THE RELATIONSHIP OF SCHOOL UNIFORMS TO STUDENT ATTENDANCE, ACHIEVEMENT, AND DISCIPLINE

by

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Liberty University

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Of the Requirements for the Degree

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Abstract

Russell Edward Sowell. THE RELATIONSHIP OF SCHOOL UNIFORMS TO SCHOOL ATTENDANCE, ACHIEVEMENT, AND DISCIPLINE. (Under the direction of Dr. Constance Pearson) School of Education, February,2012.

This causal-comparative study examined the relationship of school uniforms to attendance, academic achievement, and discipline referral rates, using data collected from two high schools in rural southwest Georgia county school systems, one with a uniforms program and one without a uniforms program. After accounting for race and students with disabilities status, School A (with uniforms) had significantly better attendance and somewhat fewer minor behavior infractions, but trended lower in standardized math scores and more intermediate and major behavioral infractions than School B (without uniforms). These findings failed to demonstrate an unambiguous advantage of school uniforms, consistent with the mixed results across reports in the published literature. Implications and suggestions for further research are detailed.

Key Words: school uniforms, discipline, attendance, student achievement, AYP (adequate yearly progress)

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CHAPTER ONE: INTRODUCTION

School uniform policies are designed to foster student outcomes, but the effect of school uniforms on attendance, standardized test scores, and discipline referral rates in rural public high schools in southwest Georgia was unclear. Educators and politicians across the country have considered school uniforms as a vehicle to achieving school safety, student discipline, and student achievement (Breitenbach, 2010; Brunsma & Rockquemore, 1998; McGloin, 2009; Rangaard, 2008). To add to the pressure on schools to foster achievement, the signing of No Child Left Behind Act (NCLB, Public Law 107–110) by President George W. Bush on January 8, 2002 ushered in an era of increased accountability for schools across the nation, mandating that every school achieve a high standard for Adequate Yearly Progress (AYP).

Responding to these pressures, school uniforms are becoming increasingly common in public schools. The National Center for Educational Statistics (NCES) reported that 3% of public schools required students to wear uniforms during the 1995-1996 school year (NCES, 2010). Of those schools, 26% initiated the uniform requirement before 1994, 40% initiated it between 1994 and 1996, and 34% initiated the uniform requirement after 1996 (NCES, 2010). As of the 2008-2009 school year, the number of public school students required to wear uniforms had risen to 18%. While many schools have not required formal school uniforms, as of 2008, 55% of public

schools required that students comply with a strict dress code (National Center for Educational Statistics, 2010).

However, this increase in school uniform programs implementation may not be fully based in evidence from empirical studies demonstrating that school uniforms 'work' in fostering student outcomes. The proponents of school uniforms believe that the uniform requirement helps create that necessary positive school environment. Creating a sense of order, uniformity, and a positive school environment are essential elements in a successful educational environment (Bruchey, 1998). When teachers and students feel capable of learning and achieving in their school because of a positive environment and culture, success is inevitable; "Posner said a 1994 scientific study of school uniforms found that educators and students alike thought highly of students wearing uniforms" (as cited in Haney, 2000, p.8). Supporters of school uniforms contend that uniforms bring tangible benefits, including lower student victimization, decreased gang activity and fights, increase student learning and positive attitudes toward school, and contribute to decreased occurrences of behavior problems (Beresford, 2003; Bodine, 2003; Sommers, 2001).

However, some empirical studies have failed to find a measurable benefit to school uniform programs (Breitenbach, 2010; Brunsma & Rockquemore, 1998; McGloin, 2009; Rangaard, 2008). Further, challengers to school uniforms argue that such policies infringe upon student First Amendment rights to freedom of expression (Isaacson, 1998), provide only a temporary respite to a much larger problem, and insist that the "dressing for success" idea is simply a myth (Stainburn, 2006, p. 14).

The students of rural Georgia are at risk for not finding success in school, but no studies to date have explored the effects of uniform programs on attendance, standardized test scores, and discipline referral rates for these students. Because of the importance of fostering quality educational outcomes for all children, and because of the mandates that NCLB places on educators to ensure that no child is left behind, it is important to explore the possibility that a school uniform program may be the answer. The goal of the present research was to fill this void.

Background

Uniforms have been a staple component of private schools for many years, but have increased in public schools following President Clinton's State of the Union Address in January 1996, which brought uniforms to the forefront. Clinton (1996a) said, "Our second challenge [as a nation] is to provide Americans with the educational opportunities we will all need for this new century" (para. 24). One part of that challenge was the desire for all schools to include character education as a component of their curriculum to teach the students good values and good citizenship. The President stated, "And if it means that teenagers will stop killing each other over designer jackets, then our public schools should be able to require their students to wear school uniforms" (Clinton, 1996a, para. 27).

In his memorandum to the Secretary of Education, to introduce the new *Manual on School Uniforms* created by the Department of Education and Department of Justice, President Clinton (1996) reiterated his belief that "quality education is critical to America's future and the future of our children and families," (1996a, para. 1) and that "maintaining safe and disciplined schools is an urgent priority in every community"

(Clinton, 1996b, para.6). President Clinton instructed that the manual be distributed to every one of the 16,000 public schools in the United States, as well as to interested members of the public, and to appropriate organizations that represent parents, teachers, and to School Administrators. President Clinton (1996a) cited the success of the Long Beach, California school district's recent uniform implementation as well as the promising results seen by school systems in various states across the country to encourage schools to adopt this and other initiatives "to make our schools safe, drug-free, and crime-free" (para. 7). This landmark year of 1996 began a new wave of school uniform programs nationwide, as 34% of all public school uniform programs were instituted after 1996 (NCES, 2010).

The advent of No Child Left Behind (NCLB) in 2001 ushered in a new era of increased accountability for schools across the nation, increasing test score requirements and requiring that all students read and complete math at grade level by the year 2014 (U.S. Dept of Education, 2007). The U.S. Department of Education's parent brochure addressing No Child Left Behind affirms that this legislation will raise academic standards for all children (U.S. Dept of Education, 2008). One of the cornerstones of NCLB, Adequate Yearly Progress (AYP), serves as "an annual measure of student participation and achievement of statewide assessments and other academic indicators" (Georgia Department of Education [GADOE], 2005, para. 1). NCLB mandated that every state set high academic standards, implement a testing program which is aligned to those standards in order to measure student achievement, and hold individual school districts accountable for the academic success of their students. AYP serves as one part of the Single Statewide Accountability System (SSAS), which "integrates both federal

and state requirements dealing with educational accountability… [and] makes the resulting rewards and consequences virtually identical for all Georgia Schools" (GADOE, 2005, para. 2). In order to pass AYP, each school and district is required to meet the following three criteria:

1. Each school and all student groups (comprising at least 40 members) must have a 95% or greater participation rate on selected state assessments in Reading/English Language Arts and Mathematics.
2. Each school and all student groups must meet or exceed the state's Annual Measurable Objectives (AMO) with regard to the percentage of students who meet the standard or exceed the standard on state assessments in Reading/Language Arts and Mathematics.
3. Each school and all student groups must meet the standard or show progress toward meeting the standard on a second indicator. Second indicators include graduation rate and attendance rates. (GADOE, 2005, para. 3)

Annual Measurable Objectives (AMO) assessment standards increase each year until, by the 2013-2014 school year, the AMOs will reach 100 percent. This means that by 2013-2014, 100 percent of the state of Georgia students will be required to pass the Reading/English Language Arts and Math Georgia High School Graduation Test (GHSGT). Reaching AYP goals presents challenges for school administrators (GADOE, 2005).

