three times cannot be used toward graduation. In any case, students will receive a Certificate of Completion that allows admission to any state community college for which they meet all admission requirements apart from passing the FCAT. Students may also transfer their credits to a private or out-of-state school.

Exceptional Student Education (ESE)

ESE students are also able to waive the FCAT requirement and receive a standard high school diploma. ESE students who wish to obtain a regular high school diploma must earn a passing score on the FCAT or receive a waiver from the district for the FCAT. In order to get the waiver, ESE students must prove they have taken several steps to try to pass the FCAT and must also show they have improved each time they have taken the test.

The FCAT is either machine-scored or hand-scored, depending on the section. Multiple-choice and gridded-response questions are machine-scored. Performance tasks, such as short-response, extended-response, and essay items, are hand-scored. Like several other standardized tests, the raw score does not directly reflect the final score; some questions are considered to have a higher difficulty level than others and, therefore, carry more scoring weight. This type of scoring is called item response theory (IRT).

Mentoring Outcomes and Statistics

Mentoring programs exist throughout the world, but there is little documentation and analysis of their activities. Consequently, the outcomes of many programs are known through

success stories about mentoring relationships that changed the lives of the participants (Flaxman & Ascher, 1992).

Female mentors can make a difference in girls' participation and persistence in education and their personal and economic lives after their schooling is over. Female mentors can help girls overcome barriers to education such as low educational aspirations, low parental expectations, and inadequate information about careers. When interventions are provided, mentors help girls improve their academic performance. Many programs work with parents to help them provide their daughters with a supportive environment at home.

When these structures are in place, girls' retention and graduation rates increase. Other important benefits of mentoring programs include helping girls prepare for the transition to adulthood; providing girls with information about careers and job opportunities; and giving them nurturance, support, and encouragement which helps them cope with difficult circumstances (Freedman, 1993). Here are a few examples of intervention programs that provide mentoring for students.

Fille pour Fille (Girl for Girl): This program is one of several UNICEF activities in Benin, West Africa that seeks to increase girls' participation in education at the primary level and enhance the academic skills of the older girls.

Benin is an area within West Africa that has one of the worst literacy rates and biggest educational gender gaps in the world (Hogan, 2008). Today, in Benin only 38% of boys go to secondary school compared to 17% percent of girls.

The three primary objectives of the Fille pour Fille program are to increase the girls' access to education, increase their retention in school, and to improve their academic performance. The program continues to be evaluated.

On the other hand, according to Hall (2006), male students, specifically males of color, find adolescence is burdened by such factors as hyper-masculinity, racial awareness in a predominantly White society, negative imagery tied to minority status, and social labeling and mistreatment. All of which serve as the manifestation of males' low academic achievement.

The Students Tutoring for Achievement and Retention (STAR) program began in 1996 as a peer-tutoring program serving nearly 900 girls in four primary schools and two high schools in Lome, Togo, in Africa. The program provides teachers with training specific to educating girls and conducts activities to sensitize the community to the importance of girls' education. The program attempts to improve retention and achievement through one-on-one tutoring. After the program's first year, teachers reported program

participants were more willing to raise their hands in class and to participate in class discussions. The dropout rate for girls who participated in the program declined from 15% to 1% (Burg, 1998).

A descriptive study of a school-based mentoring program for elementary school students was designed to foster supportive relationships between children and adults that would enhance the students' self-confidence, expose them to new experiences, and improve school-community links (Terry, 1999). At the end of the school year, students who participated in the program said they enjoyed spending time with mentors, could count on their support, learned new things, and wanted to continue in the program the following year. The mentors said they enjoyed being with the students in the program, learned something from the students, and believed the students learned new information and problem-solving skills. Even though this study was more descriptive than evaluative and relied on post-program impressions from participants, it further supports the need for more rigorous evaluations of school-based intervention programs (Terry, 1999).

Interventions, such as mentoring programs, do not require formal organization to be successful. Mentoring can be part of a multifaceted program. A mothers' and girls' club in El

Salvador, La Nueva Esperanza, provides Saturday classes in income-producing skills, an incentive program of back-to-school motivational packages, and a small scholarship program. The club also sponsors two types of mentoring, informal tutoring on an as-needed basis, for high school scholarship students, and Saturday scholarships for selected club members. Saturday scholarships provide the cost of transportation to the capital and an opportunity to attend programs at the university, tour the campus, and experience several sights. This program provides insight into El Salvador's post-secondary education and offers the participants an opportunity that is often unfamiliar (Tinajero et al., 1991).

Maslow's Hierarchy of Needs Theory

In Maslow's hierarchy of needs motivation theory, there are five stages that encompass an individual's life. A need does not have to be fully completed before the next one surfaces. The stronger the need, the more desire there is to satisfy the need.

The independent variable in this study was the 21st Century Program. The program allowed the tenth grade student participants to openly identify their needs, and work on correcting problem areas. If a student's basic needs are not being met, then there is a chance the student will not care

about self-actualization which is the pinnacle of an individual's needs.

The dependent variables in this study were the FCAT achievement score and grade point average. The 21st Century Program supports the needs of students so they can move toward self-actualization. Maslow's hierarchy of needs for motivation theory was used to determine the impact of the independent variable on the dependent variables.

