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The Effect of Regular Participation in an After-School Program on Student Achievement, Attendance, and Behavior

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THE EFFECT OF REGULAR PARTICIPATION IN AN AFTER-SCHOOL PROGRAM ON STUDENT ACHIEVEMENT, ATTENDANCE, AND BEHAVIOR

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Many school districts are using research-based strategies to increase student achievement. The *No Child Left Behind Act* of 2001 was created and implemented to assist all students becoming proficient in reading and mathematics by 2014. One strategy many school districts implemented includes an after-school program.

One school district in Mississippi operated an after-school program to help increase the academic achievement of 7th and 8th grade students scoring minimal and basic on the MCT2. The purpose of this study was to examine the effect of regular participation in an after-school program on indicators of student academic achievement. The dependent variables for this study consisted of (a) math grade point averages, (b) reading grade point averages, (c) language arts grade point averages, (d) MCT2 math scores, (e) MCT2 language arts scores, (f) number of absences, and (g) number of discipline referrals. The independent variable for this study was program participation, which had two levels. One level was program attendance for at least 40 days and the other level was program attendance for less than 40 days.

In this study, 7 hypotheses were tested by comparing the measures of the dependent variables for the two levels of the dependent variables. Analysis of Covariance (ANCOVA) was used to test the 7 hypotheses. The results of the ANCOVAs failed to detect any statistically significant differences in the dependent variables between the students who attended the after-school program for at least 40 days and students who did not attend the after-school program for 40 days. However, there were differences in the measures between the two groups. Not only did the regular attendees have lower averages in absenteeism and discipline referrals, they also had higher averages in mathematics (both GPA and MCT2), reading GPA, and language arts GPA. The only measure where the non-regular attendees demonstrated better performance was on the language arts MCT2. The recommendations for future research are as follows: implementation of adequate professional development for after-school program teachers, a research based reading program to assess student achievement, and a longitudinal study on after-school programs.

DEDICATION

This research is dedicated to my parents, Joe and Linda, for listening to my woes, encouraging me to achieve my goals, and providing the parental support. Mom, you are my inspiration. You instilled in me the importance of education and the desire to achieve my goals. Thank you for the relentless support and encouragement. Your prayers gave me the strength to endure and motivation not to give up on this degree. Dad, thank you for the financial support and the many Hallmark cards that encouraged me to pursue my dream. Mom and Dad, it is your advice and guidance that persuaded me to travel this educational journey.

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---To God Be the Glory---

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CHAPTER I

INTRODUCTION

Students' academic achievement in the United States is a major factor to the success of our nation. Academic success is necessary to provide a solid foundation for U.S. competitiveness in a rapidly changing world. State and national mandates require higher standards and accountability for the academic achievement of all students. School systems nationwide continue to search for strategies and programs that will increase student achievement. Nevertheless, evidence has shown that over the last three decades, student achievement has not drastically improved in the United States (Green & Trivitt, 2008).

The United States Department of Education's (USDE) National Assessment of Educational Progress (NAEP) has long examined the academic achievement of America's students (Klein, 2006). Mandated and authorized by the U.S. Congress in 1969, NAEP is a nationally representative assessment of American students' academic achievement in the content areas of reading, writing, mathematics, science, and history/geography (Klein, 2006).

NAEP uses three achievement levels to describe the academic performance of America's students: basic, proficient, and advanced (Viaoero & Olson, 2005). The basic level denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade assessed. The proficient level represents solid academic performance for each grade assessed. Students reaching this level have demonstrated

competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter. The advanced level signifies superior performance at each grade assessed (Viaoero & Olson, 2005). According to Fuller, Wright, Gesicki, and Kang (2007), the *No Child Left Behind Act* of 2001 (NCLB) has mandated that all students are proficient in math and reading by 2014.

According to Aud et al. (2010), the most recent NAEP assessment results indicated that many of the nation's students are at risk for not meeting the proficiency standard. The results of the 2009 NAEP Assessment indicate that more than half of America's fourth and eighth graders are not proficient in math or reading. Only 39% of fourth graders and 33% of eighth graders scored in the proficient or advanced range on the math assessment and only 33% of fourth and eighth grade students scored in the proficient or advanced range on the reading assessment (Aud et al., 2010).

While the levels of academic achievement in the nation are less than optimal, the state of Mississippi continues to rank among the lowest- performing states in terms of student achievement. In 2009, 67% of fourth graders in Mississippi who completed the NAEP assessments failed to score in the proficient or advanced range in math and 67% in reading (Aud et al., 2010). When eighth grade scores were examined, similar results were observed. Sixty-eight percent (68%) of eighth graders scored below proficient in reading and 66% scored below proficient in math. In fact, many of the students who completed the reading and math assessments scored below basic. On the reading assessment, 33% of fourth graders and 25% of eighth graders scored below basic. On the math assessment, 18% of fourth graders and 27% of eighth graders scored below basic

(Aud et al. 2010). As evidenced by the previous findings, large-scale improvements in student achievement for the nation in general and Mississippi specifically are warranted.

The drastic need for improvement in student achievement in the United States was highlighted by the United States Congress's passage of the NCLB in 2001. According to Fratt (2005), the major premise behind this act was that "too many of our neediest children are being left behind" (p. 23) in public schools. In which case, the NCLB has focused the nation's attention on improving the academic achievement of the nation's 48 million students. In addition to the stipulation that all students must score in the proficient range in reading and mathematics by the 2013-2014 school year, the act included stipulations according to Liston, Whitcomb, and Borko (2007) that required states to develop student achievement accountability systems and implement scientifically based programs within their schools to increase student academic performance.

NCLB required states to create and implement a state accountability system that emphasized and measured student academic performance. The goal of the state accountability system was to help states monitor the progress of their students towards meeting proficiency standards in reading and mathematics by the 2013-2014 school year. A significant requirement of each state's accountability system was that states must measure and monitor their yearly progress towards meeting the proficiency standard. This requirement is referred to in the act as Adequate Yearly Progress (AYP). According to the law, school districts, and schools within districts, must demonstrate that their schools are making adequate progress towards all students being proficient by the 2013-2014 school year. Schools and school districts that do not demonstrate progress are subject to a range of punitive sanctions. Accordingly, states throughout the nation

developed plans to increase the number of students who attain proficiency on state tests each year. Within the accountability systems, students who fail to demonstrate proficiency on state assessments are identified and targeted to receive interventions to increase their academic achievement (Shaul, 2004).

Marzano and Marzano (2003) indicated that three general factors are directly related to student academic achievement. Those related factors are school, teacher, and student. School-level factors are related directly to the school environment and cannot be ascribed to a particular position, such as teachers, curriculum coordinators, or principals. Rather, these factors reflect policies created at the school, district, or community level that affect faculty, parents, and students. On the contrary, teacher-level factors involve instructional strategies, classroom management, and classroom curriculum design. The student-level factors are the home environment, learned intelligence/background knowledge, and motivation. Student-level factors are not controlled by schools or school districts. Consequently, as educators continue to work towards the goal of all students being proficient in reading and mathematics by the year 2014, efforts must focus on improving teacher-level and school-level factors. To this end, multiple strategies have been employed.

Three strategies endorsed in the NCLB legislation to increase student academic achievement are the use of scientifically based instructional strategies, the provision of high quality professional development opportunities for teachers, and the availability of extended learning time for students. One of the most popular and financed strategies has been to increase students' opportunities to learn through increased learning time. Extended learning time can take several forms, such as adding more days to the school year, providing summer school, or lengthening the school day. One method, used by

many schools and districts throughout the nation to increase learning time for students, is providing after-school programs (Grigsby, Schumacher, Decman, & Simieou, 2011).

Throughout the 1900s, educators have observed an increase in the number of after- school programs in the United States as a strategy to improve student achievement. In general, after-school programs provide a safe environment for students and extend opportunities for students to learn (Thomas, 2003). Moreover, according to Posner and Vandell (1994), quality after-school programs that are located in low socioeconomic status areas have shown evidence of increasing student academic achievement. In a more recent study, Vandell, Reisner, and Pierce (2007), found that quality after-school programs not only increased standardized test scores, but they also improved the behavior and work habits of those who attended the program regularly.

NCLB demonstrates support for extending learning time to increase student achievement through the funding of 21st Century Schools in Title IV, Part B, commonly referred to as 21st Century Community Learning Center Grants (Chappell, 2006). According to Chappell, the purpose of the 21st Century Community Learning Centers (21st CCLC) is to provide academic enrichment opportunities for children attending high-poverty, low performing schools to help them meet state and local standards in core subject areas. In doing so, the federal government allots funds to states to support after-school programs. The states in turn provide funds to eligible districts on a competitive basis.

In 2006, the federal government awarded states the 21st CCLC grants to enhance student achievement. The state of Mississippi was awarded a grant. As a result, the state awarded grants, on a competitive basis, to eligible school districts throughout the state of Mississippi who applied. Evans School District, a high-poverty, low-achieving district,

was awarded one of the grants. Evans School District consisted of four schools, Christopher Elementary School, Lamar Elementary School, Linda Wood High School, and Hampton High School. In 2006, three of the four schools in the district received an accreditation level of 3, and one school in the district, Hampton High School, received an accreditation level of 2 (Mississippi Department of Education [MDE], 2007). The accreditation level of two depicted the need for improvement in student academic achievement as evidenced by the Mississippi Curriculum Test, Second Edition (MCT2) scores.

Scores on the MCT2 are categorized into one of four performance levels: minimal, basic, proficient, and advanced. According to MDE (2007), these levels represent varying degrees of academic competence. As evidenced by low MCT2 scores, a vast number of students at Hampton High School, a pseudonym, needed academic remediation. While three general factors are highly related to student achievement (school-level factors, teacher-level factors, and student-level factors), only two of those factors, school-level and teacher-level, are malleable by educational institutions. As a means of addressing school-level factors to increase student achievement, Hampton High School implemented an after-school tutoring program, and the school's lowest performing students were selected to attend the program. By design, only students scoring in the minimal and basic range attended the program. The after-school program operated from 3:00 p.m. - 4:30 p.m., two days a week. The program's daily schedule allotted time for homework assistance, academic remediation, academic enrichment, and physical activities. The program also provided a healthy snack and transportation for the participants.

Statement of the Problem

Educators are continually searching for programs, strategies, and techniques that will enhance student achievement. NCLB stated that all students should be proficient in reading and mathematics by 2014. Many schools have incorporated various intervention strategies and programs into their daily school schedules to increase student achievement and to ensure that students are making adequate yearly progress. Hampton High School implemented an after-school program to address the academic performance of students who scored minimal and basic on the MCT2. Although the program was implemented to increase the academic achievement of the school's lowest performing students, many of the school's students continue to score in the minimal and basic range on the MCT2. While students were encouraged to attend at least 40 of the 50 instructional sessions, many of the students did not attend regularly. Regular attendance in the after-school program was essential to provide the remediation needed to increase students' academic performance. Moreover, in addition to the problem of students continuing to score in the minimal and basic ranges on the MCT2, empirical evidence has not been examined by district personnel to determine the effectiveness of the after-school program in improving student achievement for students who attended the program regularly.

Purpose of the Study

The purpose of this study was to examine the effect of regular participation in an after- school program on indicators of student academic achievement. Specifically, this study determined if there were differences in rates of school attendance, measures of academic achievement, and number of discipline referrals for students who attended the after- school program regularly and students who did not attend the after-school program

regularly. The definition of regular participation used in this study was program attendance for at least 40 days during the academic school year.

Research Hypotheses

The purpose of this study was to examine the effect of regular participation in an after-school program at Hampton High School on indicators of student academic achievement. As a means of fulfilling the purpose of this study, the following research hypotheses were tested:

1. Students who attended the after-school program for at least 40 days will have higher math grade point averages than students who attended the after-school program less than 40 days.
2. Students who attended the after-school program for at least 40 days will have higher reading grade point averages than students who attended the after-school program less than 40 days.
3. Students who attended the after-school program for at least 40 days will have higher language arts grade point averages than students who attended the after-school program less than 40 days.
4. Students who attended the after-school program for at least 40 days will have higher MCT2 math scores than students who attended the after-school program less than 40 days.
5. Students who attended the after-school program for at least 40 days will have higher MCT2 language arts scores than students who attended the after-school program less than 40 days.