Given these pressures to perform, school administrators are seeking answers. School uniforms may represent a solution to the problem of increasing student outcomes, but no studies to date have explored the effect of school uniforms policies on attendance,

academic achievement, and discipline referral rates in rural Georgia, where students are at risk for not graduating from high school. This study helps to fill some of the gaps in our knowledge concerning the empirical efficacy of school uniform programs.

Problem Statement

School uniform policies are designed to foster positive student outcomes, but no published reports to date investigate the effects of school uniforms on attendance, standardized test scores, and discipline referrals in rural public high schools in southwest Georgia. Georgia high school graduation rates are among the lowest in the nation, lower still in rural Georgia, and particularly low for African American students and students with disabilities (Georgia Humanities Council, 2004; 2010). In an effort to meet the AYP mandates of NCLB, a rural school system in southwest Georgia, prior to the 2007-2008 school year, adopted a school uniform policy that applied to every student in the county's high schools. However, the efficacy of this uniforms program on attendance, standardized test scores, and discipline referral rates has not been empirically assessed. A study was needed to analyze the effects of uniforms on rural Georgia high school students and to provide information for future decisions regarding the use of uniforms in public schools.

Purpose Statement

The purpose of this study was to determine the possible effects of a school uniforms program on student behavior, achievement, and attendance in a rural southwest Georgia school high school system during the 2010-2011 school year. This quantitative study was conducted using causal comparative design, which sought to provide an objective assessment of the use of a uniforms program in a particular southwest Georgia school district. This study contrasted two schools, one with a school uniforms program

and one without a uniforms program. The analysis plan accounts for race and students with disabilities (SWD) status because these students are at risk for poor academic outcomes. Data were collected from the Georgia State Department of Education website and from the school district. Analysis of covariance (ANCOVA) was used to determine the effects of school uniforms (the independent variable) on the dependent variables of attendance, academic achievement, and discipline referrals, with race and SWD status serving as covariates.

Significance of the Study

In an era when teachers are progressively choosing classroom teaching methods based on research, school uniforms policy decisions are, generally, not based on research. As Murray (1997) observed, "Despite this lack of research, school districts across the country have implemented school uniforms hoping to improve student attendance, maintain student discipline, ensure student achievement, promote student self-esteem, and enhance school climate" (p. 106). Clearly, studies are needed so that school districts, schools, and parents, can make evidence-based decisions. This study is important because this line of investigation can potentially:

1. Help school districts to make informed decisions regarding uniform policies.
2. Inform the academic communities by providing empirical evidence to test theory.
3. Inform governmental agencies at state and federal levels towards the judicious use of public funds.
4. Foster meeting the AYP mandates of NCLB.
5. Assist the parents in choosing school districts to live in.

6. Help more individual students earn their high school diplomas.

Rural schools represent an important area of study, especially in the state of Georgia. One-third of Georgia's schools are located in rural areas, and due to the continued consolidation of rural schools, Georgia has the "largest rural schools in the nation" (Georgia Humanities Council [GHC], 2004, para. 5). Further, many of the rural schools in Georgia serve students who live in poverty. Because of AYP mandates, these rural school districts are more concerned than ever about raising test scores and student performance, particularly in large schools with overwhelming numbers of students from poverty-stricken families (GHC, 2004).

Further, Georgia's rural schools have a high proportion of Students with Disabilities (SWD) and high proportions of Black students (Cox, 2009; Georgia Humanities Council [GHC], 2004). Black students and Students with Disabilities (SWD) are at risk for not graduating from high school, and generally score lower on standardized tests in Georgia (Cox, 2009). Therefore, the present study contributes to our greater understanding of school uniforms policy by accounting for race and SWD status when contrasting schools with and without a uniform policy in absenteeism, standardized test scores, and in disciplinary referrals.

In summary, this line of investigation is valuable towards addressing the needs of rural Georgia schools, and perhaps to school districts elsewhere. Meeting the mandates of AYP presents challenges, and the results of this study may help decision makers to determine whether a uniform policy would help towards achieving their goals.

Research Questions

1. Is there a significant difference between School A (with uniforms) and School B (without uniforms) in absenteeism (days absent) in school year 2010-2011, after race and students with disabilities status are accounted for?
2. Is there is a significant difference between School A (with uniforms) and School B (without uniforms) in scores on the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for?
3. Is there a significant difference between School A (with uniforms) and School B (without uniforms) in discipline referrals in school year 2010-2011, after race and students with disabilities status are accounted for?

Null Hypotheses

For each of the three research questions listed above, there are corresponding hypotheses to assess the efficacy of school uniforms on absenteeism, test scores, and discipline infractions, while accounting for race and SWD status. Each hypothesis is stated in null form.

Research Question 1: Attendance

Hypothesis 1: Attendance. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in the number of days absent in school year 2010-2011, after race and students with disabilities status are accounted for.

Research Question 2: Georgia High School Graduation Test Scores

Hypothesis 2: English Language Arts. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in scores on the English Language Arts portion of the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for.

Hypothesis 3: Math. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in scores on the Math portion of the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for.

Research Question 3: Discipline Referrals

Hypothesis 4: Level-1 (minor) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in the number of Level-1 (minor) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Hypothesis 5: Level-2 (intermediate) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in the number of Level-2 (intermediate) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Hypothesis 6: Level-3 (major) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in in the number of Level-3 (major) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Identification of Variables

Student attendance data, as reported by the PowerSchool Student Information System, were provided to the researcher by the local education system. Absences were any time, excused or unexcused, a student was not present at school. In the state of Georgia, whether the absences are excused or unexcused, fifteen percent of a school's population cannot miss over 15 days without the school being penalized on their AYP annual report (GADOE, 2010). For the present study, absenteeism was operationally defined as the number of days absent per student for school year 2010-2011.

Georgia High School Graduation Test (GHSGT) ELA (English/Language Arts) data were provided to the researcher by Georgia Department of Education and local school district. This test is a state required, curriculum-based test which is administered during the11th grade and fulfills one portion of the graduation requirements for the state of Georgia. Students are given up to five opportunities to pass this test during the 11th and 12th grade (USDOE, 2008).