According to the National Mentoring Workgroup (1991), mentored students are 59% more likely to improve their grades, 73% more likely to raise their goals and expectations, 33% less likely to resort to violence, 53% less likely to resort to truancy, 46% less likely to begin drug use and 27% less likely to drink alcohol. Of the juvenile offenders who were mentored, 80% avoided re-arrest.

Research on mentoring shows, funded programs usually see greater stability by maintaining paid staff to act as mentors. Most volunteer programs remain in existence because a few volunteers are genuinely committed. This is extremely difficult because continuing a program requires a great deal of time and effort (Flaxman & Ascher, 1992).

While the research on mentoring has grown over the past 10 years, most of it is descriptive and centers on program implementation (Flaxman & Ascher, 1992). Measuring outcomes is

one difficulty in studying the effects of interventions such as mentoring. Human relationships are complex, and it is difficult to apply a research design to something so difficult to measure (Carmola, 1995).

Chapter Summary

This chapter reviewed the literature for this study. The literature review provided the definition and sources of certain types of interventions such as mentoring. The review also presented grade point average, FCAT achievement, and the 21st Century Program. The following chapter will describe how this ex-post facto study on the effect of the 21st Century Program on tenth graders' FCAT achievement and grade point average will be conducted.

CHAPTER III

Research Methodology

Introduction

This chapter presents the purpose of the research, the methodology, and the research questions with the null and alternate hypotheses. The population and sampling procedures, design of the study, procedures for data collection, and analysis also are presented. The ex-post facto research methodology (Fraenkal & Wallen, 2006; Kerlinger & Lee, 2000) and the quantitative paradigm (Fraenkal & Wallen, 2006) were utilized to conduct the research for this study.

Purpose of the Research

The purpose of this study was to examine the effect of the 21st Century Program on FCAT achievement and grade point averages of tenth grade students. The 21st Century Program is a federally funded national after-school program designed to provide extra support to students to help improve their academic and social skills. According to the National Mentoring Working Group (1991), students who are provided interventions, such as mentoring, are 59% more likely to improve their grades and 73% more likely to raise their goals and expectations.

The Florida Comprehensive Assessment Test (FCAT) is a statewide, standardized test that measures the content specified within the strands, standards, and benchmarks of the Sunshine State Standards and does so in the context of real-world applications (FLDOE, 2008). The positive effect on FCAT scores and grade point average for tenth grade students from this study would help address the need for more intervention programs as a mainstay in all schools across the country today.

Research Questions

The research question is the focus of the research investigation. It is particularly important that the question be clearly stated to indicate what is being investigated (Fraenkel & Wallen, 2006). The following questions were the research questions for this study.

1. What is the effect of the 21st Century Program on FCAT achievement in reading of tenth grade students?
2. What is the effect of the 21st Century Program on FCAT achievement in math of tenth grade students?
3. What is the effect of the 21st Century Program on grade point averages of tenth grade students?

Null Hypotheses

Ho1 - There is no difference in the FCAT reading scores of tenth grade students who participate in the 21st Century Program compared to those tenth grade students who are not participants.

Ho2 – There is no difference in the FCAT math scores of tenth grade students who participate in the 21st Century Program compared to tenth grade students who are not participants.

Ho3 - There is no difference in the grade point average of tenth grade students who participate in the 21st Century Program compared to tenth grade students who are not participants.

The following six hypotheses are based on gender and will also be examined.

Ho4 – There is no difference in the FCAT reading achievement of tenth grade female students who participated in the 21st Century Program and tenth grade female students who did not participate.

Ho5 – There is no difference in the math achievement of tenth grade female students who participated in the 21st Century Program and tenth grade female students who did not participate.

Ho6 – There is no difference in the grade point average of tenth grade female students who participated in the 21st Century Program and tenth grade female students who did not participate.

Ho7 - There is no difference in the reading achievement of tenth grade male students who participated in the 21st Century Program and tenth grade male students who did not participate.

Ho8 – There is no difference in the math achievement of tenth grade male students who participated in the 21st Century Program and tenth grade male students who did not participate.

Ho9 – There is no difference in the grade point average of tenth grade male students who participated in the 21st Century Program and tenth grade male students who did not participate.

Research Design

The research design serves as the skeleton of the study and guides how the study is controlled, as well as how the data will be analyzed (Kerlinger & Lee, 2000). The design reflects the paradigms, worldviews, or differences in the basic set of beliefs or assumptions that guide the way researchers approach their investigations (Fraenkel & Wallen, 2006; Slife & Williams, 1995).

This study is an ex-post facto study in which the researcher did not manipulate the independent variable. The study attempted to identify a cause and effect relationship and make comparisons between groups.

The independent variable was the 21st Century Program. The dependent variables were the FCAT achievement scores in reading and math and grade point average.

Sampling and Sampling Procedures

The students studied were in the tenth grade within a large, urban school district in Florida. The participants were selected from among tenth graders in three schools participating in the 21st Century Program. Since participation in the 21st Century Program is voluntary, 30 students from each of the schools were randomly selected to be in the experimental group. Similarly, 30 students from the non-volunteers from each of the three high schools were randomly selected to be in the control group.

Data Collection and Processing Procedures

In determining the appropriate indicators, prior research suggests that the best design is the one from which the researcher can construct the greatest number of inferences, in the most direct method (Cronbach & Snow, 1991). The literature

has shown that grade point average and FCAT achievement are direct indicators of students' success in school and frequently used indicators for several core areas of student behavior (Chandler & Sweller, 1992). A student's grade point average is indicative of a student's academic performance and his or her ability to retain the curriculum (McEvoy & Welker, 2000; Chandler & Sweller, 1992).