6. Students who attended the after-school program for at least 40 days will have lower rates of absenteeism than students who attended the after-school program less than 40 days.
7. Students who attended the after-school program for at least 40 days will have fewer discipline referrals than students who attended the after-school program less than 40 days.

Significance of the Study

The prevalence of after-school programs has increased throughout the nation. Part of the increase in the availability of after-school programs is correlated with the increase in the number of employed single parent families and the number of families with two parents in the labor force. In which case, part of the increase is attributed to the need to provide safe environments for students in the hours from the end of the school day and until the time when most parents return home from work. However, in this era of high stakes testing, most of the increase in the availability of after-school programs can be attributed to school districts throughout the nation searching for means of increasing student academic achievement.

While the availability of after-school programs has clearly increased, the efficacy of the programs continues to be debatable at best and untested in certain situations, as is in the case of the Hampton High School after-school program. Although the program was in operation for four years, little empirical data has been analyzed to determine the effectiveness of the after-school program in terms of increasing participating students' academic achievement or specific behaviors related to academic achievement. In which case, this study served as a formal assessment of the program for the Evans School

District and will help district administrators make well informed decisions relating to the efficacy of using after-school programs to increase students' academic achievement.

A second significant need fulfilled by this study was the extension of the current body of knowledge with regards to after-school programs. Not only does the literature report conflicting results with respect to positive, negative, and null findings of the effectiveness of after-school programs, but there is also the paucity of research that focuses on middle school students attending economically disadvantaged schools in small, rural communities, or more specifically, in the state of Mississippi. In which case, the results of this study added to the body of knowledge concerning these specific population attributes.

Theoretical Framework

The theory that provides the framework for this study is that increased adult supervision and increased instructional time will have positive effects on students' academic behaviors and achievement. This theory has been supported by the work of several researchers, including Durlak and Weissberg (2007); Hall, Yohalem, Tolman, and Wilson (2003); and Shernoff and Vandell (2007), over the past decade. While Durlak and Weissberg (2007) suggested that attendance at after-school programs decreased the opportunity for youth to develop antisocial behaviors and attitudes, they found that students attending quality after-school programs not only improved their grades, but they also improved their self-confidence and attitudes toward school. Durlak and Weissberg (2007) also found that students attending quality after-school programs developed better work habits and task persistence and reduced their displays of problem behaviors.

Limitations

There were at least three limitations of this study. The first limitation was the scores were from an homogeneous group. All of the scores were those of African-American seventh and eighth grade students attending a rural, high poverty school in Mississippi. In which case, the findings of this study cannot be generalized to populations that are more heterogeneous. The second limitation of this study was that the teachers who provided the tutoring during the after-school program were in some cases the same teachers who taught the students during the regular school day. As a result, they may have had preconceived ideas concerning the students' academic abilities that may have influenced their interactions with the students. The third limitation of this study was the quality of the after-school program was not examined. While the after-school program was structured, there were no data collected to measure the implementation fidelity of the program.

Delimitations

Hampton High School operated the after-school program between the hours of 3:00 p.m. - 4:30 p.m. for Grades 7 through 12. Although the after-school program offered tutorial assistance for seventh through twelfth grade students who scored minimal and basic on the MCT2 or failed one or more of the SATP test, this study was limited to Hampton High School students in the seventh and eighth grades. The study was limited to seventh and eighth graders because of the vast number of seventh and eighth grade students who scored minimal and basic on the MCT2. Very few students in grades nine through twelve failed the subject area tests. In addition, students in the seventh and eighth grades typically have a higher number of discipline infractions, and higher rates of grade level retentions than ninth through twelfth grade students.

Summary

Because student achievement is essential to the success of our nation, NCLB states all students should be proficient in math and reading by the year 2014. Based on the nation's goal, many school districts are probing research-based strategies to increase student achievement. These districts are researching strategies that will show improvements in reading, language arts, and mathematics. One strategy is the implementation of extending learning time for students.

According to researchers, there is a need to provide safe after-school environments that focus on the academic skills of students. Many school districts applied for and were awarded 21st CCLC grants. 21st CCLC grants fund and support many school-based, after-school programs in the United States. The students who attended the after-school programs obtained remedial instruction that addresses their individual weaknesses and strengths. The students receive instruction from teachers in a smaller classroom setting and/or one-on-one tutorial assistance, such as the after-school program offered at Hampton High School.

Definition of Terms

The definitions provide clarification for important terminology utilized through this research study. Terms that are technical in nature, subject to multiple interpretations and/or unique to this study are defined as follows:

After-school program refers to a structured educational program serving middle-school students in a group setting (Jenner & Jenner, 2007).

Core classes refer to major subject areas, such as: language, mathematics, and reading (Fashola, 1998).

Mississippi Curriculum Test, Second Edition (MCT2) is a criterion-referenced test that measures a student's performance against criteria, learning objectives, performance standards for the domain (MDE, 2007).

Regular participation refers to attending the after-school program for at least 40 days or 80% of the 50 days offered during the academic school year (USDE, 2003).

CHAPTER II

REVIEW OF LITERATURE

For decades, the quality of the American public education system has been questioned. In the early 1980s, a widely publicized report entitled *A Nation at Risk* noted the decline in the quality of educational performance of America's students (Hunt, 2008). Then, in the early 1990s, America's Goals 2000 highlighted the disparity between the needs of the American educational system and the actual state of the country's schools at that time (Hunt, 2008). In 2001, the legislature passed the NCLB, which not only reiterated America's displeasure with the level of academic achievement among its students, but also stipulated a significant mandate for schools receiving federal funds (USDE, 2007). According to Olson (2006), schools that wish to receive continuous support through federal funding should ensure that all students are proficient in reading and mathematics by 2014. Consequently, multiple avenues begin to develop to help districts fulfill the NCLB proficiency mandate.

One avenue addressed through the NCLB legislation to help failing schools fulfill the mandate is the use of Supplemental Educational Services (SES). According to the NCLB, in order to increase student achievement, SES must be held outside of the regular school day and employ instructional strategies that are supported by scientifically based research. In addition, NCLB also requires school districts to spend five to twenty percent of their Title I funds on SES (Lauer et al., 2006). As a result, many schools have

employed after-school programs as their form of SES. One particular type of after-school program that is often utilized in conjunction with SES is the 21st CCLC program.

The 21st CCLC program was initiated by the federal government in 1994 under Title IV, Part B, as part of the Improving America's Schools Act of 1994 Amendment to the Elementary and Secondary Education Act (ESEA) of 1965 (USDE, 2010) . When first initiated, the purpose of the 21st CCLC program was to "provide funding to school districts to support continuing education and lifelong learning opportunities to children and adults to keep the country's workforce competitive for the 21st century" (U.S. Department of Education, 2010, p. 2). The 21st CCLC was amended and reauthorized as part of NCLB. With this reauthorization and amendment, a new purpose for the program surfaced.

According to the U. S. Department of Education (2007), the purpose of the 21st CCLC is to support,

> the creation of community learning centers that provide academic enrichment opportunities during non-school hours for children, particularly students who attend high-poverty and low-performing schools. The program helps students meet state and local student standards in core academic subjects, such as reading and math; offers students a broad array of enrichment activities that can complement their regular academic programs; and offers literacy and other educational services to the families of participating children. (p.1)

Chappell (2006) reports that since the latest reauthorization of the 21st CCLC program, over four million dollars have been allocated to help students attending high-poverty, low-performing public schools across the nation increase their academic performance. The students attend extended day programs that reinforce skills taught

during the regular school day. The benefits are seen beyond academics; students' confidence, self-esteem, and behavior are positively affected.

The purpose of this study was to examine the effects of regular participation in a 21st CCLC after-school program on the academic achievement and behavior of students at one school located in a rural community in Mississippi. This study focused on objective one of the 21st CCLC program as cited in the 21st CCLC Non-Regulatory Guidance (USDE, 2003). The first objective of 21st CCLC program is for students "to demonstrate educational and social benefits and exhibit positive behavioral changes" (USDE, 2003 p.32). The objective for Hampton High School was for each student who regularly participated in the after-school program would also meet or exceed state and local academic achievement standards in reading and mathematics and show improvements on measures such as school attendance, classroom performance, and decreased disciplinary actions, or other adverse behaviors.

Chapter II includes a review of the literature on after-school programs. This review is organized under two major headings: background information on after-school programs and the effects of after-school program participation. The background information consists of the history, need, characteristics of after-school programs, and the purpose of 21st CCLC programs. The second section presents empirical evidence related to students' participation in after-school programs and how their participation effects their achievement, school attendance, and behavior. The chapter will conclude with a brief summary of the review of literature.

Background Information on After-School Programs

After-school programs have a long history in the United States. According to Halpern (2002), after-school programs have existed since the late 1800s in the form of charity schools and day nurseries. Initially, the focus of after-school programs was to provide adult supervision and recreational activities. During World War II when many mothers were actively engaged in factory work, nearly 130,000 school-aged children attended after-school programs financed by the federal government. However, according to Halpern (2003), after the war when women returned to their homes, the federal government drastically decreased its support for after-school programs. The focus of the after-school programs gradually shifted from issues of adult supervision and recreation to issues of academic achievement.

Realizing the great need to provide after-school learning for school-age children and the financial burden on school districts to fund such programs, states began enacting legislation that would result in funding for after-school programs (Scott-Little, Hamann, & Jurs, 2002). In 1987, Indiana proposed and passed a cigarette tax law to fund after-school programs and other educational programs (Bissell, 2002). California created the After-School Learning and Safe Neighborhood and Partnership Program, which was established to encourage community support for literacy development and for safe and conducive learning environments for children after-school in 1999 (Bissell, 2002). Even though there are many positive benefits for students who participate in after-school programs, such as higher standardized test scores and better attendance records, there are two negative perspectives that have affected the after-school program movement in the United States. The two negative perspectives focus on financial constraints and high stakes testing (Baker, Rieg, & Clendaniel, 2006).

First, many districts do not have the funds to hire qualified instructors. As a result of the lack of funds, it is difficult to obtain qualified teachers who are willing to tutor students after-school, free of charge (Cavanagh, 2011). Second, instead of focusing on after-school programs that include extracurricular activities, school officials are pressured to focus on academics and standardized test preparation due to the high stakes testing. As a result, after-school programs that are designed to focus on academics, athletics, arts, and social skills are not as efficient as after-school programs that focus predominantly on academics due to the lack of funding. Although it is a problem for many districts, adequate funding for after-school programs is necessary to increase student achievement (Baker et al., 2006). According to a survey conducted by the Afterschool Alliance (2000), additional funding for after-school programs has the support of many citizens in the United States.

The Afterschool Alliance surveyed 800 registered California voters in September of 2000. The results revealed that 62% of the registered voters stated they would pay an additional $100 in state taxes to help fund quality after-school programs. The increased funding of after-school programs would ease parents' concerns of proper supervision and quality tutorial services after-school. Based on the survey, 80% of respondents stated the federal government should reserve a specific amount for after-school programs. In 2000, the federal government allocated $454 million to pay for school-based after-school programs in 900 communities. With the increase in funding, students benefited from the services of quality after-school programs (Branch, 2000).

The Established Need for After-School Programs

According to Kugler (2001), two primary factors established the need for after-school programs. The first factor was the need for adult supervision in the hours immediately following school dismissal. The need for more adult supervision during the hours following school dismissal was spawned by the dramatic increase in the number of mothers who entered the workforce as early as 1939 (Halpern, 2002). According to research conducted by the National Institute on Out-of-School Time (2003) in 1999, approximately eight million children between the ages of five and 14 were without adult supervision in the hours immediately following school dismissal. This presented a problem because, according to Kelder (2000), children who are not supervised tend to demonstrate random acts of violence and unlawful conduct. Snyder, Sickmund, and Poe-Yamagata, (1996) suggested that increases in the number of unsupervised children from 2 p.m. to 8 p.m. are directly related to the increases in America's juvenile crime rates. Research conducted by Fox (1999) found that of the 44,000 violent crimes committed by youth in eight states, nearly half of them (48%) were committed between the hours of 2 p.m. and 8 p.m. Moreover, not only are unsupervised youth more likely to participate in unlawful acts, but they are also more likely to develop maladaptive behaviors such as drug abuse and are also more likely to become victims of violent crimes (Chung, 2000; Osofsky, 1999). According to the After School Alliance (2002), after-school programs are a means of increasing after school adult supervision for children and for decreasing the youth crime rate and the acquisition of maladaptive behaviors. Because of the much-publicized need for more after-school adult supervision for latchkey kids, the public began to view after-school programs as an absolute necessity (After School Alliance, 2002).