Georgia High School Graduation Test (GHSGT) math data were provided to the researcher by Georgia Department of Education and local school district. This test is a state required, curriculum-based test, which is administered during the 11th grade and fulfills one portion of graduation requirements for the state of Georgia. Students are given up to five opportunities to pass this test during the 11th and 12th grade (USDOE, 2008).

Student Disciplinary Referrals data, as reported by the PowerSchool Student Information System, were provided to the researcher by the local education system. According to GADOE (2010), The Behavior Support process, developed pursuant to the Improved Student Learning Environment and Discipline Act of 1999, "shall be designed

to create the expectation that the process of disciplining students will include due consideration, as appropriate in light of the severity of the behavioral problem, of student support services that may help the student address behavioral problems and that may be available through the school, the school system, other public entities, or community organizations" (O.C.G.A.§ 20-2-735 (c), p.1). Discipline referrals are categorized as level-1 (minor) infractions, level-2 (intermediate) infractions and level-3 (major) infractions.

Terminology and Operational Definitions

Attendance: In the present study, attendance was inferred from absenteeism, operationally defined as days of school in one year.

Adequate Yearly Progress (AYP): AYP is one of the cornerstones of the federal No Child Left Behind Act of 2001 (NCLB). AYP is an annual measure of student participation and achievement of statewide assessments and other academic indicators. Accountability is key to NCLB: the State of Georgia, each local school district, and each individual school is held accountable for the academic success of students. AYP requires that schools meet standards in three areas: Test Participation (for both Mathematics and Reading/English Language Arts), Academic Performance (for both Mathematics and Reading/English Language Arts), and a Second Indicator. AYP holds each local school district and each individual School Accountable for the academic success of students. AYP comprises one component of Georgia's Single Statewide Accountability System (SSAS) (GADOE, 2010).

Annual Measureable Objectives (AMO): AMO is the portion of AYP (Adequate Yearly Progress) which defines the percentage of students per school who meet or exceed standards on state assessments in English language arts and in math.

Comprehensive Assessment of School Environment (CASE): CASE is a measure of school climate which is measured by asking students, teachers, and parents about characteristic of the school's environment. It measures shared perceptions of climate rather than an individual person's belief. (NASSP, 1987).

English Language Arts (ELA): ELA is a standard, common core English language arts class.

English Language Learners (ELL): ELL students are in the process of acquiring English because their first language is other than English. Other terms commonly found in the literature include: language minority students, limited English proficient (LEP), English as a second language (ESL), and culturally and linguistically diverse (CLD) (Cambridge, 2011).

Georgia Department of Education (GADOE): The Georgia Department of Education (GADOE) oversees public education throughout the state of Georgia. GADOE ensures that laws and regulations pertaining to education are followed and that state and federal money appropriated for education is properly allocated to local school systems. GADOE also provides education-related information to students, parents, teachers, educational staff, government officials, and the media (GADOE, 2010).

Georgia High School Graduation Tests (GHSGT): GHSGT are the standardized, state-required curriculum-based tests which are administered during students' 11th grade year and fulfill one portion of graduation requirements for the state of Georgia. Students

are given up to five opportunities to pass each of these tests during their 11th and 12th grade years (USDOE, 2009).

Georgia Humanities Council (GHC): The Georgia Humanities Council is a nonprofit organization working to ensure that humanities and culture remain an integral part of the lives of Georgians. GHC partners with organizations across Georgia to conduct the following programs: Scholarship and Leadership: New Georgia Encyclopedia, Book Projects with the University of Georgia Press, Governor's Awards in the Humanities; Culture and Community: New Harmonies, Prime Time Family Reading Time, Civic Reflection; Curriculum and Schools: National History Day in Georgia, We the People: The Citizen and the Constitution, and We the People: Project Citizen (GHC, 2010).

Indicators/Second Indicators: Each school must meet the standard or show progress on a Second Indicator, such as attendance or graduation goals. For Second Indicator, the minimum group size is 40 or 10% of the students enrolled in AYP grades, whichever is greater (with a 75 student cap). (GADOE, 2010).

Internal Review Board (IRB): The Liberty University Institutional Review Board (IRB) exists to protect the rights and welfare of human participants volunteering in any academic research study. All human subjects research at Liberty University must be approved by the IRB. (Liberty University, 2011).

Local Educational Agency (LEA): Local Educational Agency is synonym for school district, which typically operates as the local organizational unit for public, primary, and secondary schools (GADOE, 2010); the local school system (USDOE, 2008).

Needs improvement: A school or school system is categorized as *needs improvement* when it fails to make AYP for two or more consecutive years in the same subject or in the same subject and grade (USDOE, 2008).

National Association of Secondary Principals (NASSP): NASSP is a national organization of secondary school principals and assistant principals that provides up-to-date information to "promote excellence in middle level and high school leadership through research-based professional development, resources, and advocacy so that every student can be prepared for postsecondary learning opportunities and be workforce ready" (NASSP, 2011).

No Child Left Behind (NCLB): The NCLB Act of 2001 (Public Law 107 - 110), an act to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind, is a federally mandated program established to meet the needs of all students. NCLB was established as an accountability system for schools to use to ensure all student needs are being met.

Office of Student Achievement (OSA): OSA is a state agency that follows state and federal mandates to create uniform performance-based accountability system for K-12 public schools. OSA is responsible for publishing the State Report Card and for creating awards and consequences within the SSAS (USDOE, 2008).

Single Statewide Accountability System (SSAS): The SSAS is a statewide accountability program that defines progress based on predetermined criteria (USDOE, 2008).

State Report Card: The State Report Card is an official report card for all of Georgia's K-12 public schools, prepared by OSA. This report card serves as an annual

report for each school and system, as well as the entire state, and it is made available to the public (USDOE, 2008).

Students with Disabilities (SWD): According to Americans with Disabilities Act (ADA), SWD status applies to any person attending a public or charter school who (1) has physical or mental impairment that substantially limits one or more major life activities; or (2) has record of such impairment; or (3) is regarded as having such impairment. SWD students usually have an Individualized Education Program (IEP) to guide special education instruction (education.com, 2011).

The National Center for Educational Statistics (NCES): The National Center for Educational Statistics (NCES) is the primary federal entity for collecting and analyzing data related to education. (USDOE, 2008).

United States Department of Justice (USDOJ): The USDOJ system is designed to enforce the law and defend the interests of the United States according to the law; to ensure public safety against threats foreign and domestic; to provide federal leadership in preventing and controlling crime; to seek just punishment for those guilty of unlawful behavior; and to ensure fair and impartial administration of justice for all Americans (USDOJ, 2011).