Guidelines for conducting research were followed and permission from Barry University's Institutional Review Board (IRB) was obtained prior to conducting any part of the research. Upon receiving consent from the IRB, the data gathering and data recording for the study began. Data was exported from the school district's databases to the researcher's statistical database for analysis. Means and standard deviation for each group were determined.

Official student records maintained by the school district were used to review student participation and progress in the 21st Century Program. This information was entered and maintained by the school sites and eventually the main district database. The participants' grade point averages and FCAT achievement scores were tracked.

The data elements chosen are typically focused on by the school district; FCAT scores and GPA are appropriate and relevant when discussing the benefits of academic achievement

within an educational setting. Demographic data included gender. Means and standard deviations for both grade point average and FCAT achievement scores were calculated to compare the groups.

The data will be kept for 5 years in a secure, locked cabinet protected from any possible disclosure and then destroyed. No contact was made with any student in the data collecting process or during any part of the study. No identifiable information was obtained, thus maintaining anonymity, and the gathered data will be kept confidential. All guidelines and protocols required by the IRB were followed at all times to assure the integrity of the research.

Data analysis provided descriptive data pertaining to participants' academic progress and FCAT achievement. A series of independent t-tests were used to compare the 21st Century Program's participants and the control group. The Statistical Package for Social Sciences (SPSS) for Windows, Version 18, was used to analyze the data.

Chapter Summary

This chapter explained the methodology and procedures used for this study. The design of this study used a quantitative approach. This research describes the context of providing interventions to tenth grade students within a large school district in Florida, utilizing the 21st Century Program. The population consisted of the tenth grade students from participating 21st Century Program schools. Participants were randomly selected and included 180 students; 90 in the experimental group and 90 in the control group. Students' participation period was approximately one school year.

CHAPTER IV

Results

Introduction

This chapter presents the findings from the quantitative research for this study. The purpose of this study was to determine the effect of the 21st Century Program on FCAT achievement scores and grade point averages of tenth graders. The findings are presented based on the previously identified null hypotheses of the study.

A series of t-tests were performed on the independent variables which were the FCAT reading and math scores and grade point averages of tenth grade female and male students, both participating and not participating in the 21st Century Program, during an academic school year at the three high schools in a South Florida school district. Data from FCAT reading and math scores and grade point averages were divided into two groups: (a) 21st Century Program participants; and (b) non-participants. FCAT reading and math scores for tenth grade students were entered into the appropriate cells, and an independent t-test was used to calculate the difference between the participant mean scores and non-participant mean scores. The results of the two-tailed t-tests are discussed.

This study's sample consisted of 180 students: 45 female tenth grade students participating in the 21st Century Program and 45 female tenth grade non-participants in the program. Likewise, there were 45 male tenth grade students participating in the 21st Century Program and 45 male tenth grade non-participants.

T-tests were conducted to determine if there were significant differences between the FCAT reading scores, math scores, and grade point averages of participants and non-participants. Results for female and male groups were calculated and compared using a two-tailed t-test for independent samples at the .05 level of significance. The t-test for differences between mean scores and grade point averages was an appropriate test according to Fraenkel and Wallen (2006). These calculations were performed to see if participation in the 21st Century Program had an effect on the FCAT reading and math scores and the overall grade point averages.

Findings

The findings were based on the three research questions and the null hypotheses of this study. The research questions are as follows:

1. What is the effect of the 21st Century Program on FCAT achievement in reading of tenth grade students?

2. What is the effect of the 21st Century Program on FCAT achievement in math of tenth grade students?

3. What is the effect of the 21st Century Program on grade point averages of tenth grade students?

The first null hypothesis stated: There is no difference in the FCAT reading scores of students who participated in the 21st Century Program compared to those students who are not participants (Table 1).

Table 1

Group Statistics for FCAT Reading

FCAT Reading Score	N	Mean	Std. Deviation	Std. Error Mean
Participants	90	279.78	45.689	4.816
Non-Participants	90	263.36	45.836	4.832

The mean FCAT reading score for participants and non-participants in the 21st Century Program was calculated using SPSS. The mean FCAT reading score for 21st Century participants was 279 with a standard deviation of 45. The mean FCAT reading score for non-participants was 263 with a standard deviation also of 45.

An independent t-test was used to determine if there was a significant difference in FCAT reading scores of 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05. The level of significance was .017 which is less than .05; therefore, based on the results of the independent t-test, the first null hypothesis was rejected (Table 2).

Table 2

Independent t-test FCAT Reading

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variances Assumed	2.40	178	.017	16.422	6.822

The second null hypothesis stated the following: There is no difference in the FCAT math scores of tenth grade students who participated in the 21st Century Program compared to students who did not participate (Table 3).

Table 3

Group Statistics for FCAT Math

FCAT Math Score	N	Mean	Std. Deviation	Std. Error Mean
Participants	90	316.66	30.357	3.200
Non-Participants	90	302.64	36.921	3.892

The mean FCAT math score for 21st Century participants was 316 with a standard deviation of 30. The mean FCAT math score for non-participants was 302 with a standard deviation of 36.

An independent t-test was used to determine if there was a significant difference in FCAT math scores of 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05. The level of significance was .006 which is less than .05; therefore, based on the results of the independent t-test, the second null hypothesis was rejected (Table 4).