The demand for more after-school programs was bolstered even further once risk-taking behaviors and delinquency became associated with students' academic failure (Roeser, Eccles, & Sameroff, 2000), which signified the second need identified by Kugler (2001). The second need for after-school programs identified by Kugler was the need for extended learning time. While the benefits of adult supervision for children who would otherwise be unsupervised in the hours immediately following school dismissal still exist, the major impetus for the increase in after-school program participation rates is the extended learning time.

Furthermore, a 12-week study of Project Horizons, an after-school program that focused on reading achievement, tracked the reading achievement of 155 student participants in grades three through six. The students lived in three demographically diverse districts. The results of the study indicated an average weekly gain in reading fluency scores compared to the grade level national scores. The third and fifth grade students revealed significantly higher scores than the national scores. The study further identified similar gains among subgroups by gender, district, and reading levels. Findings from the study indicated that not only must after-school programs address extracurricular activities; but because of the academic failure rate among many K-12 students the programs must also focus on academic achievement. The focal point of academic achievement must also address and identify the characteristics of an effective after-school program.

After-School Program Characteristics

A review of the literature revealed that there is no consensus on what constitutes an after-school program. Rather, researchers tend to group after-school programs based

on structure, academic content area, and program goals (Apsler, 2009). For example, while Hofferth, Brayfield, Deich, and Holocomb (1991) and Alexander (2000) grouped programs by specific goals of the program, Fashola (1998) grouped after-school programs by specific academic content areas addressed during the program. According to Alexander (2000), after-school programs are often designed to address at least one of the following goals: (a) providing adult supervision and safe environment; (b) providing an authentic home environment; (c) providing culture and enrichment opportunities; (d) improving academic performance; (e) preventing discipline problems; and (f) providing recreational activities. After-school programs that address one of the goals provide students greater opportunities to excel academically. According to the Harvard Family Research Project, well-implemented after-school programs can have a positive impact on a range of academic, social, preventative, and other outcomes among students who attend quality after-school programs (Lauer et al., 2006).

Scott-Little, Hamann, and Jurs (2002) offered a more global definition of after-school programs. According to the researchers, a program is considered an after-school program if it is held during after-school hours and provides adult supervision for the attendees. Riggs and Greenberg (2004) further elaborated on the definition provided by Scott-Little, et al. (2002). According to Riggs and Greenberg (2004), there are two different types of after-school programs. The first type is one that provides a safe environment for participants during the hours immediately following school dismissal. Typically, this type of program is unstructured and offers a wide array of activities such as recreation, homework assistance, arts and crafts, television watching, and socializing. The second type of after-school program is formally structured and integrates activities that are designed to increase academic achievement. Specifically, it provides basic skills

instruction, homework assistance, tutoring instruction, computer instruction, drug-violence prevention programs, counseling services, art and music instruction, sports and/or recreation opportunities (Granger & Kane, 2004).

According to the Afterschool Alliance (2000), an effective high-quality after-school program for schooled-aged children must include the following elements: (a) goal setting, strong management, and sustainability; (b) quality after-school staff; (c) attention to safety, health, and nutrition; (d) effective partnerships with community-based organizations; (e) strong involvement of families; (f) enriching learning opportunities; (g) linkages between school day and after-school personnel; and (h) evaluation of program progress and effectiveness. High-quality after-school programs that focus on academic and extracurricular activities are necessary to serve effectively the students who attend the programs on a regular basis. One high-quality after-school program in particular, the 21st CCLC, promotes the success of after-school participants in various ways.

Purpose of 21st Century Community Learning Centers (21st CCLC)

The 21st CCLC program, authorized under the NCLB, provides the USDE with the proper funding for after-school programs. According to Klein (2010), USDE has allocated to states with more than five billion dollars to fund 21st CCLC programs. Each state then awards sub-grants to eligible local educational agencies. The eligible applicants for the 21st CCLC include community-based organizations; faith-based organizations; other public or private entities; and associations of two or more of such agencies, organizations, or entities. Specially, the funds are utilized for areas and communities that do not have access to after-school programs.

Although states have the authority under the NCLB Act to award grantees and supervise the implementation of their programs, the USDE is required to report annually to Congress on the progress of each state program. The 21st CCLC grantees are expected to achieve two objectives. The first objective is that the "participants in 21st CCLC programs will demonstrate educational and social benefits and exhibit positive behavioral changes" (USDE, 2003, p. 32). The 21st CCLC targets increasing the percentage of regular student participation and meeting or exceeding the state and local academic standards in reading and mathematics. Moreover, students participating in the program will demonstrate improvement in school attendance and classroom performance and have decreased measures of disciplinary infractions. The second objective is that the "21st CCLC will offer a range of high-quality educational, development, and recreational services" (USDE, 2003, p. 32). More than 85% of 21st CCLC intended to offer high-quality after-school programs geared in the core academic subjects such as: reading and literacy, mathematics, and science. In addition, the objective emphasized that more than 85 % of the centers will offer enrichment and support activities to promote nutrition and health, art, music, technology, and recreations. The additional enrichment activities will affect the after-school program participation (USDE, 2003). According to Fleming (2011), children who attend an after-school program are less likely to drop out of high school or engage in criminal activity in the future.

The Effects of After-School Program Participation

The number of children who attend an after-school program has increased since 2004. According to Grant and Morial (2009), approximately 8.4 million children attended an after-school program in the U.S. Based on the number of students who

attend these programs, empirical evidence supports the effectiveness of participating in a high-quality program. Durlak and Weissberg (2007) found that student attendance in high-quality after-school programs was associated with better grades, work ethics, academic persistence, and social skills. Specifically, the authors found that these student participants had higher measures of self-confidence, self-esteem, academic performance, school engagement, and reduced measures of discipline infractions. After-school program participation contributes to the success of students.

This next section of the literature review discusses after-school programs' effects on student achievement, school attendance, and student behavior. It will conclude with a summary of the effects of after-school program participation.

Student Achievement

With the increase in after-school programs and the resources needed to fund those programs, came pressure to demonstrate their effectiveness in increasing student academic achievement (Apsler, 2009). Since the late 1990s there have been hundreds of studies conducted to determine the impact of after-school programs on student achievement. While some studies reported positive after-school program effects others reported no effect whatsoever. The discrepancy in findings, according to Apsler (2009), may have more to do with the rigor of the evaluations than differences in true program effects. According to Apsler, most of the studies that found positive program effects were studies without appropriate control groups. Nevertheless, this section of the literature review reports the findings of several recent studies that examined the effectiveness of after-school programs in increasing student academic achievement.

Vandell, Reisner, and Pierce (2007) conducted a two-year multi-state study on after-school tutoring. The study revealed positive results in reading achievement among 1,434 third and fourth grade participants and 855 sixth and seventh grade participants in 19 different after-school programs. Standardized test scores were collected three times during the two-year study: baseline, end of year one, and end of year two. Based on the third and fourth grade sample, students who regularly attended the high-quality after-school program experienced significant gains in math achievement scores. The sixth and seventh grade data revealed math gains on standardized test scores. The authors found that students who regularly attended the after-school programs increased their math achievement scores by 12% over the two-year period. While similar students who did not attend the program did not experience an increase in math achievement during that time frame.

Two studies (Chappell, Nunnery, Pribesh, & Hager, 2010; Durlak & Weissberg, 2007) that used a meta-analysis design to examine the effect of after-school programs on student achievement reported similar findings. Chappell et al. (2010) examined 400 reported math and reading effects of after-school program attendance and determined that the effect size for these reported program effects were very small. Analysis of studies examining the effect of after-school programs on math achievement resulted in an overall effect size of .43. For studies examining reading outcomes, the effect size found by the authors was .017. Consequently, effect sizes of this small rarely indicate meaningful or practical significance. However, through their analyses, the authors did not identify characteristics of programs where meaningful effects were observed. According to Chappell et al., programs that resulted in moderate and large effects were programs that were school-based, staffed by tutors with college degrees, used a state or national

curriculum and provided one-on-one tutoring. The findings of Chappell et al. (2010) are consistent with the findings of Durlak and Weissberg (2007), who also found not only small effect sizes in their meta-analysis, but also that structure of program was strongly related to effectiveness of the program. Durlak and Weissberg found effect sizes ranging from .11 to .19 in their meta-analysis of 49 studies. Similar to the finding of Chappell et al. (2010), certain characteristics were associated with programs that reported meaningful program effects. The programs with large effects were programs that incorporated sequential, focused and active activities, and were very explicit with regards to the content the program would focus on (Chapell et al., 2010; Durlak & Weissberg, 2007).

James-Burdumy et al. (2008) conducted a study examining the impact of 21st CCLC programs on outcome measures of participating students. The authors collected data from twenty-six 21st CCLC in 12 school districts throughout the nation. Elementary students from these districts were randomly assigned to either an after-school program participation group (n = 1, 258) or a control group (n = 1,050) for a total sample size of 2,308 elementary students. While multiple measures were collected, the measures collected that are most pertinent to the study are the measures of academic achievement and measures of disciplinary actions. The results reported in James-Burdumy's study are a follow-up to the finding's reported in 2003 by the same authors examining the same students. The author hypothesized that an additional year of program participation might result in significant findings that were not observed after only one year of program participation.

The academic dependent variables were the Stanford Achievement Test score in reading, and school assigned grades in English and math. Other dependent variables included homework completion and disciplinary action. The results of the study indicated

that after-school program attendees did not perform any differently than the control group on any of the measures of academic achievement. In fact, for two of the measures, (math grade and homework completion) that were not significantly different; the control group had higher scores or measures than the treatment group. The math average of the control group was 80.6 compared to 79.9 for the treatment group. The control group also had a higher percentage of homework completion (56.9%) than the treatment group (53.5). The authors did find three differences that were statistically significant. The only measure was the treatment group had scores that were more favorable than the control group in the area of safety after school. Students who attended the after-school programs were less likely to indicate that they did not feel safe after school (2.5%) than the students in the control group (7.1%). However, the treatment group had a higher percentage of disciplinary actions by the teacher than the control group (22.4% vs. 16.9%) and a higher percentage of school suspension than the control group (11.5% vs. 7.5%). Moreover, both of these differences were significant at the .05 alpha level (James-Burdumy et al., 2005). Similar findings are also reported by Dynarski et al. (2004), who examined the effects of 21st CCLC program participation on academic measures of middle school students.

Unlike the random assignment that was used in the elementary 21st CCLC study, Dynarski et al. (2004) utilized a matched-group comparison design. For the middle school study, the authors used 32 school districts and 61 after-school programs in those districts to select 1,782 after-school program participants and 2,482 students not participating in an after-school program for a comparison group. While reading achievement scores were not gathered in this study, the authors did gather data on math grades and English grades. Identical to the elementary study, the authors did not find evidence of academic effect for after-school program participation. The authors failed to

find a statistically significant differences in the math grades (treatment = 79.3, control = 78.6) or the English grades (treatment = 80.1, control = 79.6). The only other statistically significant difference found between the groups was in reports of behavior. The treatment group of participants was more likely to break something on purpose (10.4%) than the control group (8.0%).

Two of the largest national evaluations led to intensive scrutiny of the 21st CCLC program due to lack of positive findings and inadequate use of federal funds (Mahoney & Zigler, 2006). However, according to other researchers, the methodology used in both studies have laws that seriously impact the interpretation of the findings (Durlak, Weissberg, & Pachan, 2010; Kane, 2004; Mahoney & Zigler, 2006). According to Durlak et al. (2010), there were four major threats to the validity of these large national evaluations of 21st CCLC programs. According to Durlak et al. (2010), the studies suffered from differential selections of participants, high attrition rates, low levels of program participation, and the potential that the centers participating in the study were not representative of all 21st CCLC programs. Durlak et al. (2010) also indicated that the researchers treated all 21st CCLC as if they were equal in terms of activities provided and program quality. Consequently, the finding of the two large-scale national studies failed to provide the level of evidence needed to accept the conclusion of no effects for after-school program attendance.