Summary

School uniform programs are increasingly common in public school systems because school administrators are under increasing pressure to foster high student achievement. Of particular interest are students in rural Georgia, because these students are at risk for not graduating from high school. While school uniform programs hold promise, no studies to date explore the effects of a uniform program on attendance,

academic achievement, and discipline referral rates in rural Georgia. The following chapter is a review of the literature relevant to school uniforms, the history of school uniforms, and the relationship between school uniforms and student outcomes. This literature synthesis leads to the methodology employed in the present study of school uniforms and student outcomes.

CHAPTER TWO: REVIEW OF THE LITERATURE

History of School Uniforms

This review of the history of school uniform programs in the United States begins with who first implemented uniforms, then turns to how and why the use of uniforms gained popularity. Historically, uniform policies were utilized by private schools, mainly Catholic private schools (Brunsma, 1998; Yeung, 2009). Drussel (2005) noted the popularity of the school uniform among "more advantaged social groups, such as the White students in elitist private schools," which adopted what was referred to as, "the 'preppy look': khaki or gray trousers, worn with Oxford shirts with button-down collars in white or light blue" (p. 191). This "preppy look" has become the standard for school uniforms in the United States (Drussell, 2005, p.191).

In the article, "School Uniforms, Academic Achievement, and Uses of Research," Bodine (2003) related the history of uniforms to the reason for school uniform program implementation. Bodine (2003) cited examples of school uniform programs implemented during the late 1800s and early 1900s in an attempt to reduce the "effects of social disparity" (p. 67), including the Winthrop National and Industrial College's 1894 implementation of uniforms sought to do away with "distinctions of wealth" (p. 67) and Muncie, Indiana high school's 1932 uniform proposal, which sought to eliminate class distinctions. Drussel (2005) compared the history of school uniforms in Argentina and

the United States, and reported that from the beginning, uniforms were "tied to the disciplining of 'unruly', 'savage', 'untamed' bodies: that is, the bodies of those who were not able to perform self-regulation or self-government: women, Black, Indian, poor classes, immigrants, toddlers or infants" (p. 191). Drussel (2005) detailed the introduction of uniforms into federal Indian boarding schools in an attempt to civilize Native American students.

Bodine (2003) noted a shift during the 1980s in the rationale regarding why uniforms should be implemented. This shift replaced the discussion of uniforms to create a more socially equal school of students, shifting to a discussion of the relationship between school uniforms and a variety of school problems and concerns, including gang violence, school climate, peer pressure, self-expression, and truancy. After claims of success with uniforms in private schools, some public school reformers began to consider possible links between their schools and private schools in order to foster success. Yeung (2009) pointed to schools in Japan and South Korea which utilized school uniform policies and how their students "routinely outperform[ed] American children of the same age on international standardized assessments" (p. 849).

School uniforms were not noted as a primary factor relating to school success in Catholic school literature, but even prior to President Clinton's State of the Union Address in 1996 (Clinton, 1996a), many public school administrators began "to consider uniform policies to improve the overall school environment and student achievement" (Brunsma & Rockquemore, 1998, p. 53). The pressure to lead an academically successful school and the idea that uniforms might somehow be tied to private school success lead many public school administrators to propose uniform policies for their

schools. By the late 1980s, public schools in Baltimore, Maryland, Washington, D.C., Miami, Florida, and Detroit, Michigan had implemented either voluntary or mandatory school uniform policies. By 1990, public school uniform use had spread to Chicago, Illinois, and New Haven, Connecticut (Stanley, 1996).

In 1994, Long Beach Unified School District, Long Beach, California, became the first public school system in the United States to require uniforms in all elementary and middle schools (Cohn, 1996). Their program, which began as a pilot program in 11 of 70 Long Beach elementary and middle schools, required that all students comply with the required uniform dress code, but allowed individual schools "to determine their own choice of uniform, incentives, compliance measures, and means for providing financial assistance to indigent families" (Cohn, 1996, p. 1). Less than 1% of students chose to opt out of the uniform policy, and in the year following the implementation of the policy, incidents of school crime, fights, sex offenses, weapons offenses assault and battery offenses and vandalism all decreased by at least 18%. (U.S. Department of Justice [USDOJ], 1996). Kick Van Der Laan (as cited in USDOJ, 1996) of the Long Beach Unified School District explained, "We can't attribute the improvement exclusively to school uniforms, but we think it's more than coincidental" (p. 1).

Theoretical Framework

Social learning theory (SLT) provided the theoretical framework for the present study (Bandura, 1986; Dollard & Miller, 1950). A positive school climate results in a more effective learning environment (Murray, 1997). Murray (1997) stated, "Research has also shown school and classroom climate to be related to student achievement as well as how students behave and feel about themselves, their School and other individuals" (p.

106). This effect of school climate on learning is explained by social learning theory, developed at Yale University in the 1930s (Bandura, 1986; Dollard & Miller, 1950).

In their publication *Personality and Psychotherapy*, Dollard and Miller (1950) defined social learning theory as a combination of "the vitality of psychoanalysis, the rigor of the natural-science laboratory, and the facts of culture" (p. 3), and concluded that "personality is learned" (Dollard & Miller, 1950, p. 232). Dollard and Miller (1950) believed that the focus of social learning theory was the socialization of children and how society teaches children to act as adults. Social learning theory continued to evolve and soon included the idea that students tend to imitate certain behaviors because those behaviors are reinforced (Dollard & Miller, 1950).

In the 1960s, Bandura and Walters advanced social learning theory beyond simple reinforcement by observing that new behaviors can be acquired simply by watching a model (Bandura & Walters, 1963; Miller, 1983). Bandura (1986) continued to work with social learning theory, eventually incorporating cognition, and the field of social cognitive theory emerged. Bandura (1986) defined learning as "knowledge acquisition through cognitive processing of information" (p. xii). Bandura was less concerned with exact behavior duplication and more concerned with observational learning as a means to learn from a model that can, but does not necessarily have to, be imitated (Miller, 1983). According to Bandura's theory, students serve as models for one another, and while they will not imitate exactly the behaviors of other students, they will learn through observation in order to incorporate those behaviors into their own lives.

Uniforms may help facilitate this behavior modeling. As more students begin to behave in an appropriate way because of school uniforms, there are more students serving

as models for other students to follow. Brunsma (1998) asserted, “If uniforms are considered to facilitate the social control of student behavior, then one may expect that students in uniforms will display behaviors consistent with the institutional goals of the school” (p.54). Institutional goals include decreased behavior problems, increased attendance, and increased academic achievement.

While both Murray (1997) and Brunsma (1998) made the assumption that uniforms would create a better climate and thereby promote institutional goals, their assumptions have not been tested in a rural Georgia school system.