Table 4

Independent t-test FCAT Math

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variances Assumed	2.78	178	.006	14.011	5.038

This study hypothesized that there is a relationship between FCAT achievement and high grade point averages as a result of participation in the 21st Century Program. The third null hypothesis stated: There is no difference in the grade point averages of tenth grade students who participate in the

21st Century Program compared to students who do not participate (Table 5).

Table 5

Group Statistics for Grade Point Average

GPA	N	Mean	Std. Deviation	Std. Error Mean
Participants	90	2.24	.6430705	.0677856
Non-Participants	90	1.87	.6707498	.0707032

The mean grade point average of 21st Century participants was 2.24 with a standard deviation of .64. The mean grade point average of non-participants was 1.87 with a standard deviation of .67.

An independent t-test was used to determine if there was a significant difference in grade point averages of 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05. The level of significance was .001 which is less than .05; therefore, based on the results of the independent t-test, the third null hypothesis was rejected (Table 6).

Table 6

Independent t-test for Grade Point Average

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variances Assumed	3.76	178	.001	.3689667	.0979481

Of the 180 students in this study, 90 were female tenth grade students, and 90 were male tenth grade students. An Independent t-test was also used to compare the FCAT Achievement and grade point averages between genders.

The fourth null hypothesis stated: There is no difference in the FCAT reading achievement of tenth grade female students who participated in the 21st Century Program and tenth grade female students who did not participate.

An independent t-test was used to determine if there was a significant difference in the FCAT reading scores of female 21st Century Program participants and non-participants. The statistical significance level was determined by an alpa level of .05. The level of significance was .001 which is less than .05; therefore, based on the results of the independent t-test, the fourth null hypothesis was rejected (Table 7).

Table 7

Independent t-test for Female FCAT Reading

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variance Assumed	2.32	88	.023	22.48889	9.68907

The fifth null hypothesis was stated: There is no difference in the FCAT math achievement scores of female students who participated in the 21st Century Program and female students who did not participate.

An independent t-test was used to determine if there was a significant difference in FCAT math achievement of female 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05. The level of significance was .001 which is less than .05; therefore, based on the results of the independent t-test, the fifth null hypothesis was rejected (Table 8).

Table 8

Independent t-test for Female FCAT Math

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variance Assumed	3.40	88	.001	20.17778	5.91912

The sixth null hypothesis stated: There is no difference in the grade point average of female students who participated in the 21st Century Program and grade point averages of female students who did not participate.

An independent t-test was used to determine if there was a significant difference in grade point average of female 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05. The level of significance was .001 which is less than .05; therefore, based on the results of the independent t-test, the sixth null hypothesis was rejected (Table 9).

Table 9

Independent t-test for Female Grade Point Average

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variance Assumed	4.02	88	.001	.47684	.11860

The 90 male tenth grade students who participated in this study were separated into two groups: (a) 21st Century participants; and (b) non-participants. The seventh null hypothesis stated: There is no difference in the FCAT reading achievement of male students who participated in the 21st

Century Program and FCAT reading achievement of male students who did not participate.

An independent t-test was used to determine if there was a significant difference in FCAT reading of male 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05. The level of significance was .540 which is greater than .05; therefore, based on the results of the independent t-test, the seventh null hypothesis was not rejected (Table 10).

Table 10

Independent t-test for Male FCAT Reading

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variance Assumed	6.16	88	.540	5.91111	9.59764

The eighth null hypothesis stated: There is no difference in the FCAT math achievement of male students who participated in the 21st Century Program and FCAT math achievement of male students who did not participate.

An independent t-test was used to determine if there was a significant difference in FCAT math of male 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05.

The level of significance was .545 which is greater than .05; therefore, based on the results of the independent t-test, the eighth null hypothesis was not rejected (Table 11).

Table 11

Independent t-test for Male FCAT Math

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variance Assumed	.608	88	.545	4.84444	7.96355

The ninth null hypothesis stated: There is no difference in the grade point average of male students who participated in the 21st Century Program and the grade point average of male students who did not participate.

An independent t-test was used to determine if there was a significant difference in grade point average of male 21st Century Program participants and non-participants. The statistical significance level was determined by an alpha level of .05. The level of significance was .060 which is greater than .05; therefore, based on the results of the independent t-test, the ninth null hypothesis was not rejected (Table 12).

Table 12

Independent t-test for Male Grade Point Average

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal Variance Assumed	1.90	88	.060	.25206	.13229

Chapter Summary

The results of the statistical analysis of the data collected in an effort to determine the effect of a mentoring model on FCAT achievement and grade point average are presented in this chapter. The findings of this study are discussed and supporting data are provided. The data collected was processed using the SPSS-17 program. The sample consisted of data from 180 participants, 90 were placed in a control group, and 90 were placed in an experimental group that was designed to expose them to the intervention provided by the mentoring model. The control group did not receive such exposure. Independent t-tests were performed to compare the mean differences among the groups. Females in the experimental group showed significant ($p<.05$) improvement in FCAT reading achievement, math achievement, and grade point average. However, there was no significant difference for males participating in the experimental group in the same three categories.

Chapter V

DISCUSSION/CONCLUSION AND RECOMMENDATIONS

Discussion

School and student performance are at the forefront of the issues facing educational leaders today. Identifying effective methods of interventions for youth is vital to this issue (Osher, 1996). The poor academic performance of students must be addressed if schools are to reach the standards set by lawmakers and public scrutiny.