Durlak et al. (2010) conducted a meta-analysis of 75 reports examining after-school program effects for 69 different programs. Studies included in their analysis shared the following characteristics: (a) after-school programs examined occurred, at least in part, during the school year, (b) after-school programs examined operated during non-school hours, (c) after-school programs examined were supervised by adults, (d)

after-school programs examined had to have a control group, and (e) after-school programs examined were conducted in the United States. The final sample of studies included in their meta-analysis examined after-school programs sponsored by 21st CCLC, Boys and Girls Clubs, 4-H Clubs as well as programs sponsored by various community organizations. Durlak et al. (2010) examined the included studies for evidence of effectiveness in three areas: feelings and attitudes, indicators of behavioral adjustment, and school performance. Because prior research suggested that effective skills training includes step by step sequencing, active learning, training that is specific and focused, and driven by very specific goals, the researchers used dichotomous coding to identify programs examined in the studies that had those characteristics or not. Of the 75 studies examined, 41 were coded as SAFE studies (acronym developed by the researchers to describe programs that included the characteristics previously mentioned).

The results of Durlak et al. (2010) indicated that overall there was a positive effect for after-school program attendance. Students who participated in after-school programs had higher academic gains than similar student who did not participate in after-school programs. However, when the after-school programs were disaggregated by SAFE, status differences in effectiveness were observed. For example, students attending after-school programs identified as SAFE programs demonstrated gains on standardized achievement test that were 12 percentile points higher than a similar control group that did not attend an after-school program. However, that was not the case with after-school programs that were not identified as SAFE programs. For those after-school programs, there was no effect for program participation. As a result of their findings, Durlak et al. (2010) concluded that after-school programs can have a positive effect on school learning but not all after-school programs do have a positive effect. The results of their meta-

analysis indicated that programs that are sequenced(S) active (A), focused (F) and working towards explicit (E) goals are more likely to produce positive results (Durlak et al., 2010).

In 2005, Mahoney, Lord, and Carryl (2005) evaluated the effectiveness of after-school programs on reading achievement. Their longitudinal study examined the effect of after-school program participation on student achievement during the 2002-2003 school year. The population for their study consisted of three public schools in the Northern United States and included 599 students. Of the 599 students who attended the after-school programs, 50% were Hispanic, 36% Black, 10% White. The remaining 4% consisted of Asians and or students of some other ethnicity. For this particular study, the researchers utilized the Multivariate Analysis of Covariance (MANCOVA). Mahoney et al. (2005) compared Development Reading assessment scores for the following group of students: (a) parent after-school care (b) nonparent adult offer school care (c) non-adult after-school care, and (d) after-school program care. The results revealed higher reading achievement scores compared to children who were in a parent after-school, a nonparent adult after-school, and a non-adult after-school program. Furthermore, the success expectancy level was significantly higher for children who attended after-school programs compared to children in other adult/non-adult care (Mahoney et al., 2005).

Lauver (2002) examined the effect of an after-school program that operated from 5-7 p.m. on measures of academic achievement for middle school students. With a total population of 227 students from a low-income urban area, half were assigned to an after-school program and the other half was not assigned to an after-school program. In addition to academic activities the program offered dance, martial arts, and basketball. Unlike the 21st CCLC programs, the after-school program examined by Lauver (2002)

was not highly structured and participants were able to self-select their activities. While the results Lauver received from parent and student surveys were very favorable, the examination of more objective data such as test scores, school attendance, grades, and behavior reports did not reveal any positive program effects.

Durlak and Weissberg (2007) conducted a meta-analysis of 73 studies and found the effectiveness of after-school program varied by program type. Of the 73 studies, 39 studies, which were all highly structured, reported positive academic and behavioral outcomes. Vandell et al. (2007) found that adolescents are more likely to remain involved in after-school programs that are structured versus those after-school programs that are less structured. Extending the work of Vandell et al. (2007) and Shernoff (2010) examined first if increases in after-school program engagement were related to increases in academic achievement and then if quality of program accounted for more variation than the quantity of program participation.

The sample for Shernoff's (2010) study consisted of 196 middle school students attending eight schools that had after-school programs in three Midwestern states. Using the experience sampling method, Shernoff collected data on 4,970 random experiences of the participants. The experiences sampling method entailed students wearing a monitor that would randomly buzz during after-school hours from 3:30-8:30 p.m. When the monitor buzzed, the students were to write in their daily logs what they were doing at the time. The logs were gathered daily and the information supplied by each participant was recorded by the research staff. One of the independent variables for the study was after-school program attendance. If at any time the participants recorded that they were at an after-school program when the monitor buzzed, then they were considered an after-school program participant. Of the 196 participating middles school students, 165 (84%) were

identified as after-school program participants. The dependent variables for the study were measures of social competence, English achievement, and math achievement.

The results of the study indicated that, after controlling for students' backgrounds characteristic, after-school program participants had higher measures of social competence and English grades than nonparticipants did. However, the effect size for both differences was small (n^2 = .018). Also, noteworthy was the lack of difference found between program participants and nonparticipants. As stated by Shernoff, "It is possible that engagement in the many non-academic program activities influences English achievement more than math achievement by facilitation social and linguistic learning" (p.333). Shernoff also found that the amount of program participation was not related to academic gains of the participants. Rather, academic gains were associated with the quality of experiences they had in the after-school programs.

With the emphasis on student achievement, Chatterji (2006) conducted a yearlong study on a New York elementary school. The after-school supplemental program focused on fundamental reading skills, fluency, independent learning, and skill mastery. The fourth and fifth grade students who struggled in reading participated in the 16-week program during the 2001-2002 school year. The after-school students attended the classes 20 minutes per session three days a week. The participants were administered a multi-level reading pretest and posttest to determine the effectiveness of the study. The after-school students' posttest mean reading score was 18.6 (*SD*=3.3) compared to the nonparticipants' mean score for reading which was 18.4 (*SD*=4.4). The scores yielded an effect score of +.045. Based on the results, the after-school participants revealed better student achievement than that of the nonparticipants.

Additional studies highlighted the effect after-school programs have on student achievement. For instance, Walking-Eagle et al. (2009) conducted a longitudinal study examining the process and product outcomes of the New Jersey After 3 organization's after-school program (NJ After 3). NJ After3 is a private non-profit organization that seeks to expand and improve after-school program opportunities for the youth of New Jersey. The research was guided by three broad purposes: (a) examination of program quantity; (b) examination of outcomes for participants; and (c) examination of program sustainability. Survey data was collected from the following individuals related to the study: after-school program students, parents of the students, and after-school program faculty and staff. According to the results of the analysis of teacher surveys, the majority of the programs' participants were at grade level or above grade level in their reading abilities. The teachers also indicated that the participating children "almost always" and "often" exhibited pertinent study skills addressed on the evaluation survey. Similar positive outcomes were also reported by program participants. According to data analyzed from after-school students' surveys, the students felt their experiences in the after-school program helped them academically. Participants "agreed" or "agreed a lot" to questions related to the program helping them finish their homework, improving their grades, and improving their reading, writing, and computer skills. Moreover, the participants generally agreed that they enjoyed participating in the program. The data also revealed that the parents observed an improvement in their children achievement levels. Nevertheless, while perceptions of program effectiveness are important, the Policy Studies Associates, Inc. study failed to gather concrete or objective outcome measures such as actual test scores (Walking-Engle, 2009).

According to a study conducted by Klein and Bolus (2002), students in Grades 1 through 5 who attended the Foundations After-School Enrichment Program experienced more academic gains than a similar group of students who did not participate in the after-school program. The sample for the study included 406 who attended the after-school program and 646 students who did not attend the program. The authors found that the participants scored significantly higher than the nonparticipants did on standardized measures of math and reading achievement. Moreover, the authors found the differences to be statistically significant at the .001 alpha level.

Baker, Rieg, and Clendaniel (2006) conducted a study on an after-school program and how the program effected the math achievement of a rural school district in Pennsylvania. Both the school district and a local Pennsylvania university collaborated to implement an after-school tutoring program. The university assisted the school district by providing funding and tutors. The students who attended the after-school program in Grades 3 to 6 were selected based on three indicators: math scores were below the 30th percentile margin on the Pennsylvania standardized test, the Standard 9 Achievement Tests results, and classroom teachers' recommendations. They attended the after-school program one day per week for 20 weeks, 10 weeks in the fall and 10 weeks in the spring. The after-school participants met immediately after-school for 90 minutes. The focal point of the program included homework assistance, skill reinforcement, educational enrichment and remediation games, and math-related games in the computer labs.

The students who qualified for the after-school program in Pennsylvania completed a pretest and posttest math inventory. According to the results of the study, the posttest math inventory revealed an increase of 72% or higher for students who participated in the after-school program. According to Baker et al. (2006), key factors

that contributed to the success of the after-school program were the following: a program coordinator, maintaining a 2:1 student-tutor ratio, maximizing instructional time, recruiting tutors, whose efforts were aligned with the university coursework, keeping students with the same tutor, and a supportive school district.

Fleming (2005) researched an after-school program, *Two Together*, which maintained structured literacy modules in 2003. During a four month period, 49 students in Grades 2 through 6 participated in one-on-one tutorial sessions from 3:30-4:30 p.m. The *Two Together* after-school program focused on improving children's social, cultural, and intellectual growth by enhancing the students reading comprehension skills. The method and data for the study included various artifacts, such as examination of records, on-site observation, self-reports of progress, archival materials, reports, and in-depth interviews. Based on the 2003 annual data report, it revealed 59% of the students who were two or more years below grade level ended the academic year reading at or above grade level. For the 2003-2004 school year, 42% of the students' reading scores indicated that they either met or exceeded grade level expectations.

The Office of Research, Evaluation, and Accountability (Chicago Public Schools, 2005) presented a study that identified and evaluated how effective a SES tutoring program was in reading and mathematics. The study measured the effectiveness of SES participants compared to students who do not meet the qualifications of the SES tutoring program. The program provided tutoring services to 55,600 students in 324 Chicago Public Schools. Based on the data, nearly 61% of the participants scored at or below the 25th percentile on the Iowa Test of Basic Skills (ITBS) in reading and 52% score below the 25th percentile in mathematics. The students who scored at or below the 25th percentile in reading and mathematics were recommended and given the opportunity to

participate in the program in Grades 3 through 8. A large percentage of the students who participated were Black (23,273), 55.9%. The students were assessed in reading from the 2004-2005 ITBS to the 2005-2006 Illinois Standards Achievement Test (ISAT). The general linear model was utilized for this study. SES students demonstrated small significant gains in reading and mathematics achievement compared to the students who did not qualify for the program.

Not only are SES programs effective, both before-school and after-school tutoring programs utilizing SES programs have revealed positive results. Goyette (2009) conducted a one year study to determine if before- and after-school tutoring revealed academic growth as defined by the NCLB Act of 2001 and the Mississippi Student Achievement Improvement (MSAI) Act of 1999. In the study, there were two elementary schools with 146 participants in grades three through six in southern Mississippi. Students who scored minimal and basic on the reading, language arts, and/or math were recommended to attend the after-school program at no cost the following school year.

The purpose of Goyette's (2009) one year study was to determine if before school tutoring was more beneficial than after-school tutoring. This study examined two elementary schools tutoring programs, School A and School B. Both elementary schools were located in a level 5 school district, which was the highest level of accreditation in Mississippi in 2003-2004. While School A offered a before school tutoring program, School B offered an after-school program. Based on the Mississippi Curriculum (MCT) data, School A was a level 5 school. School B was a level 4 school. The objective of both programs was to concentrate on reviewing and teaching new basic skills. Each Monday through Thursday the before-school and after-school programs operated for one hour. The participants were instructed by approximately 14 certified teachers for both schools

utilizing Title I funds. The causal-comparative study used the 2003-2004 and 2004-2005 MCT scores to determine academic growth of the participants. The one sample t-test was used to analyze the data. The students who attended the tutoring program after-school showed statistically more growth compared to the students who attended the before school tutoring program.