Perceived Benefits of School Uniforms

The *Manual on School Uniforms* (USDOJ, 1996) cited examples of school uniform policies from eight school systems in the United States to serve as model school uniform policies. “States and local school districts must decide how they will ensure a safe and disciplined learning environment” (USDOJ, 1996, p. 3) . The *Manual on School Uniforms* listed examples of school districts which had adopted school uniform policies as part of their strategy to ensure a safe and disciplined environment, with the implication that the uniform policy would help move the school toward a more safe and disciplined learning environment. The Department of Justice (USDOJ, 1996) cited eight examples of support for disadvantaged students provided by the uniform policy, as well as the results of the policy’s implementation. Findings reflected a positive correlation between uniforms and some aspects of school climate, crime rates, attendance rates, and student behavior.

The same year as the introduction of the *Manual on School Uniforms*, Murray (1997) studied 306 middle school students in the Charleston County School System in

South Carolina to determine the effects of uniforms on school climate in two well-matched middle schools. Murray (1997) used the NASSP's Comprehensive Assessment of School Environments (CASE) School Climate Surveys to evaluate how the students from two middle schools felt about the climate in their school. The two middle schools were almost identical with regard to "racial composition, state categorization, and numbers of students receiving free/reduced price lunch" (p. 107), but they were different in that School A had a uniform policy while School B did not. Murray (1997) found that students in School A rated their school climate as more positive than that of students in School B on 9 of 10 subscales, including security and maintenance, teacher-student relationships, behavioral values, guidance, parent and community-school relationship, instructional management. Murray (1997) asserted that because of his study results, school administrators had the research they needed to support the use of a uniform policy locally. Even if they opposed uniform policies in the past, Murray (1997) asserted that his research results were sufficient to recommend the implementation of a uniform policy if school administrators desired to improve the school climate (Murray, 1997).

Other researchers were concerned with the use of school uniforms to combat problems with safety, particularly with regard to concerns over gang violence (Caruso, 1996; DaCosta, 2006; Kizis, 2000; Konheim-Kalkstein, 2006; Stanley, 1996). Stanley (1996) pointed to a variety of safety reasons that prompted schools to consider uniforms, including "the headline-grabbing aspects of school safety," (p. 426) such as gang violence, weapons and assaults. Stanley (1996) cited Kaiser's seven benefits of uniforms that were traditionally espoused by uniform proponents. These benefits included

"… the belief that (a) discipline and (b) respect for the teacher are increased; (c) group spirit is promoted; (d) academic standards are maintained through uniformity; (e) strain on parental budgets is eased and (f) there is a decrease in the race for social status, accompanied by an ability to de-emphasize socioeconomic differences by limiting 'fashion statements'; and (g) intruders on the school campus can be more easily identified." (Stanley, 1996, p. 426)

As evidence to support these assertions, Stanley (1996) pointed to first-year results from the longitudinal study on mandatory school uniforms in the Long Beach Unified School District. As previously discussed, Long Beach Unified saw an overall decrease in suspensions and reported crimes as well as a perceived positive influence on student behavior by both parents and administrators. While Stanley (1996) noted that these were merely preliminary results from the first year of the program, but that the data suggested that the uniform program had a positive impact on school safety.

While some have suggested that school uniforms may help to create a more positive school climate with less violence, other researchers have proposed that uniforms could improve attendance and academic performance (Caruso, 1996; DaCosta, 2006; Kizis, 2000; Konheim-Kalkstein, 2006). The *Manual on School Uniforms* (USDOJ, 1996) indicated that school uniforms help students to better concentrate on their work. Caruso (1996) stated that students who attended schools that had a uniform policy attended school "more frequently, and when in school concentrate[d] on their education rather than their social arrangements" (p. 86). Caruso (1996) concluded that, as a result of higher attendance rates and increased concentration from the school uniform policy, academic performance increased.

Arguments Against School Uniforms

Konheim-Kalkstein (2006) reviewed the empirical literature and concluded that results conflicted, such that published research on the possible relationship between school uniforms and reduced incidences of violence or improvements in school climate had yielded no definitive conclusions. Indeed, for every published study supportive of school uniforms in reduced violence or in improved school climate, attendance rate, or academic performance (Brunsma & Rockquemore, 1998; McCarthy & Moreno, 1999; Morgan, 2007; Sommers, 2001), another published study is supportive of the opposite viewpoint (Gouge, 2011; Hoffler-Riddick, 1998; Johnson 2010; Sher, 1996; Washington-Labat, 2003). Caruso (1996) argued that the opponents of school uniforms failed to believe that violence or gang activity would be reduced by the uniforms, because the violent acts at school resulted from a variety of factors that lie outside of the school's control, such as home life, lack of positive influence by parents, drug use, and family values. Caruso (1996) emphasized that gang colors are only a small part of the gang culture, and students in a gang would find another way to show their affiliation if the school policy prohibits wearing certain colors. Some have argued that school uniform policies are unacceptable because uniforms restrict freedom of expression, a fundamental right under the First Amendment of the United States Constitution.

First Amendment Relationship to the Utilization of School Uniforms

The most prevalent argument against school uniforms has involved the First Amendment rights of students (Caruso, 1996; Kizis, 2000; Konheim-Kalstein, 2006). School districts would not otherwise want to find themselves facing a legal battle over their uniform policy, so it is important to understand how uniform policy could infringe

on a student's rights. Regarding the First Amendment constitutionality of a Louisiana school district's mandatory public school uniform program, the U.S. Court of Appeals for the Fifth Circuit (Canady v. Bossier Parish School Board, 240 F.3d 437, U.S. Ct. App. 6th Circuit) found the policy constitutional.

The court found that "improving the educational process" (as evidenced by the school district's assertion that the uniform policy reduced disciplinary problems) was an important and substantial government interest. In upholding the imposition of mandatory uniforms, the court noted that the school's policy was "viewpoint-neutral" and that students still could express themselves through other mediums during the school day. (Madrid & Garcia, 1999, para 16.)

However, "school officials do not have free reign to abridge students' constitutional rights" (Madrid & Garcia, 1999, para 10). Students' First Amendment Rights are usually not obstructed by dress code policies unless said policy is intended to suppress a specific viewpoint or make the dress requirements more restrictive than is actually necessary in order to pursue a particular government interest (Madrid & Garcia, 1999). Determining whether a student's First Amendment rights have been violated because of school uniforms is a multi-step process that includes analyzing the type of speech, the type of restriction, the O'Brien analysis (of symbolic speech and expression, detailed below), and the surrounding context (Mitchell & Knechtle, 2003).

Type of Speech. The Supreme Court has recognized two different types of speech: pure speech and symbolic speech (Mitchell & Knechtle, 2003). All pure, also labeled as verbal speech, receives First Amendment protection. However, obscenities receive less protection. With regard to symbolic speech, the courts have utilized a two-

pronged test to determine definition. Mitchell and Knechtle (2003) stated the two parts of the test; "(a) was there an intent to convey a particular message and (b) was there a great likelihood that the message would be understood by those who viewed it" (p. 489). Because nonverbal acts can communicate information, the courts have considered the First Amendment to protect some actions as forms of symbolic speech. Since student selection of attire satisfies both parts of the test, it is considered symbolic speech (Mitchell & Knechtle, 2003). Studies have shown that certain attire can convey messages about a person's attitude, values, and moods, as well as communicate with others and shape the way other people see the individual (cited in Mitchell & Knechtle, 2003).