Student and school failure have been documented and assigned letter grades as a constant reminder of the work they have ahead. In general, academic problems are widespread across the United States. In the district where this study was completed, there were 16 schools that failed during the 2008-2009 school year; eight were high schools affecting roughly 15,000 students (FLDOE, 2009).

The goal of this study was to examine the effect of the 21st Century Program on FCAT achievement and grade point averages of tenth grade high school students. The research method employed was an ex-post facto design where the researcher did not manipulate the independent variable. The random sample was selected from three high schools in the district that offer the 21st Century Program. The student

scores and grade point averages were obtained from archival data provided by the school district for the 2008-2009 school year.

The effect of the 21st Century Program on the tenth grade student participants was determined by comparing participant and non-participant FCAT reading and math scores, as well as comparing the grade point averages of both groups. Each hypothesis was evaluated at the .05 level of significance primarily using t-tests and descriptive analysis. Grade point average and FCAT reading and math scores were the dependent variables and participation in the 21st Century Program was the independent variable.

The first hypothesis addressed whether the tenth grade students in the 21st Century Program showed a significant difference in FCAT reading and math scores and grade point averages, compared to tenth grade non-participants. The results showed a significant difference between the FCAT reading scores of the 21st Century participants than non-participants with more than a 16% mean difference (MD=16.422); therefore, the first null hypothesis was rejected.

The second null hypothesis explored whether there was a difference in FCAT math scores between 21st Century participants and non-participants. The results showed a significant mean difference between the participants and non-

participants (MD=14.011). The tenth grade students who participated in the 21st Century Program typically had a higher FCAT math score overall. Based on the results, this null hypothesis was also rejected.

The third null hypothesis examined whether the participants in the 21st Century Program showed a significant difference in their grade point average compared to non-participants. An independent t-test was used and showed a mean difference of 37% (MD=.37) with the average grade point of participants being 2.24 and the average grade point average of non-participants being 1.87. Based on the results, the third null hypothesis was rejected.

The fourth through ninth hypotheses focused on the gender of the participants and non-participants. The fourth null hypothesis postulated that there would be no difference in the FCAT reading scores of female students who participated in the 21st Century Program and those who did not participate. The outcome of the independent t-test rejected the fourth null hypothesis, showing a significant difference between the FCAT reading scores of female participants and non-participants, with a significance level falling below the .05 alpha level ($p<.023$).

The FCAT math scores of female 21st Century Program participants were also higher than the scores of female non-

participants, thus rejecting the fifth null hypothesis. The results of a two-tailed t-test found a significance level below the .05 alpha level ($p<.001$).

Equally important are student grade point averages. An independent t-test was conducted to compare the grade point average of female 21st Century participants and female non-participants, and the sixth null hypothesis was rejected since the level of $p<.001$ was achieved, falling below the .05 alpha level. These results supported that female 21st Century Program participants typically had a higher grade point average than female non-participants.

Interestingly, the male 21st Century Program participants did not fare as well as their female counterparts using the same variables.

The seventh null hypothesis stated there would be no difference in the FCAT reading achievement scores of tenth grade male 21st Century Program participants and non-participants. This null hypothesis could not be rejected because the results from the t-test showed a higher alpha level beyond the .05 level of acceptance. Two-tailed results showed a significance level of .540 ($p=.540$), which is significantly higher, supporting no difference in grade point averages of male program participants and male non-participants.

The FCAT math scores of male 21st Century Program participants showed no difference from the scores of non-participants. The outcome of the two-tailed test showed a significance level of .545, which is higher than the accepted alpha level of .05, supporting no difference in math scores of male 21st Century Program participants and male non-participants. Therefore, the eighth null hypothesis could not be rejected.

Equally interesting was the grade point average of male 21st Century Program participants and non-participants. In keeping with the seventh and eighth null hypotheses, the ninth hypothesis showed no difference between male participants and male non-participants when it came to grade point average. The significance level was beyond the accepted .05 alpha level, showing a p=.060 level of significance for the grade point averages of male 21st Century Program participants and non-participants. The ninth null hypothesis, therefore, could not be rejected.

Limitations

Due to the nature of this research there were some limitations to this study. Although there are many federal grant-funded programs within public school settings, this research only utilized tenth grade students participating in

the 21st Century Program within three high schools offering the program and located in a large urban school district in Florida.

Since the program is voluntary and students may participate during grades 9 through 12, some students may have participated in the 21st Century Program during their ninth grade year, as well as their tenth grade year.

Another limitation is the participation level. Since this is not a mandatory program, some students may have stopped participating in the 21st Century Program prior to the end of the program year.

Conclusions

A positive effect provided by the 21st Century Program intervention on the variables was evident in the first six areas measured. The tenth grade, 21st Century program participants overall, and specifically female participants, showed significantly higher FCAT achievement scores and grade point averages than those tenth grade, non-participants.

On the other hand, tenth grade, male 21st Century Program participants did not show any significant difference over male non-participants. Males consistently scored lower than their female counterparts on standardized testing; therefore, this finding appears to support this national trend. However, even

though there was no significant difference, male mean FCAT achievement scores showed a slight percentage difference between 21st Century Program participants and non-participants.