Islas, Myers, Pfeffer, Recendez, and Young (2008) conducted a study that evaluated two middle schools located in Riverside and Highland, California, during the 2007-2008 school year. The sixth through eighth grade students at Arizona Middle School and Beattie Middle School participated in the after-school program three days a week for one hour each day. The sixth through eighth grade students' 2007 scores were compared to the 2008 scores to track the progress of after-school program participants for one year. To measure the students' academic success, the participants' English scores from the California Standards Test (CST) were analyzed. The results of the study indicated that male students who participated in the after-school program showed an 81% increase in English scores and females experienced a 78% increase. In math, 65% of the males and 77% of the females improved their scores.

Jenner and Jenner (2007) conducted research that examined the effectiveness of 21st CCLC Programs in the state of Louisiana during the 2003-2004 school year. In total, 1,192 children in grades three and five participated in the after-school study (n = 259 experimental group, and n = 933 comparison group) located in urban and rural areas. The researchers examined the effects on academic achievement of students who participated in the 21st CCLC after-school programs for varying lengths of time. Based on the results of the study, the pretest differences indicated that students who participated in the after-school programs outperformed students who did not participate, as measured by the

ITBS. The researchers also found the greatest increase of achievement was found with the 30- to 59 -day participants. However, as the days of attendance increased, it was difficult to identify gains in student achievement (Jenner & Jenner, 2007).

One of the primary objectives of after-school programs is to increase the academic achievement of its participants. Multiple studies examined the effects of program participation and found positive results while others found negative effects. Consequently, more and more studies are suggesting that positive after-school program effects depend on a variety of conditions.

Student Attendance

One of the constructs that often appears in the literature examining the effects of after-school programs is student engagement and one of the most basic operational definitions of student engagement is school attendance. According to Johnson, Crosnoe, and Elder (2001), school success is 90% participation and 10% mental. Roby (2004) found a strong positive relationship between measures of school attendance and student academic achievement. Roby, in his study of fourth, sixth, ninth, and twelfth grade Ohio students (N = 3,171), found that students who ranked in the top 10% in measures of school attendance had a mean score of 96.5 on the reading and mathematics Ohio proficiency tests whereas students in the bottom 10% in school attendance averaged 92.8%. Roby also found that 75% of the African American males in his study who were chronically absent in elementary and high school failed to graduate from high school. Similarly, other researchers (Dynarski et al., 2004; Gottfried, 2009; Martin, Martin, Gibson, & Wilkins, 2007) reported positive relationships between school attendance and academic achievement. Gottfried (2009) collected attendance and achievement data for

approximately 86,000 kindergarten through eighth grade students for seven academic years to test his hypothesis that school attendance was related to achievement. The results of his study indicated that school attendance (measured in days) was positively related to GPA and standardized test scores in reading and math for both elementary and middle school students. Logically, as stated by Dynarski et al. (2004), students who are not in class have fewer opportunities to learn materials that enable success in school. Because of the evidence that attendance and achievement are positively related, many of the studies examining the effects of after-school programs have included measures of school attendance as one of the dependent variables.

Multiple studies (Dietal, 2009; Frankel & Daley, 2007; Heckman & Sanger, 2001; Kotloff & Korom-Djakovic, 2011; Lauver, 2002; Martin et al., 2007) examined the relationship between after-school program attendance and school attendance. However, the findings were inconsistent. While some of the studies reported positive findings, others reported either no after-school program effect or only effects for after-school programs with certain characteristics. For example, Frankel and Daley (2007) conducted an evaluation of the Beyond the Bells Partner Agencies after-school program and found that program attendance was associated with improved school attendance. Kotloff and Korom-Djakovic (2011) examined the effects of after-school program attendance on measures of school attendance for middle school students. The researchers compared school attendance for a group of seventh grade students who participated in the AfterZone after-school program in Providence, Rhode Island, to a group of seventh grade students in Providence, Rhode Island, who did not participate in the program. The results of their study indicated that students who were enrolled in the program had 25% fewer school absences than the students who were not enrolled in the program. Dietal (2009)

also reported positive after-school program effects but extended the finding of Frankel and Daley (2007) by examining the relationship between measures of after-school program attendance and measures of school attendance. Dietal (2009) found that as after-school program attendance increased, so did school attendance and homework completion. Dietal's findings suggested that students with high commitments to attend the after-school program were the same students with high commitments to attend school regularly. In which case, as Apsler (2009) suggested, the academic effects of after-school program attendance reported may have been the result of selection bias. That is, students with high commitments, both to after-school and in school attendance, may be more committed to study and excel academically.

Martin et al. (2007) examined measures of school attendance for a group of students enrolled in alternative schools. Students enrolled in the alternative schools were considered to be at very high risk of school failure and shared the following characteristics: missed more than 40 days of school the previous year, had 20 or more discipline referrals the previous year, were two grades below grade level, and were from low income families. In addition to their enrollment in the alternative school, the students participated in an after-school program. The authors found that after two years of after-school program participation, the students had significantly lower measures of school absenteeism. However, in the absence of a comparable control group, it is not possible to disentangle the effects of the after-school program from those of the alternative school treatment. It may be that the students' experiences in the alternative school setting changed their motivation and competency for academic tasks. Time in the alternative school may have helped the students acquire basic skills that would enable them to be successful in school thereby increasing their attendance at school. Consequently, the

absence of a control group represents a serious flaw in the methodology of the research conducted (Martin et al., 2007).

Heckman and Sanger (2001) conducted a 10-year longitudinal study on Los Angeles's Better Educated Students of Tomorrow (LA's BEST) after-school programs and found significant program effects. However, the school attendance effects were only found with fifth and sixth grade students who had participated in the after-school program for at least four years. They did not find evidence of the program having a positive effect on school attendance for any other group of participants or for any other duration of after-school program attendance. Consequently, Heckman and Sanger's study suggested that after-school program attendance may have a cumulative effect on school attendance (i.e., multiple years of after-school program attendance may be necessary before the effect is demonstrated in school attendance). Research conducted by Lauver (2002) and Dynarski et al. (2004) suggested that the effectiveness of after-school programs depends on factors other than merely if students participated in a program or not.

Lauver (2002), using an experimental designed, examined the effects of after-school program participation on academic and attendance measures for a group of middle school students randomly assigned to an after school program. Overall, Lauver found no effect for after-school program attendance on school attendance. However, when comparisons were made between the control and experimental groups by type of after-school program (structured or unstructured), the experimental group attending structured programs was found to have significantly higher measures of school attendance than the control group. Moreover, similar to the findings of Dietal (2009), Lauver found that students attending structured after-school programs who had high measures of after-

school program attendance were more likely to attend school regularly. There were no program effects for students attending unstructured after-school programs. Likewise, Dynarski et al. (2004) and Durlak and Weissberg (2007) found program effects for only after-school programs that were considered high-quality programs and structured. Durlak and Weissberg (2007) linked after-school program attendance to measures of school bonding in their meta-analysis of 73 after-school program studies. The authors defined school bonding as positive feeling and students' attitude toward school. In their analysis, only 39 of the 73 programs studied were considered high quality. The evidence provided by these 39 studies indicated that the after-school programs had a positive effect on school bonding. While the authors did not specifically measures school attendance, it is likely that high measures of school bonding would indicate high measures of school attendance.

While research clearly identifies the strong and positive relationship between school attendance and academic achievement, the evidence to support a relationship between after-school program attendance and school attendance is less consistent. What does appear to be consistent are the findings that suggest certain types of after-school programs can have a positive effect on school attendance. The findings of several researchers (Durlak & Weissberg, 2007; Dynarski et al., 2004; Lauver, 2002) linked program effects to quality of programs. Heckman and Sanger (2001), on the other hand, found program effects only after multiple years of program attendance.

Student Behavior

According to Shirvani (2007), students' conduct in class and their conduct in the after-school programs affect their academic achievement. Students who are inattentive,

tardy, or disruptive in class have a greater chance of failing academic subjects. Among the most frequent discipline problems that occur in after-school programs are tardiness, absenteeism/class cutting, and physical conflicts (Frick et al., 1991). In a Policy Information Report, Barton et al. (1998) found frequent discipline incidents have a negative effect on student achievement in mathematics, reading, science, and social studies. As a result of the findings, many schools have integrated comprehensive school models for character development, problem behavior prevention, and academic achievement enhancement to reduce the number of discipline infractions. One program in particular is the Positive Action program, which consists of a school curriculum focused on decreasing the number of discipline infractions that are occurring in the classrooms. The researchers utilized matched-control design, school-level achievement, and disciplinary data to assess the program effectiveness on student achievement and behavior in two separate school districts. The Positive Action program improved academic achievement by 16% in one district and 52% in another district. Furthermore, the discipline referrals were reduced by 78% in one district and 85% in the second district. Sheldon and Epstein (2002) found that students' behavior becomes a great indicator of student success in academic programs such as after-school programs, which are geared to improve student achievement.

Students should model good behavior in after-school programs. Many researchers perceive that after-school programs will improve children and youth behavioral outcomes. Some studies presented evidence that after-school programs reduce negative behaviors, while other studies have reported that after-school programs have no effect on student behavior. On the other hand, some studies have seen an increase in negative behaviors. According to James-Burdumy, Dynarski, and Deke (2008), their

study of elementary and middle school students revealed the 21st Century after-school programs increased negative behaviors for both elementary and middles school students. Over 2,000 elementary school students participated in the after-school program that offered homework assistant, academic activities, and recreational activities. The study compared the students who participated in the after-school program to nonparticipants of the program. The results revealed that the after-school program contributed to behavioral problems. For example, teachers reported contacting 28% of the participants' parents about behavioral problems compared to 23% of the control group of students. Moreover, 23% of the participants reported discipline actions were administered compared to the 17% of control group of students. Once the discipline actions were issued, 12% of the treatment group of students were suspended in contrast to the 8% of the control group.

James-Burdumy et al. (2008) found that after-school program attendance was related to an increase in students' negative behaviors. The results of the middle school findings revealed the after-school programs showed increases in some negative behavior. Based on the study, 4,264 students participated in the middle school after-school program. The results revealed higher percentages of negative behavior for the students who attended the after-school program compared to the nonparticipants. For instance, the students were more likely to break things on purpose, be suspended, be sent to the office for discipline infractions, and were more likely to use illegal drugs, such as cocaine, ecstasy, or lysergic acid diethylamide commonly referred to as (LSD). The after-school program participants disclosed higher levels of negative behaviors in comparison to the nonparticipants. The results revealed the after-school program did not confirm a statistically significance difference in student behavior for the middle school students (James-Burdumy, et al., 2008).

One factor that can increase disruptive behavior in the classroom is unstructured time. Teachers must plan innovative lessons to captive students. According to research, students should devote 70% of classroom time to academic activities (Little & Akin-Little, 2008). If students are engaged in interesting academic activities, teachers will encounter less disruptive behavior.

According to Wheatley et al. (2009), appropriate classroom behavior is maintained by schools that reinforce positive attention from teachers, grades, or self-reinforcement that results in completing a task. The positive reinforcement should be age appropriate for students. Research has shown that many strategies and techniques will assist with disruptive behavior. The use of touch as an adjunct to verbal praise may serve as positive reinforcement. The physical touch may comfort or quiet a student. However, it must be used wisely due to the cultural considerations (Wheatley et al., 2009).

Reilly (2008) found school-home notes that evaluate students on a daily basis and provide feedback to parents may serve as positive reinforcement to decrease classroom disruptions. Notes that are sent home enhance home-school communication. Parents have an important role in the education of their children, and home-school communication is evident in the successful outcome of students (Reilly, 2008).

Marshall Middle School in Houston, Texas, implemented a program called Consistency Management and Cooperative Discipline. According to Sniepes et al. (2006) this program's objective was to improve instruction by building self-discipline among students to instill discipline, respect, and responsibility. The implementation of these programs will improve the school learning environment and create an atmosphere where students will maintain respect for all students in a high quality learning environment (Snipes et al., 2006).

The construct of engagement refers to actively participating psychologically and behaviorally in a lesson or activity. Engagement is defined as relatively high level of attention, interest, effort, satisfaction that occurs during the process of learning and acquiring skills. In contract, lack of engagement would include boredom, apathy, inattentiveness, and passiveness. Students who are actively engaged in the lesson revealed positive academic results.