Type of Restrictions. The Supreme Court, in *Spence v. Washington* (1974), communicated two restrictions which symbolic speech must meet in order to be protected by the First Amendment: content-based restrictions and content-neutral restrictions. Content-based restrictions involve eliminating a certain conduct by prohibiting the expression of one particular viewpoint. Since school uniforms eliminate all choices with regard to student dress, school uniform policies are not choosing one viewpoint to prohibit. Content-neutral restrictions regulate the time, place, and manner of speech in order to avoid the negative behavior unrelated to the content of the speech itself. Since school uniform policies completely ban freedom of expression, uniforms are considered to be content-neutral. Because uniform policies fall into the category of content-neutral regulations, they are said to satisfy the "Spence test" and are therefore protected by the First Amendment (Mitchell & Knechtle, 2003, p. 490).

The O'Brien Analysis. The Supreme Court has determined a four-prong test, known as the O'Brien Test, in order to analyze statutes that relate to symbolic speech and expression (Mitchell & Knechtle, 2003). The Court has deemed a regulation to be just if:

> It is within the government's interest, (b) it furthers an important or substantial government interest, (c) the government is unrelated to the suppression of free expression, and (d) the incidental restriction on First Amendment rights is no greater than necessary to further that interest (United States v. O'Brien, 1968 cited in Mitchell & Knechtle, 2003, p. 490)].

Courts have used the O'Brien test to determine whether or not a content-neutral invasion of the right to free speech is in violation of the First Amendment. *Texas v. Johnson* (1989) resulted in a Supreme Court decision which determined that the context surrounding the speech must also be taken into consideration when trying to determine whether the regulation of that speech violates a person's First Amendment rights (Mitchell & Knechtle, 2003).

Court Cases Concerning School Uniforms

Tinker v. Des Moines Independent Community School District. *Tinker v. Des Moines Independent Community School Distric*t involved three public school students in Des Moines, Iowa who were suspended from school because they wore black armbands as a protest against the government's policy in Vietnam. While the District Court dismissed their complaint on the grounds that the Board had acted within their power, the Court of Appeals, in a landmark decision, held that the petitioners did not disrupt or impinge on the rights of others. First Amendment rights are available to teachers and students, and prohibiting freedom of expression that does not interfere with school

discipline is not allowed under the First Amendment (*Tinker v. Des Moines Independent Community School District*, 1969).

DePinto v. Bayonne Board of Education. Because of the ruling in *Tinker v. Des Moines*, schools were required to "demonstrate, before prohibiting a student's speech, that the speech will 'substantially interfere with hither work of the school or impinge upon the rights of other students'" (cited in *DePinto v. Bayonne*, 2007, p.18). In the case of *DePinto v. Bayonne*, two students wore buttons to school to protest the uniform policy in 2007. The buttons depicted a photograph of Hitler Youth in which many boys were dressed exactly alike. Over the photograph was the phrase "No School Uniforms" inside a red circle with a slash through it. The students were threatened with suspension if they wore the buttons again, and the school district informed the parents that "[t]he background images on this badge are considered objectionable [,] are offensive to many Bayonne citizens [,] and do not constitute free speech" (cited in *DePinto v. Bayonne*, 2007, p.18). The court ruled that the students should be allowed to wear the button to school, but they also ruled that the school had the right to take action if the button began to hinder students' work (*DePinto v. Bayonne Board of Education*, 2007).

Bannister v. Parades. In *Bannister v. Parades*, the court deemed the New Hampshire school's uniform policy unconstitutional because the school board was not able to prove that the wearing of dungarees inhibited the student's learning. The court determined that the principal and school board's experience in education did not qualify them as experts in the field of education for the purposes of determining whether or not someone's dress was detrimental to the learning environment (*Bannister v. Paradis*, 1970).

Wallace v. Ford. In *Wallace v. Ford*, a public high school in Arkansas had a strict dress code which clearly specified what students could and could not wear. The court ruled that the school could prohibit some types of clothes because they could be a distraction to student learning, such as short skirts. The court also ruled that it was unconstitutional to prohibit other types of clothes, such as pants with frayed places and tie-dyed clothing because there was no proof that these items inhibited students' learning (*Wallace v. Ford, 1972).*

Lowry v. Watson Chapel School District. In *Lowry v. Watson Chapel School District*, a group of students and parents filed suit against the Watson Chapel School District in Arkansas. They claimed the uniform policy violated the students' First Amendment rights to freedom of expression because it prohibited all logos other than those specific to the school. The court upheld the uniform policy, because the policy was not intended to suppress student self-expression, but rather intended to regulate what the students could and could not wear. The court found that the guidelines were not more restrictive than were necessary. Several students were disciplined for wearing a black armband in protest of the dress code. The armband was itself not in violation of the dress code, so by asking that the armband be removed, the students' viewpoints were being suppressed, and the court therefore ruled that the students' rights had been violated. A jury later found that the students did not prove they deserved to receive compensation, but the court did issue a permanent ruling against disciplining students for wearing armbands (*Lowry v. Watson Chapel School District, 2007).*

Canady v. Bossier Parish School Board. The Bossier Parish School Board implemented a mandatory school uniform policy during the 1999-2000 school year.

Several parents of students in the system filed a lawsuit to seek an injunction against the schools enforcement of the new uniform policy. In *Canady v. Bossier Parish School Board*, the court upheld the 1997 Louisiana Legislature decision which allowed individual school boards to determine whether or not to implement mandatory uniforms. The court ruled in favor of the school board, and decided that the mandatory uniform policy did not violate the students' First Amendment rights (*Canady v. Bossier Parish School Boar*d, 1997).

Summary of Court Cases Concerning School Uniforms. Combined, these court cases have determined what the law is regarding school uniforms and their implementation in light of student rights and school district responsibilities. However, these court cases have not and cannot determine the efficacy of school uniforms in potentially improving student attendance, academic achievement, and discipline referral rates. Further, court cases cannot tell us how to effectively implement uniform policies.

Implementing an Effective Uniform Policy

An effective uniform policy must take all stakeholders' concerns into account if school system administrators wish to limit disputes, especially legal disputes. In an article for the *School Law Bulletin*, Russo (2006) provided guidelines for dress code and school uniform policies that were designed to help school systems minimize disputes over what students are not allowed to wear. Russo outlined six points to consider when developing a dress code or uniform policy in order to set "an appropriate balance between a duty to regulate student dress and the rights of young people to express themselves" (Russo, 2006, para.3). Russo (2006) also suggested points for policies to limit disputes over dress code issues, which included getting input from parents at the beginning of the

process, developing a concise policy, including a range of punishments for offenders, including rewards for compliance, and keeping policies current by reviewing them annually (Russo, 2006).