Because of the ex post facto design of the study. it is not possible to say with certainty that the results are attributable to the students' participation in the intervention. However, by using the students' peers as their own control group, by way of the paired t-test of significance, it is reasonable to state the increase in FCAT achievement and grade point average was a result of the intervention.

Recommendations for Educational Leadership

The findings of this study point to several recommendations for practice. In view of the results which supported six of the nine null hypotheses, the intervention provided proved successful in improving student performance.

Successful intervention, like the 21st Century Program, increases student focus and performance on FCAT testing and increases grade point averages for students who take advantage of the opportunity to participate in this free, voluntary, after-school program.

Educational leaders who seek to improve student performance may not want to overlook these services for

students. Partnering with community agencies that provide social services is not new. In one of the high schools in this school district, however, was not one of the schools studied, has already partnered with the YMCA, to provide students interventions like what is offered in the 21st Century Program. However, taking the time to effectively implement intervention programs in a school takes planning and attention in the early stages (Jennings, Pearson, & Harris, 2000). Focusing specifically on males, who as shown in this study, have a lower performance level than females, may be worthwhile within the overall implementation of more programs like the 21st Century Program.

These programs underscore the existence of a gap between female and male achievement. This is especially discouraging in urban schools, such as the ones used in this study, where much time is spent teaching to the test rather than on learning and actual achievement.

Recommendations for Future Research

Future research in this area may explore the lack of long-term intervention programs offered through schools rather than non-profits like YMCA or Big Brothers/Big Sisters. While both programs are good, both are also not as easily or

consistently accessible, as programs regularly funded by school budget rather than through uncertain grant funding.

Other research topics could focus on seeking reasons for the disparity between male and female achievement. Overall, research supports that the 21st Century Program can have a positive effect on tenth grade students as they prepare for high stakes standardized tests, such as the FCAT, and post-secondary education.

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APPENDIX

21st Century Community Learning Centers

The purpose of this program is to provide opportunities for communities to establish or expand activities in community learning centers that provide opportunities for academic enrichment, including providing tutorial services to help students, particularly students who attend low-performing schools, to meet State and local student academic achievement standards in core academic subjects, such as reading and mathematics;(2) offer students a broad array of additional services, programs, and activities, such as youth development activities, drug and violence prevention programs, counseling programs, art, music, and recreation programs, technology education programs, and character education programs, that are designed to reinforce and complement the regular academic program of participating students; and(3) offer families of students served by community learning centers opportunities for literacy and related educational development.

COMMUNITY LEARNING CENTER- The term community learning center' means an entity that(A) assists students in meeting State and local academic achievement standards in core academic subjects, such as reading and mathematics, by providing the students with opportunities for academic enrichment activities and a broad array of other activities (such as drug and violence prevention, counseling, art, music, recreation, technology, and character education programs) during non-school hours or periods when school is not in session (such as before and after school or during summer recess) that reinforce and complement the regular academic programs of the schools attended by the students served; and(B) offers families of students served by such center opportunities for literacy and related educational development.

COVERED PROGRAM- The term covered program' means a program for which(A) the Secretary made a grant under part I of title X (as such part was in effect on the day before the date of enactment of the No Child Left Behind Act of 2001); and(B) the grant period had not ended on that date of enactment.

ELIGIBLE ENTITY- The term eligible entity' means a local educational agency, community-based organization, another public or private entity, or a consortium of two or more of such agencies, organizations, or entities. STATE- The term

State' means each of the 50 States, the District of Columbia, and the Commonwealth of Puerto Rico.

RESERVATION- From the funds appropriated under section 4206 for any fiscal year, the Secretary shall reserve(1) such amount as may be necessary to make continuation awards to grant recipients under covered programs (under the terms of those grants);(2) not more than 1 percent for national activities, which the Secretary may carry out directly or through grants and contracts, such as providing technical assistance to eligible entities carrying out programs under this part or conducting a national evaluation; and
(3) not more than 1 percent for payments to the outlying areas and the Bureau of Indian Affairs, to be allotted in accordance with their respective needs for assistance under this part, as determined by the Secretary, to enable the outlying areas and the Bureau to carry out the purpose of this part.

DETERMINATION- From the funds appropriated under section 4206 for any fiscal year and remaining after the Secretary makes reservations under subsection (a), the Secretary shall allot to each State for the fiscal year an amount that bears the same relationship to the remainder as the amount the State received under subpart 2 of part A of title I for the preceding fiscal year bears to the amount all States received under that subpart for the preceding fiscal year, except that no State shall receive less than an amount equal to one-half of 1 percent of the total amount made available to all States under this subsection.

REALLOTMENT OF UNUSED FUNDS- If a State does not receive an allotment under this part for a fiscal year, the Secretary shall re-allot the amount of the State's allotment to the remaining States in accordance with this section.

STATE USE OF FUNDS
(1) IN GENERAL- Each State that receives an allotment under this part shall reserve not less than 95 percent of the amount allotted to such State under subsection (b), for each fiscal year for awards to eligible entities under section 4204.
(2) STATE ADMINISTRATION- A State educational agency may use not more than 2 percent of the amount made available to the State under subsection (b) for (A) the administrative costs of carrying out its responsibilities under this part;
(B) establishing and implementing a peer review process for grant applications described in section 4204(b) (including consultation with the Governor and other State agencies

responsible for administering youth development programs and adult learning activities); and supervising the awarding of funds to eligible entities (in consultation with the Governor and other State agencies responsible for administering youth development programs and adult learning activities.
STATE ACTIVITIES- A State educational agency may use not more than 3 percent of the amount made available to the State under subsection (b) for the following activities:
(A) Monitoring and evaluation of programs and activities assisted under this part.
(B) Providing capacity building, training, and technical assistance under this part.
(C) Comprehensive evaluation (directly, or through a grant or contract) of the effectiveness of programs and activities assisted under this part.
(D) Providing training and technical assistance to eligible entities who are applicants for or recipients of awards under this part.