Student engagement has emerged as a major component of after-school programs due to the socialization inherent in many programs. A two-year study by Mahoney et al. (2007) assessed the level of student engagement in nine after-school programs. The participants consisted of 141 children who lived in an urban, disadvantaged city in the United States. The data were obtained from teachers' feedback, student engagement rubric forms, and instructional assessments administered to the students who attended the after-school program. The results of the hierarchical linear model revealed that engaging after-school programs were significantly higher compared to programs that targeted completion of homework assignments and non-skill building activities. Moreover, the results revealed that the level of student engagement predicted children's social competence and affected their motivation in a positive manner (Mahoney et al., 2007).

Summary of the Literature

A review of the literature revealed there is no consensus on what constitutes an after-school program. For Scott-Little et al. (2002), a program is an after-school program if it is held during after-school hours and provides adult supervision for attendees. Riggs and Greenberg (2004) extended the definition provided by Scott-Little et al. (2002) in that they reported that there are actually two types of after-school programs. One type,

according to Riggs and Greenberg, is unstructured and focuses on safe environments and adult supervision. The second type of after-school program is structured and focuses on increasing the academic achievement of the attendees. Of particular interest to the current study are after-school programs that focus on the academic achievement of the attendees. According to Laver et al. (2006), the Harvard Family Research Project demonstrated that a well-implemented, high-quality after-school program could have a positive impact on a range of academic skills, student behavior, student attendance that are associated with academic achievement.

A quality after-school program affects student attendance (Laver et al., 2006). According to Gottfried (2009) regular school attendance was positively related to student achievement in reading and math, based on a study that was conducted on 86,000 kindergarten – eighth grade students. Regularly school attendance positively affected GPAs and standardized test scores for elementary and middle school students. Students who do not attend school regularly have fewer chances to obtain a quality education (Dynarski et al., 2004).

Student's behavior in class and their conduct in after-school programs effect student achievement. Students who are tardy and disruptive in class decrease their chances of passing academic subjects (Frick et al., 1991). Based on the research, many school districts have integrated comprehensive school models to improve character development and reduce the number of discipline infractions that occur during school and after school (Barton et al., 1998). Two school districts have implemented the Positive Action program to reduce the number of discipline infractions. The program improved student achievement and behavior in both districts. One district showed a 16% increase in

student achievement and a 78% reduction in discipline infractions. The second district improved student achievement by 52% and reduced discipline infractions by 85%.

Although districts implemented comprehensive school models, a study of elementary school students revealed an increase in disruptive behavior during the after-school programs. According to James-Burdumy et al. (2008), teachers reported contacting the after-school participants' parents more often regarding behavioral infractions in comparison to the nonparticipants' parents. After the parents were contacted and the consequences were issued, 12% of the students who attended after-school programs were suspended compared to 8% of the students who did not attend the after-school programs. Students who attended after-school programs revealed positive and negative results based on classroom disruptions (James-Burdumy et al., 2008).

Quality after-school programs are divided into two categories: unstructured or structured (Riggs & Greenberg, 2004). The after-school programs focus on creating a safe environment, providing adult supervision, and increasing student achievement (Scott-Little et al., 2002). Not only do after-school programs effect student achievement, they also affect student attendance and student behavior. According to the findings, there are many benefits and limitations to attending after-school programs (Scott-Little et al., 2002).

CHAPTER III

METHODOLOGY

The purpose of this study was to examine the effect of regular participation in an after-school program on indicators of student academic achievement. Specifically, this study determined if there were differences in rates of school attendance, measures of academic achievement, and number of discipline referrals for students who attended the after-school program regularly and those who did not attend regularly. This chapter discusses the methods used to examine the effect of regular participation in the after-school program at Hampton High School in Pastchal, Mississippi. The chapter consists of the following sections: research design, participants, instrumentation, procedure, and methods of data analysis.

Research Design

This study used a causal comparative research design. According to Fraenkel and Wallen (2000), causal comparative research attempts to determine reasons, or causes, for the existing conditions. That is, it attempts to identify the effects of the independent variable on the dependent variable. According to Fraenkel and Wallen, there are two types of causal comparative designs: a retrospective design and prospective design. The retrospective design starts with observed effects (dependent variables) and attempts to identify causes (independent variables). The prospective design starts with observed causes and attempts to determine the effects. In the case of this study, a prospective causal comparative design was employed to investigate the possible effects of regular

participation in an after-school program on indicators of student achievement. However, the authors caution that while causal comparative research attempts to identify cause and effect relationships, it is not robust enough to truly detect cause and effect relationships due to, the inability of the researcher to manipulate the independent variable.

According to Gay, Mills, and Airasian (2009), causal comparative research is used when the researcher cannot manipulate the independent variable because it has either already occurred, it is impossible to manipulate, as in the case of gender, or if it would be unethical to manipulate the independent variable. Because of the researcher's inability to manipulate the independent variable, the results obtained from causal comparative studies indicating potential cause and effect relationships should be interpreted with caution. According to the authors, the findings could be the result of unidentified extraneous variables influencing the dependent variable (Gay et al., 2009).

A causal comparative research design was deemed most appropriate for this study because of the researcher's inability to manipulate the independent variable of amount of after-school program participation. The independent variable of participation for this study has two levels. One level represents students who attended the after-school program for at least 40 days, and the second level represents students who attended the program for less than 40 days.

Participants

Hampton High School is located in Northeast Mississippi and is one of four schools in the Evans School District. During the 2007-2008 school year, there were 220 African American students enrolled at Hampton High School. The student population per grade level was as follows: 38 seventh-grade, 40 eighth-grade, 30 ninth-grade, 45

tenth-grade, 25 eleventh-grade, and 42 twelfth-grade students. The gender composition of the school was 51% female and 49% male. Ninety-eight percent of the students qualified for free or reduced lunch.

The participants in Hampton High School after-school program were seventh and eighth grade students who scored minimal or basic on the MCT2 during the 2007-2008 school year. There were 31 seventh-grade students and 35 eighth-grade students, for a total population of 66, who were selected to attend the after-school program during the 2008-2009 school year. Of the total population, 15 seventh-grade students were considered regular attendees and 16 students were not considered regular attendees. In addition, 16 eighth-grade students were classified as regular attendees of the after-school program compared to 19 students who were not classified as regular attendees. Regular attendance for the after-school program was operationally defined as at least 40 of the 50 days of attendance during the academic year.

Instrumentation

All data utilized in this study were archived data. Data were collected during the 2008-2009 school year. The data were retrieved from the Software Technology, Incorporated (STI) system, which is the data storage system used by Evans School District. For this study, the language arts, reading, and math grade point averages, attendance rates, and number of discipline referrals were gathered from the STI system. The MCT2 language arts and math scores were also collected and used for this study. The MCT2 is the assessment used by schools in the state of Mississippi to document student growth. However, the assessment does not have a reading section. According to MDE (2009), it is a valid and reliable measure of student achievement. Math and

language arts grade point averages were computed and recorded in the STI by classroom teachers. Likewise, attendance rates and number of discipline referrals were recorded in the STI for each student.

Procedures

A letter of request was sent to the district superintendent detailing the purpose and procedures of the study and requesting permission to conduct the study. Permission to conduct the study was requested from the Mississippi State University Institutional Review Board for the Protection of Human Subjects in Research. Upon IRB approval (see Appendix A), the researcher gathered data for each of the dependent variables from the STI for each participating student and recorded the data on the data collection spreadsheet. After all data were collected and recorded on the spreadsheet, the files were transferred to a SPSS data file and analyzed.

Data Analysis

This causal comparative study tested seven hypotheses to examine the effect of regular participation in the Hampton High School after-school program on indicators of academic achievement. The following represents the research hypotheses that were used to guide this study:

1. Students who attended the after-school program for at least 40 days will have higher math grade point averages than students who attended the after-school program less than 40 days.
2. Students who attended the after-school program for at least 40 days will have higher reading grade point averages than students who attended the after-school program less than 40 days.

3. Students who attended the after-school program for at least 40 days will have higher language arts grade point averages than students who attended the after-school program less than 40 days.
4. Students who attended the after-school program for at least 40 days will have higher MCT2 math scores than students who attended the after-school program less than 40 days.
5. Students who attended the after-school program for at least 40 days will have higher MCT2 language arts scores than students who attended the after-school program less than 40 days.
6. Students who attended the after-school program for at least 40 days will have lower rates of absenteeism than students who attended the after-school program less than 40 days.
7. Students who attended the after-school program for at least 40 days will have fewer discipline referrals that students who attended the after-school program less than 40 days.

To test each hypothesis, an analysis of covariance (ANCOVA) was used. The ANCOVA is a parametric test used to test for differences between factor means and adjusted for the effect of covariate. As with most parametric tests, the ANCOVA test requires that certain assumptions are met before the results are considered valid (Gay et al., 2009). However, the authors acknowledged that small or even moderate violations of one or more of the assumptions usually would not drastically affect the results. According to the authors, the two assumptions associated with the ANCOVA are (a) linear regression; and (b) homogeneity or regression coefficients.

For this particular study, the ANCOVA test was determined to be the most appropriate test of significance to use. Although the groups were not randomly formed, the researcher assumed that the groups were equal in terms of the dependent variables prior to program participation. The Shapiro-Wilk test was used the test for normality while the Levene's Test was utilized to check for homogeneity of variance. Furthermore, the ANCOVA test was used to determine if a statistically significant difference exists in measures of academic achievement between students who attended the after-school program regularly and students who did not attend regularly. All analyses were computed at the .05 alpha level.

CHAPTER IV

RESULTS

This study examined the effect of regular participation in Hampton High School's after-school program on indicators of student academic achievement. Using existing data, a series of one-way ANCOVAs were used to analyze data and test each of the seven hypotheses that guided this study. The independent variable for each hypothesis was program attendance (regular and non-regular attendance). Table 1 displays the dependent variables and their respective covariates. Prior to analyzing the data to test the research hypotheses, descriptive analyses were computed for the covariates and the dependent variables. Tables 2 and 3 display the descriptive analyses for the covariates and the dependent variables by group (Regular and Non-Regular attendees). The tables show the mean differences and standard deviations of the two groups. The regular attendees have higher math, reading, and language arts GPAs, and better averages in attendance and discipline than non-regular attendees. The regular attendees improved the math MCT2 scores in 2009; however, there is not a difference in language arts MCT2 scores. The remainder of this chapter presents the results of data analysis organized by research hypotheses followed by a summary of the major findings of the study.

Table 1 Dependent Variables and Covariates

Hypothesis	Dependent Variable	Covariate
Students who attended the after-school program for at least 40 days will have higher math GPAs than students who attended the after-school program less than 40 days.	2009 Math GPA	2008 Math GPA
Students who attended the after-school program for at least 40 days will have higher reading GPAs than students who attended the after-school program less than 40 days	2009 Reading GPA	2008 Reading GPA
Students who attended the after-school program for at least 40 days will have higher Language Arts GPAs than students who attended the after-school program less than 40 days	2009 Language Arts GPA	2008 Language Arts GPA
Students who attended the after-school program for at least 40 days will have higher MCT2 math scores than students who attended the after-school program less than 40 days.	2009 MCT2 Math Score	2008 MCT2 Math Score
Students who attended the after-school program for at least 40 days will have higher MCT2 language arts scores than students who attended the after-school program less than 40 days.	2009 MCT2 Language Arts Score	2008 MCT2 Language Arts Score
Students who attended the after-school program for at least 40 days will have lower rates of absenteeism than students who attended the after-school program less than 40 days.	2009 Absences	2008 Absences
Students who attended the after-school program for at least 40 days will have fewer discipline referrals that students who attended the after-school program less than 40 days	2009 Discipline Referrals	2008 Discipline Referrals

Table 2 Covariate Descriptive Statistics

Covariate	Group	N	Mean	Standard Deviation
2008 Math GPA	Regular	31	78.68*	8.24
	Non-Regular	35	74.97	7.11
2008 Reading GPA	Regular	31	82.23*	8.01
	Non-Regular	35	79.71	6.42
2008 Language Arts GPA	Regular	31	83.42*	7.06
	Non-Regular	35	79.86	6.71
2008 Math MCT2	Regular	31	142.06	7.93
	Non-Regular	35	142.86*	6.12
2008 Language Arts MCT2	Regular	31	138.29	9.20
	Non-Regular	35	139.86*	10.009
2008 Absences	Regular	31	2.71	2.48
	Non-Regular	35	3.80*	2.63
2008 Discipline Referrals	Regular	31	.52	1.24
	Non-Regular	35	.69*	1.35

*Higher Mean

Table 3 Descriptive Statistics for Dependent Variables

Dependent Variable	Group	N	Mean	Standard Deviation
2009 Math GPA	Regular	31	78.52*	8.97
	Non-Regular	35	72.66	10.34
2009 Reading GPA	Regular	31	80.94*	7.01
	Non-Regular	35	78.26	7.33
2009 Language Arts GPA	Regular	31	81.23*	7.30
	Non-Regular	35	77.71	8.14
2009 Math MCT2	Regular	31	145.13*	8.83
	Non-Regular	35	144.34	6.58
2009 Language Arts MCT2	Regular	31	139.39	10.29
	Non-Regular	35	140.83*	7.90
2009 Absences	Regular	31	3.15	2.63
	Non-Regular	35	5.73*	5.38
2009 Discipline Referrals	Regular	31	1.87	3.364
	Non-Regular	35	2.43*	3.728

*Higher Mean

Results of Data Analysis

Research Hypothesis 1:

Students who attended the after-school program for at least 40 days will have higher math grade point averages than students who attended the after-school program less than 40 days.