Opt-out clauses have been adopted by all of the systems listed in previously discussed court cases (Halifax County School System, Los Angeles Unified School District, and Watson Chapel School District), as well as many other systems across the country (Madrid & Garcia, 1999), because if these opt out clauses have not been written in to the policy, "the codes are vulnerable to legal challenge" (Williams, 2009, para.3). The *Manual on School Uniforms* (1996) stated that uniform policies "in most cases…allow students, normally with parental consent, to opt out of the school uniform requirement" (USDOJ, p. 2). The *Manual on School Uniforms* (1996) provided an example of a Phoenix, Arizona school which adopted a mandatory uniform policy with no opt out clauses because they thought the uniform was necessary to combat the current disruptive atmosphere of the school, but emphasized that such "a mandatory school uniform policy without an opt out provision could be vulnerable to legal challenge" (USDOJ, p. 2).

Russo (2006) included talking to parents and getting their support as critical to the success of the program. Without parental support for the policy, a great deal of time and money can be consumed in the ensuing debate over the policy. Dr. Carl Cohn, the superintendent for the Long Beach Unified School District, provided a list of suggestions for creating a successful school uniform policy, and included the importance of supportive parents and community. Cohn (1996) pointed to the *Long Beach Press-Telegram* survey which showed that 80 percent of the parents and community members

favored the idea of school uniforms, which was part of what made their program so successful.

The *Manual on School Uniform* (USDOJ, 1996) asserted, "The strongest push for school uniforms in recent years has come from parent groups who want better discipline in their children's schools. Parent groups have actively lobbied schools to create uniform policies and have often led school task forces that have drawn up uniform guidelines" (USDOJ, 1996, p. 1). The *Manual* (1996) also suggested creating a parent survey to gauge support or opposition to the policy, and then if the policy is implemented, another survey could then be used to get parents' input on the design of the uniform.

These studies and suggestions indicate how to implement school uniform programs, but they do not tell us whether these programs 'work' in potentially improving attendance, academic achievement, and discipline referral rates. The following section details findings from published literature regarding the impact of school uniform programs on student attendance, academic achievement, and discipline referral rates.

The Effect of School Uniforms on Student Outcomes

Because of the demands of AYP, schools are increasingly looking for ways to improve attendance, academic achievement, and discipline referral rates. For these reasons, school uniform effectiveness is a topic of interest in school systems around the country. When schools are looking to raise their test scores to 100% of students passing, every available option to aid that goal is taken into consideration. As discussed previously, proponents of school uniforms tout the uniform policy's ability to improve the school and foster positive student outcomes, while opponents of uniforms claim that these benefits are nonexistent.

This summary of major research findings begins with the landmark research of Brunsma and Rockquemore (1998), followed by an opposing point of view expressed by Bodine (2003). This debate is followed by a review of published literature regarding the possible effectiveness of school uniforms in the important student outcomes of attendance, academic achievement, and discipline referral rates. This section ends with a summary of what is known and what is unclear regarding the effectiveness of school uniforms, leading to the methodology employed in the present study.

Because of the growing popularity of school uniforms in public schools, Brunsma and Rockqumore (1998) completed an empirical study on school uniforms and their effect on academic achievement. Brunsma and Rockqumore (1998) sought to "test the validity of the uniform advocates' statements: Student uniforms decrease substance use; Student uniforms decrease behavioral problems; Student uniforms increase attendance; Student uniforms increase academic achievement" (p. 54). Brunsma and Rockquemore (1998) hypothesized that the direct effect of the uniforms on the four outcomes they listed would disappear when other, moderating variables were added into the equation.

Brunsma and Rockquemore (1998) used data from the National Educational Longitudinal Study of 1988, which began following 8th grade students in 1988 (NELS:88). The data from the first follow-up study, when the students were in the 10th grade, were used to "analyze the relationship between student uniforms and various student outcomes" (Brunsma & Rockquemore, 1998, p. 55). The study included both male and female students from various ethnic and socioeconomic backgrounds. Brunsma and Rockquemore (1998) found a slight correlation between uniforms and standardized academic achievement, but they were unable to support any of their original hypotheses.

Brunsma and Rockquemore (1998) concluded that uniforms were more a quick fix than a solution to school problems, and suggested that requiring uniforms as a proposed solution might signify more serious problems are present within the school. Brunsma and Rockquemore (1998) reported that,

> Contrary to what we expected, the only significant coefficient was that students who wore uniforms and had high pro-school attitudes had worse behavior problems than all other students....Uniforms seemingly had no affect on the outcomes that we studied in tandem with the variables that do affect outcomes such as academic preparedness, pro-school attitudes, and peer norms (p. 59) .

Based on this failure to find a direct effect of uniforms on behavior or academics, Brunsma and Rockquemore (1998) concluded that a closer examination of the uniform debate was needed before educational reform experts assert that uniform policies would create a better school environment.

Bodine (2003) challenged the conclusions Brunsma and Rockquemore (1998) by using the same data from NELS:88. Bodine (2003) said that Brunsma and Rockquemore (1998) erred by generalizing the data from the single school sector when they asserted that uniforms had a negative effect on student achievement when their finding statistically demonstrated a positive correlation between test scores and uniform use. Bodine (2003) accused Brunsma and Rockquemore (1998) of having "clouded thinking about school clothing by introducing an unfounded claim that student uniforms result in lower achievement" (Bodine, 2003, p. 71). "In a reexamination of the author's data, I found no evidence to support their claim, whereas in my examination of structure of argument, I discovered that the claim resulted from misleading use of sector analysis"

(Bodine, 2003, p. 67) . Bodine (2003) alleged that Brunsma and Rockquemore (1998) did not mention the positive correction found in the public sector of the schools in their study. Bodine (2003) also noted that Brunsma and Rockquemore (1998) focused too much on negative academic achievement within the Catholic schools in the study without focusing at all on the positive academic achievement at the other schools in the sample. Bodine (2003) concluded that the data contained in NELS:88 may not be the best source for studying the correlation in public schools between school uniforms and academic achievement. Only 0.008% of the public school students studied in the NELS:88 data wore uniforms; that is "fewer than 30 of 4, 171 public school students [wearing] uniforms" (Bodine, 2003, p. 70).