IN GENERAL- In order to receive an allotment under section 4202 for any fiscal year, a State shall submit to the Secretary, at such time as the Secretary may require, an application that(1) designates the State educational agency as the agency responsible for the administration and supervision of programs assisted under this part;(2) describes how the State educational agency will use funds received under this part, including funds reserved for State-level activities;(3) contains an assurance that the State educational agency will make awards under this part only to eligible entities that propose to serve(A) students who primarily attend(i)schools eligible for school-wide programs under section 1114; or(ii) schools that serve a high percentage of students from low-income families; and
(B)the families of students described in subparagraph (A);(4) describes the procedures and criteria the State educational agency will use for reviewing applications and awarding funds to eligible entities on a competitive basis, which shall include procedures and criteria that take into consideration the likelihood that a proposed community learning center will help participating students meet local content and student academic achievement standards;(5) describes how the State educational agency will ensure that awards made under this part are —
(A) of sufficient size and scope to support high-quality, effective programs that are consistent with the purpose of this part; and(B) in amounts that are consistent with section 4204(h);(6) describes the steps the State educational agency

will take to ensure that programs implement effective strategies, including providing ongoing technical assistance and training, evaluation, and dissemination of promising practices;(7) describes how programs under this part will be coordinated with programs under this Act, and other programs as appropriate;(8) contains an assurance that the State educational agency(A) will make awards for programs for a period of not less than 3 years and not more than 5 years; and(B) will require each eligible entity seeking such an award to submit a plan describing how the community learning center to be funded through the award will continue after funding under this part ends;(9) contains an assurance that funds appropriated to carry out this part will be used to supplement, and not supplant, other Federal, State, and local public funds expended to provide programs and activities authorized under this part and other similar programs;(10) contains an assurance that the State educational agency will require eligible entities to describe in their applications under section 4204(b) how the transportation needs of participating students will be addressed;(11) provides an assurance that the application was developed in consultation and coordination with appropriate State officials, including the chief State school officer, and other State agencies administering before and after school (or summer school) programs, the heads of the State health and mental health agencies or their designees, and representatives of teachers, parents, students, the business community, and community-based organizations;(12) describes the results of the State's needs and resources assessment for before and after school activities, which shall be based on the results of on-going State evaluation activities;(13) describes how the State educational agency will evaluate the effectiveness of programs and activities carried out under this part, which shall include, at a minimum(A) a description of the performance indicators and performance measures that will be used to evaluate programs and activities; and(B) public dissemination of the evaluations of programs and activities carried out under this part; and(14) provides for timely public notice of intent to file an application and an assurance that the application will be available for public review after submission.

DEEMED APPROVAL- An application submitted by a State educational agency pursuant to subsection (a) shall be deemed to be approved by the Secretary unless the Secretary makes a written determination, prior to the expiration of the 120-day period beginning on the date on which the Secretary received

the application, that the application is not in compliance with this part.

DISAPPROVAL- The Secretary shall not finally disapprove the application, except after giving the State educational agency notice and opportunity for a hearing.

NOTIFICATION- If the Secretary finds that the application is not in compliance, in whole or in part, with this part, the Secretary shall(1) give the State educational agency notice and an opportunity for a hearing; and(2) notify the State educational agency of the finding of noncompliance, and, in such notification, shall(A) cite the specific provisions in the application that are not in compliance; and(B) request additional information, only as to the noncompliant provisions, needed to make the application compliant.

RESPONSE- If the State educational agency responds to the Secretary's notification described in subsection (d)(2) during the 45-day period beginning on the date on which the agency received the notification, and resubmits the application with the requested information described in subsection (d)(2)(B), the Secretary shall approve or disapprove such application prior to the later of(1) the expiration of the 45-day period beginning on the date on which the application is resubmitted; or(2) the expiration of the 120-day period described in subsection (b).

FAILURE TO RESPOND- If the State educational agency does not respond to the Secretary's notification described in subsection (d)(2) during the 45-day period beginning on the date on which the agency received the notification, such application shall be deemed to be disapproved.

IN GENERAL- A State that receives funds under this part for a fiscal year shall provide the amount made available under section 4202(c)(1) to eligible entities for community learning centers in accordance with this part.

APPLICATION- To be eligible to receive an award under this part, an eligible entity shall submit an application to the State educational agency at such time, in such manner, and including such information as the State educational agency may reasonably require.