A one-way between-subjects ANCOVA was calculated to examine the effect of regular after-school program attendance on the 2009 mathematics GPAs of regular attendees, while controlling for their 2008 mathematics GPAs. The 2008 mathematics GPAs were significantly related to the 2009 mathematics grade point averages $F(1, 63) = 43.28$, $p = .000$). The main effect for regular attendance was not significant $F(1, 63) = 2.23$, $p = .14$). Regular attendees did not have significantly higher mathematics GPAs (*m*

= 76.93, *SE*= 1.38) than non-regular attendees (*m* = 74.07, *SE*= 1.29), after covarying out the effect of the 2008 mathematics GPAs. Therefore, Hypothesis 1 was not supported. It appears that after controlling for the prior differences in mathematics grade point averages between the groups, there was no effect of regular after-school program attendance on mathematics grade point averages of regular attendees. Table 4 displays the results of the ANCOVA. Table 5 displays the adjusted means, means, and standard deviations for the two groups.

Table 4 ANCOVA Summary Table for Mathematics GPA

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	126.73	1	126.73	2.23	.14
Within Groups	3587.41	63	56.94		
Corrected Total	6615.96	65			

Table 5 Mathematics GPA Descriptive Statistics

Condition	N	Adjusted Mean	Mean	Standard Deviation
Regular Attendees	31	76.93	78.52	8.97
Non-Regular Attendees	35	74.07	72.66	10.34

Research Hypothesis 2:

Students who attended the after-school program for at least 40 days will have higher reading GPAs than students who attended the after-school program less than 40 days.

A one-way between-subjects ANCOVA was calculated to examine the effect of regular after-school program attendance on the 2009 reading GPAs of regular attendees, while controlling for the 2008 reading GPAs. The 2008 reading GPAs were significantly related to the 2009 reading GPAs $F(1, 63) = 60.28$, $p = .000$). The main effect for regular attendance was not significant $F(1, 63) = .51$, $p = .48$). Regular attendees did not have

significantly higher reading GPAs (m = 80.00, SE = .94) than non-regular attendees (m = 79.08, SE = .88), after covarying out the effect of the 2008 reading GPAs. Consequently, regular after-school program attendance did not have an effect on reading GPAs of regular attendees and Hypothesis 2 was not supported. Table 6 displays the results of this ANCOVA and Table 7 displays descriptive statistics for reading GPAs.

Table 6 ANCOVA Summary Table for Reading GPA

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	13.73	1	13.73	.51	.48
Within Groups	1687.73	63	26.79		
Corrected Total	3420.49	65			

Table 7 Reading GPA Descriptive Statistics

Condition	N	Adjusted Mean	Mean	Standard Deviation
Regular Attendees	31	80.00	80.94	7.01
Non-Regular Attendees	35	79.08	78.26	7.33

Research Hypothesis 3:

Students who attended the after-school program for at least 40 days will have higher language arts GPAs than students who attended the after-school program less than 40 days.

A one-way between-subjects ANCOVA was calculated to examine the effect of regular after-school program attendance on the 2009 language arts GPAs of regular attendees, while controlling for the differences in 2008 language arts GPAs. The 2008 language arts GPAs were significantly related to the 2009 language arts GPAs $F(1, 63) = 47.53$, $p = .000$). The main effect for regular attendance was not significant $F(1, 63) = .34$, $p = .56$). Regular attendees did not have significantly higher language arts GPAs (m = 79.83, se = 1.08) than non-regular attendees (m = 78.95, SE = 1.01), after covarying out

the effect of the 2008 language arts GPAs. Hypothesis 3 was not supported. It appears that there is no effect for regular after-school program attendance on language arts GPAs. Table 8 displays the results of this ANCOVA and Table 9 displays language arts GPAs descriptive statistics.

Table 8 ANCOVA Summary Table for Language Arts GPA

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	11.787	1	11.79	.34	.56
Within Groups	2194.713	63	34.84		
Corrected Total	4053.273	65			

Table 9 Language Arts GPA Descriptive Statistics

Condition	N	Adjusted Mean	Mean	Standard Deviation
Regular Attendees	31	79.83	81.23	7.30
Non-Regular Attendees	35	78.95	77.71	8.14

Research Hypothesis 4:

Students who attended the after-school program for at least 40 days will have higher MCT2 math scores than students who attended the after-school program less than 40 days.

A one-way between-subjects ANCOVA was calculated to examine the effect of regular after-school program attendance on the 2009 MCT2 mathematics scores of regular attendees, while controlling for the 2008 MCT2 mathematics scores. The 2008 MCT2 mathematics scores were significantly related to the 2009 MCT2 mathematics scores $F(1, 63) = 29.20$, $p = .000$). The main effect for regular attendance was not significant $F(1, 63) = .65$, $p = .43$). Regular attendees did not score significantly higher on the 2009 math MCT2 ($m = 145.39$, $SE = 1.16$) than non-regular attendees ($m = 141.11$, $SE = 1.09$), even after covarying out the effect of the 2008 MCT2 mathematics. The

results of this analysis indicated that there was no effect for regular after-school program attendance on MCT2 mathematics scores and Hypothesis 4 was not supported. Table 10 displays the results of this ANCOVA and Table 11 displays descriptive statistics for 2009 MCT2 mathematics scores.

Table 10 ANCOVA Summary Table for MCT2 Mathematics

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	26.67	1	26.67	.65	.43
Within Groups	2603.07	63	41.32		
Corrected Total	3819.53	65			

Table 11 MCT2 Mathematics Descriptive Statistics

Condition	N	Adjusted Mean	Mean	Standard Deviation
Regular Attendees	31	145.39	145.13	8.83
Non-Regular Attendees	35	141.11	144.34	6.58

Research Hypothesis 5:

Students who attended the after-school program for at least 40 days will have higher MCT2 language arts scores than students who attended the after-school program less than 40 days.

A one-way between-subjects ANCOVA was calculated to examine the effect of regular after-school program attendance on the 2009 MCT2 language arts scores, while controlling for the 2008 MCT2 language arts scores. The 2008 MCT2 language arts scores were significantly related to the 2009 MCT2 language art scores $F(1, 63) = 9.22$, $p = .000$). The main effect for regular attendance was not significant $F(1, 63) = 13.62$, $p = .67$). Regular attendees did not score significantly higher ($m = 139.67$, $SE = 1.54$) than non-regular attendees ($m = 140.58$, $SE = 1.45$), even after covarying out the effect of the 2008 MCT2 language arts scores. That is, students who attended the after-school program

for at least 40 days did not have MCT2 language arts scores that were significantly higher than students who attended the after-school program less than 40 days. Consequently, Hypothesis 5 was not supported. Table 12 displays the results of this ANCOVA analysis and Table 13 displays descriptive statistics for MCT2 language arts scores.

Table 12 ANCOVA Summary Table for MCT2 Language Arts

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	13.62	1	13.62	.19	.67
Within Groups	4618.54	63	73.31		
Corrected Total	5328.49	65			

Table 13 MCT2 Language Arts Descriptive Statistics

Condition	N	Adjusted Mean	Mean	Standard Deviation
Regular Attendees	31	139.67	139.39	10.29
Non-Regular Attendees	35	140.58	140.83	7.90

Research Hypothesis 6:

Students who attended the after-school program for at least 40 days will have lower rates of absenteeism than students who attended the after-school program less than 40 days.

A one-way between-subjects ANCOVA was calculated to examine the effect of regular after-school program attendance on the 2009 school absenteeism rate of regular attendees, while controlling for the 2008 school absenteeism rate. The 2008 school absenteeism rate was significantly related to the 2009 school absenteeism rate $F(1, 63) = 86.80$, $p = .000$). The main effect for regular after-school program attendance was not significant $F(1, 63) = .47$, $p = .49$). There was not a statistically significant difference in the rates of school absenteeism between regular after-school program attendees ($m = 3.90$, $SE = .50$) and non-regular after-school program attendees ($m = 5.06$, $SE = .47$). It

appears that attending the after-school program regularly did not have an effect on school absenteeism. Therefore, Hypothesis 6 was not supported. Table 14 displays the results of this ANCOVA and Table 15 displays descriptive statistics for rates of absenteeism.

Table 14 ANCOVA Summary Table for Absenteeism

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	29.30	1	29.30	.47	.49
Within Groups	3900.08	63	61.91		
Corrected Total	3936.17	65			

Table 15 Absenteeism Descriptive Statistics

Condition	N	Adjusted Mean	Mean	Standard Deviation
Regular Attendees	31	3.90	3.15	2.63
Non-Regular Attendees	35	5.06	5.73	5.38

Research Hypothesis 7:

Students who attended the after-school program for at least 40 days will have fewer discipline referrals than students who attended the after-school program less than 40 days.

A one-way between-subjects ANCOVA was calculated to examine the effect of regular after-school program attendance on the number of 2009 discipline referrals, while controlling for the number of 2008 discipline referrals. The number of 2008 discipline referrals was significantly related to the number of 2009 discipline referrals $F(1, 63) = 334.73$, $p = .000$). The main effect for regular after-school program attendance was not significant $F(1, 63) = .14$, $p = .72$). The number of 2009 discipline referrals of regular attendees ($m = 2.10$, $SE = .26$) was not significantly lower than the number of discipline referrals for non-regular attendees ($m = 2.23$, $SE = .24$), even after covarying out the effect of the number of 2008 discipline referrals. Consequently, Hypothesis 7 was not

supported. Table 16 displays the results of this ANCOVA and Table 17 displays descriptive statistics for the analysis number of discipline referrals.

Table 16 Regular Attendance and Discipline Referrals

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	.28	1	.28	.14	.72
Within Groups	128.63	63	2.04		
Corrected Total	817.17	65			

Table 17 Discipline Referrals Descriptive Statistics

Condition	N	Adjusted Mean	Mean	Standard Deviation
Regular Attendees	31	2.10	1.87	3.36
Non-Regular Attendees	35	2.23	2.43	3.73

Summary of Findings

Chapter IV reported the results of the data analysis used to test the seven research hypotheses that guided this study. The independent variable for this study had two levels. After-school program attendances for at least 40 days represented one level and after-school program attendance for less than 40 days represented the second level. Seven measures (mathematics GPA, reading GPA, language arts GPA, mathematics MCT2 scores, language arts MCT2 scores, school absenteeism, and discipline referrals) represented the dependent variables for this study. ANCOVAs were used to determine if there were statistically significant differences between measures on the dependent variables for students who attended the after-school program for at least 40 days (regular attendees) and students who attended the after-school program for less than 40 days (non-regular attendees). The covariate for each analysis was the prior year's score or measure on the respective dependent variable. When the descriptive statistics for the covariates were examined, the group of regular attendees (n = 31) had higher grade point averages

(math, reading and language arts) and lower measures of absences and discipline referrals than the group of non-regular attendees (n = 35) . The non-regular attendees had higher averages on the MCT2 assessments (math and language arts) than the regular attendees.

The examination results and the examination of measures of the dependent variables were nearly identical in terms of which group had the higher average. The only difference observed was that after program attendance, the regular attendees now had a higher average on the math MCT2 (145.13 vs. 144.34). The results of the seven ANCOVAs revealed that all of the covariates were significantly related to their respective dependent variables. After statistically controlling for pre-existing differences between the groups, there were no significant differences found between the groups in any of the analyses.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Student achievement in the United States is essential to the success of our nation. In order to compete with other countries, it is vital that our students excel academically. State and national mandates require schools and school districts to meet or exceed standards established by USDE. As stipulated in NCLB, all students should be proficient in math and reading by the year 2014. As a result, educators are continually searching for programs and strategies that will increase student achievement and improve America's educational system. One common strategy that school districts across the nation have used to increase student achievement is to provide extended learning time through after-school programs. The present study examined the effect of regular participation in an after-school program that operated in a rural Mississippi school district. This chapter serves as a review of the study and includes a summary of results, a discussion of the findings, and recommendations for future research.

Summary

Hampton High School operated an after-school program two days per week during the 2008-2009 school year. The objective of the after-school program was to increase the academic performance of the students who scored in the minimal or basic categories on the 2008 MCT2 assessment. Regular attendance at the program was considered critical to receive the tutorial services, homework assistance, academic enrichment, and physical activities necessary to improve the students' academic

achievement. Consequently, for optimal benefit from after-school program attendance, students were encouraged to attend the program at least 40 days. However, there were students who attended the program less than 40 days.

The purpose of this study was to examine the effect of regular participation in the after-school program on indicators of student achievement. Particularly, this study resolved to determine if there were differences in school attendance, measures of academic achievement, and number of discipline referrals between students who attended the after-school program regularly (n = 31) and students who did not attend the after-school program regularly (n = 35). For this study, regular after-school program participation was defined as attending the after-school program at least 40 days during the academic school year. To accomplish the purpose of this study, the following research hypotheses were tested:

1. Students who attended the after-school program for at least 40 days will have higher math GPAs than students who attended the after-school program less than 40 days.
2. Students who attended the after-school program for at least 40 days will have higher reading GPAs than students who attended the after-school program less than 40 days.
3. Students who attended the after-school program for at least 40 days will have higher language arts GPAs than students who attended the after-school program less than 40 days.
4. Students who attended the after-school program for at least 40 days will have higher MCT2 math scores than students who attended the after-school program less than 40 days.

5. Students who attended the after-school program for at least 40 days will have higher MCT2 language arts scores than students who attended the after-school program less than 40 days.
6. Students who attended the after-school program for at least 40 days will have lower rates of absenteeism than students who attended the after-school program less than 40 days.
7. Students who attended the after-school program for at least 40 days will have fewer discipline referrals than students who attended the after-school program less than 40 days.

The research design used for this study was causal comparative. According to Fraenkel and Wallen (2000), causal comparative research attempts to reveal reasons, or causes, for the existing conditions. Precisely, it attempts to identify the effects of the independent variable on the dependent variable. A causal comparative research design was considered most appropriate for this study due to the researcher's inability to manipulate the independent variable, which was the amount of after-school program participation. The independent variable of participation had two levels. One level denoted students who attended the after-school program for at least 40 days (regular attendees) and the other level denoted students who attended the program for less than 40 days (non-regular attendees).

To test each hypothesis, a one-way ANCOVA was used. ANCOVAs were used to determine if statistically significant differences existed between regular and non-regular attendees in measures of academic achievement, school attendance and discipline referrals while controlling for preexisting differences (covariates). All analyses were

computed at the .05 alpha level. The current study failed to detect any significant differences between regular after-school program attendees and non-regular attendees.

Discussion

The current study failed to identify any statistically significant differences between regular and non-regular after-school program attendees, which is consistent with other studies that have examined the effects of after-school program participation and found no program effects (Dynarski et al., 2008; Lauver, 2002). Jenner and Jenner (2007) included a program participation intensity component to their study on the effects of after-school program and found that the difference in program effects disappeared beyond 60 days of attendance. In their study, they found the greatest program effects were observed for students who attended the program between 30 and 50 days. They did not find any additional gain beyond 59 days. The current study set the threshold for at least 40 and less than 40 days. Consequently, their findings might explain why the current study did not find any significant differences between the group of regular attendees and non-regular attendees. In the current study, students who attended the program for 30-39 days would have been included in the group of non-regular attendees. According to the research of Jenner and Jenner (2007), these students were likely to have benefitted from even this level of program participation; hence no difference would have been found. However, the information gleaned from this study is significant and very meaningful.

Two types of academic measures were used in the current study. One type of academic measure was grades the participants earned in their classes and the other type was scores on the MCT2. On measures of the covariates for grades (math, reading, and language arts GPA), the average scores of the regular attendees was higher than that of

the non-regular attendees. However when average assessment test scores (MCT2 math and MCT2 language arts) were examined, the non-regular attendees had a higher averages. Although the differences were not statistically significant, this finding was troubling in that there appears to be inconsistencies in what the 2008 measures of academic achievement were actually measuring. Clearly, these results suggest that classroom grades are not consistent with what is being measured by the state assessments.

The failure to detect any significant differences between regular attendees and non-regular attendees in the measures of academic achievement is consistent with the research findings of other researchers (Durlak & Weissberg, 2007; Dynarski et al., 2008; Lauver, 2002). Moreover, the failure to detect significant differences based on the quantity of participation is consistent with the research of Shernoff (2010) who found that quantity of after-school program participation was not related to academic gains. Shernoff did find that academic gains were related to measures of program quality. Similar to the findings of Dynarski et al. (2004) and James-Burdumy et al. (2005), the average GPAs after program participation were lower than the GPAs prior to participation.

This finding could be interpreted as after-school program attendance having a negative effect on academic achievement, however at least one rival explanation seems more plausible. That being the case, the differences in expectations of different classroom teachers could justify the differences. The teachers who recorded GPAs for the 2008 academic year are not the same teachers who recorded the 2009 GPA. Although both sets of scores represent grade point averages, no data were gathered to determine what scores were calculated to determine those averages. It is very likely that the averages recorded include measures other than measures of pure content knowledge. For example, one

teacher may have included scores for completed homework while the other teacher did not. Consequently, the GPAs of different years may have been measuring different constructs. In comparing regular attendees to non-regular attendees, although all differences are not statistically significant, it becomes a matter of which group decreased the least. When gain scores for math and reading are examined, the averages of regular attendees decreased less than the averages of the non regular attendees. Regular attendees' math GPA decreased by.16 from 2008 to 2009; whereas, the non-regular attendees' average decreased by 2.31 points. With reading GPAs, the respective decreases were 1.29 points and 1.45 points. When changes in language arts scores are examined, the group of non-regular attendees had a smaller decrease (2.15) than regular attendees (2.19 points). Nevertheless, without a clear understanding of what the GPA actually measured, these differences are not really meaningful. What is meaningful is the inconsistency found in the analysis of academic measures.

Unlike the GPA measures, the validity and reliability of the MCT2 measures are consistent from year to year. Therefore, the interpretations of the MCT2 scores are more meaningful. Also unlike the results of GPA data analysis, the results of the analysis of MCT2 data revealed that growth was experienced by both groups. The average 2009 MCT2 scores (math and language arts) were higher than the average 2008 MCT2 scores. The group of regular attendees math MCT2 average increased by 3.07 points compared to an increase of 1.52 by the group of non-regular attendees. Although this difference was not statistically significant, it is meaningful. First, this finding casts a shadow of doubt on the legitimacy of the finding regarding the analysis of GPA data. While GPA data suggested that all students' math academic achievement decreased, this analysis indicated the exact opposite, all students' math achievement increased. Moreover, the increased

experience by the regular attendees more than doubled that of the non-regular attendees. In this age of high stakes testing, surely this information is meaningful to district personnel. The results of the study will assist the district personnel in determining whether or not the after-school program improved student achievement. Likewise, language arts MCT2 average scores for both groups increased and the increase experienced by the regular attendees (1.52) exceeded that of the non-regular attendees (.97). Therefore, while statistically significant differences were not observed, surely the change and the difference in the magnitude of change between regular and non-regular attendees is practically significant.

In addition to change in measures of academic achievement, non-statistically significant changes were observed in measure of absenteeism and discipline referrals. Both regular and non-regular attendees recorded more absences and discipline referrals while they were attending the after-school program. Unlike the validity of the GPA measures, the measures of absenteeism and discipline referral are both valid and reliable.

Although it is impossible to say after-school program attendance caused the increase of these undesirable behaviors, it can be said that program attendance did not improve them. However, not only did regular attendees have lower averages in absenteeism and number of discipline referrals before and after program attendance, but also their negative changes were not as pronounced. Regular attendees averaged .44 more absences and 1.35 more discipline referral during program participation than they did prior to participation; whereas, the non-regular attendees average changes were 1.93 and 1.74 respectively. Regardless of group, increases in absenteeism and number of discipline referrals is alarming and should be a cause of concern for school personnel because of the relationship between those variables and academic achievement. However, these finding

are consistent with the findings of James-Burdumy et al. (2008) who found that after-school program participants received more disciplinary actions than non participants. One hypothesis suggested by Canter and Canter (1992) for this finding was that after-school program behavior expectations may have been more relaxed than the school day behavior expectations and behaviors were tolerated or ignored in the after-school program setting. As a result, the students were punished in the school setting. However, the current study did not gather data that could be used to examine plausible explanations for the increases in absenteeism and number of discipline referral. However, these findings may trigger more thorough examinations of the schools culture and climate.

In conclusion, while the current study failed to reveal any statistically significant differences between regular and non-regular after-school program attendees, significant findings were revealed. As a result of these findings, the following conclusions were reached.

1. Grade point averages, calculated by different teachers, were not valid measures of academic achievement
2. Intensity of program attendance is not related to statistically significant difference in academic achievement.
3. Standardized assessments are more valid and reliable measures of after-school program effects

Recommendations for Further Research

Although many researchers have conducted studies on after-school programs, there is still a need to conduct further research to improve reading, language arts, and mathematics skills among the nation's students. One strategy to improve student

achievement is the implementation of adequate professional development for after-school program teachers. Professional development is a vital component that many after-school programs do not offer to their teachers. In order to achieve success, it is imperative that after-school program teachers are knowledgeable of the curriculum and the goals of the program. Unfortunately, after-school program staff members often do not receive the professional development and training needed to provide high quality programs (Mahoney, Levine, & Hinga, 2010).

Based on the after-school program conducted at Hampton High school, a research based reading program is highly recommended for future studies. Teachers need an assessment tool to measure students' performance after-school along with remediation and enrichment resources to enhance student achievement. The tool will also serve as an evaluation for administrators to evaluate teacher performance as well. According to research, the content and assessment should be evaluated to ensure teachers deliver well define lessons that address the skills and competencies (Grossman et. al, 2009).

For future studies, a longitudinal study on after-school programs is highly recommended. According to research, after-school programs that measure student performance after one year reveals no-to-minimal growth on standardized test scores (Vandell et al., 2007). A longitudinal study on the impact of after-school program would enhance various aspects of the study. The researcher could assess whether or not males showed academic growth compared to females. The longitudinal study would measure student performance based on consistent program participation.

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APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL

January 13, 2012

Andrea Temple
Curriculum & Instruction
Mailstop 9705
Mississippi State, MS 39762

RE: IRB Study #11-357: The Effect of After-School Programs on Student Achievement, Student Attendance and Student Behavior

Dear Ms. Temple:

This email serves as official documentation that the above referenced project was reviewed and approved via administrative review on 1/13/2012 in accordance with 45 CFR 46.101(b)(4). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection progr am. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at http://www.orc.msstate.edu/human/aahrpp.php.

Please refer to your IRB number (#11-357) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at nmorse@research.msstate.edu or call 662-325-3994.

Sincerely,

Nicole Morse
Assistant Compliance Administrator

cc: Debra Prince (Advisor)