CONTENTS- Each application submitted under paragraph (1) shall include a description of the before and after school or summer

recess activities to be funded, including(i) an assurance that the program will take place in a safe and easily accessible facility;(ii) a description of how students participating in the program carried out by the community learning center will travel safely to and from the center and home; and(iii) a description of how the eligible entity will disseminate information about the community learning center (including its location) to the community in a manner that is understandable and accessible; (B)description of how the activity is expected to improve student academic achievement;
(C) an identification of Federal, State, and local programs that will be combined or coordinated with the proposed program to make the most effective use of public resources;(D) an assurance that the proposed program was developed, and will be carried out, in active collaboration with the schools the students attend;(E) a description of how the activities will meet the principles of effectiveness described in section 4205(b);(F) an assurance that the program will primarily target students who attend schools eligible for school-wide programs under section 1114 and the families of such students;(G) an assurance that funds under this part will be used to increase the level of State, local, and other non-Federal funds that would, in the absence of funds under this part, be made available for programs and activities authorized under this part, and in no case supplant Federal, State, local, or non-Federal funds;(H) a description of the partnership between a local educational agency, a community-based organization, and another public entity or private entity, if appropriate;(I) an evaluation of the community needs and available resources for the community learning center and a description of how the program proposed to be carried out in the center will address those needs (including the needs of working families);
(J) a demonstration that the eligible entity has experience, or promise of success, in providing educational and related activities that will complement and enhance the academic performance, achievement, and positive youth development of the students;(K) a description of a preliminary plan for how the community learning center will continue after funding under this part ends;(L) an assurance that the community will be given notice of an intent to submit an application and that the application and any waiver request will be available for public review after submission of the application;(M) if the eligible entity plans to use senior volunteers in activities carried out through the community learning center, a description of how the eligible entity will encourage and use appropriately qualified seniors to serve as the volunteers;

and(N) such other information and assurances as the State educational agency may reasonably require.

APPROVAL OF CERTAIN APPLICATIONS- The State educational agency may approve an application under this part for a program to be located in a facility other than an elementary school or secondary school only if the program will be at least as available and accessible to the students to be served as if the program were located in an elementary school or secondary school.

PERMISSIVE LOCAL MATCH-
A State educational agency may require an eligible entity to match funds awarded under this part, except that such match may not exceed the amount of the grant award and may not be derived from other Federal or State funds.
(2) SLIDING SCALE- The amount of a match under paragraph (1) shall be established based on a sliding fee scale that takes into account(A) the relative poverty of the population to be targeted by the eligible entity; and(B) the ability of the eligible entity to obtain such matching funds.(3) IN-KIND CONTRIBUTIONS- Each State educational agency that requires an eligible entity to match funds under this subsection shall permit the eligible entity to provide all or any portion of such match in the form of in-kind contributions.(4) CONSIDERATION- Notwithstanding this subsection, a State educational agency shall not consider an eligible entity's ability to match funds when determining which eligible entities will receive awards under this part.

PEER REVIEW- In reviewing local applications under this section, a State educational agency shall use a peer review process or other methods of assuring the quality of such applications.

GEOGRAPHIC DIVERSITY- To the extent practicable, a State educational agency shall distribute funds under this part equitably among geographic areas within the State, including urban and rural communities.

DURATION OF AWARDS- Grants under this part may be awarded for a period of not less than 3 years and not more than 5 years.

AMOUNT OF AWARDS- A grant awarded under this part may not be made in an amount that is less than $50,000.In awarding grants under this part, a State educational agency shall give

priority to applications(A) proposing to target services to students who attend schools that have been identified as in need of improvement under section 1116; and(B) submitted jointly by eligible entities consisting of not less than 1(i) local educational agency receiving funds under part A of title I; and(ii) community-based organization or other public or private entity.

SPECIAL RULE- The State educational agency shall provide the same priority under paragraph (1) to an application submitted by a local educational agency if the local educational agency demonstrates that it is unable to partner with a community-based organization in reasonable geographic proximity and of sufficient quality to meet the requirements of this part.

AUTHORIZED ACTIVITIES- Each eligible entity that receives an award under this part may use the award funds to carry out a broad array of before and after school activities (including during summer recess periods) that advance student academic achievement, including —

(1)remedial education activities and academic enrichment learning programs, including providing additional assistance to students to allow the students to improve their academic achievement;
(2) mathematics and science education activities;
(3) arts and music education activities;
(4) entrepreneurial education programs;
(5) tutoring services (including those provided by senior citizen volunteers) and mentoring programs;
(6) programs that provide after school activities for limited English proficient students that emphasize language skills and academic achievement;
(7) recreational activities;
(8) telecommunications and technology education programs;
(9) expanded library service hours;
(10) programs that promote parental involvement and family literacy;
(11) programs that provide assistance to students who have been truant, suspended, or expelled to allow the students to improve their academic achievement; and
(12) drug and violence prevention programs, counseling programs, and character education programs.

PRINCIPLES OF EFFECTIVENESS-

IN GENERAL- For a program or activity developed pursuant to this part to meet the principles of effectiveness, such program or activity shall — (A) be based upon an assessment of objective data regarding the need for before and after school programs (including during summer recess periods) and activities in the schools and communities;(B) be based upon an established set of performance measures aimed at ensuring the availability of high quality academic enrichment opportunities; and(C) if appropriate, be based upon scientifically based research that provides evidence that the program or activity will help students meet the State and local student academic achievement standards.

PERIODIC EVALUATION-The program or activity shall undergo a periodic evaluation to assess its progress toward achieving its goal of providing high quality opportunities for academic enrichment.

USE OF RESULTS- The results of evaluations under subparagraph (A) shall be (i) used to refine, improve, and strengthen the program or activity, and to refine the performance measures; and(ii) made available to the public upon request, with public notice of such availability provided.