Brunsma and Rockquemore (2003) stood by their original findings in their article "Statistics, Sound Bites, and School Uniforms: A Reply to Bodine." In this article, Brunsma and Rockquemore described their approach in order to give their readers a clearer understanding of their research. Brunsma and Rockquemore (2003) clarified that they sought to more thoroughly investigate the effectiveness of uniforms on achievement after they heard President Clinton's 1996 State of the Union Address. Brunsma and Rockquemore (2003) admitted to finding a wide variety of literature supporting school uniform policies' ability to, among other things, create a better school, both behaviorally and academically. However, like other researchers, Brunsma & Rockquemore (2003) noticed a lack of quantitative data on the subject. After a thorough explanation of their research along with a response to Bodine's claims, Brunsma and Rockquemore (2003) asserted, "Ultimately, we stand by our findings and look forward to future empirical analyses that build on, extend, and challenge what we already know about school

uniforms. They will not increase academic achievement" (p. 76). The debate over whether school uniforms have a positive effect, a negative effect or no effect on student behavior and achievement is still widely debated with researchers in both camps claiming their evidence supports one side or the other.

Attendance and School Uniforms

Attendance is important in the state of Georgia. According to Georgia law, a student must attend school unless he/she has a legitimate excuse. The Official Code of Georgia Law relating to mandatory education for children (O.C.G.A 20-2-690.1), has changed and been signed by the Governor. The current changes include: "Any parent, guardian, or other person residing in this state who has control or charge of a child or children and who shall violate this Code section shall be guilty of a misdemeanor and, upon conviction thereof, shall be subject to a fine not less than $25.00 and not greater than $100.00, imprisonment not to exceed 30 days, community service, or any combination of such penalties, at the discretion of the court having jurisdiction. Each day's absence from school in violation of this part... shall constitute a separate offense" (General Assembly of Georgia, 2007, para.3). For AYP (Adequate Yearly Progress) fifteen percent of the school's student population cannot miss more than fifteen days. Students must regularly attend school if the school and the student intend to get a passing grade.

In 2002, Congress passed the federally mandated law known as No Child Left Behind Act. The law specifies predetermined levels of attendance. To meet AYP (Adequate Yearly Progress) certain grade levels can only have 15% or less of their students missing more than fifteen days. Absences not only affect the school's AYP

status, but also disrupt the entire school's environment in terms of test scores, graduation rate, and school achievement (National Center for School Engagement, 2006 as cited in Office of the Governor, 2010), Not only does school attendance affect the school, but most importantly, school attendance affects the students. "Students who do not attend school on a regular basis will have lower lifetime earnings, adult criminality, poor outcomes for their offspring, a dysfunctional family, and unemployment" (National Center for School Engagement, 2006, p.28 as cited in Office of the Governor, 2010) . Higher attendance increases learning when controlling for poverty, ethnic composition school and class size, and per pupil expenditure (Lamdin, 1996). Draa (2006) found that the schools that adopted uniform policies were able to increase their attendance rates, but the findings were not uniform across schools, "Mean attendance rates at uniform schools increased an average of 3.5 % in four schools and declined in two" (Draa, 2006, p.1).

The National Center for School Engagement (2006) found school attendance was affected by how safe they felt in the school environment. Students who did not feel safe at school would not attend school on a regular basis. According to the National Center for Student Engagement (2006), seven percent of students reported that they did not attend school on one or more of the past thirty days because they did not feel safe. Marzano (2003) wrote, "If teachers and students do not feel safe, they will not have the necessary psychological energy for teaching and learning" (p.53). Students who do not feel safe at school will not attend school, which in turn, will affect them later in life. Gullant and Lemione (1997) pointed to a compelling relationship between truancy and criminal activity which is referred to as "truant-to-criminal evolution" (Marzano, 2003, p.54).

Some empirical studies have supported school uniforms to achieve attendance gains. Draa (2006) studied the effects of a uniform policy in 64 Ohio secondary schools. Using time series analysis, Draa (2006) found improvement in rates of attendance with school uniforms. Similarly, Stevenson (1999) studied 28 schools in one Texas school district before and after implementation of a school uniforms program and found improvements in school attendance. Levine (1992) found a significant correlation between student attendance and student achievement. Gonzales (2000) contrasted uniform and non-uniform schools in New Mexico elementary schools and found that uniform schools had higher attendance rates.

However, not all studies support school uniforms for fostering attendance. Hoffler-Riddick (1998) contrasted the two years following to the three years leading up to the implementation of a school uniforms program and found a negative impact of school uniforms on school attendance. Sher (1996) interviewed teachers and administrators at three urban schools and found that they believed that school uniforms improved attendance, but these perceptions were not supported by objective measures of attendance from school files. Washington-Labat (2003) contrasted school districts that required school uniforms to school districts that did not require school uniforms in the state of Mississippi, using a causal comparative design. Attendance was higher for the first year, but not for subsequent years. Hughes (1996) studied two Texas high schools and found no advantage for school uniforms in improving attendance. Stockton and Gullatt (2002) surveyed students and teachers and found no differences in attendance at four secondary schools with the implementation of school uniforms program.

These published reports indicate that the effect of school uniforms on school attendance is unclear. Some studies report gains in attendance, while other studies report losses. To date, no reports explore the effect of school uniforms on rural high schools in the state of Georgia. These gaps in the literature show the need for more comparative studies to determine if a school uniform policy can enhance student attendance.

Behavior, Discipline, and School Uniforms

In the wake of Columbine High School shootings in 1999, the majority of schools around North America initiated an array of safe school bullying policies and programs (Tanner, 2009). However, most of the programs and policies were never effectively implemented and ultimately failed (Tanner, 2009). School uniform policies have become a common way for schools to emphasize safety and disciplinary issues (Tanner, 2009). Since there is a growing need to change the schools' policies and programs to better serve the needs of safety and security, (Tanner, 2009) showed that schools are adopting uniforms as their answer.

Public schools across America are being faced with increased disciplinary issues. To respond to the issues, schools are turning to school uniforms policies. With the policies, rules are established for non-compliant students. Most of the disciplinary procedures consist of a five to six step process to deal with the discipline infraction along with another process to address non-compliant dress code offenders. The guidelines for infractions for discipline are rated on a pyramid system in the Southwest Georgia County involved in this study. The infractions begin with level one which involves minor discipline and proceeds through level four where the discipline becomes major, meaning a possible expulsion from school. For discipline infractions involving dress code

violations, students have ten days from the calendar day on which they are registered at the school to comply with the dress code. Any student who does not comply with the dress code will be provided clothes by the school. Parents can bring clothes, or the student will be sent home. If the behavior continues, the student will receive discipline through the pyramid levels. Noncompliance with the uniform policy can lead to increased discipline referrals. All disciplinary infractions are kept within the school database to enable the school to plan effectively and efficiently concerning discipline. "Discipline information is used to determine what problem behaviors within the school need to be addressed to make the following year more efficient" (Janney, 2007, p.1). Through the collection of discipline data, patterns become evident that can indicate progression or issues among various student groups and be useful in creating prevention programs.

In Georgia, the Department of Education established a program using Title IV funds to address and decrease violence and drug use in schools in an effort to promote more student achievement (GADOE, 2010). If a school system decides to accept funds from the program, specific, detailed guidelines are established to ensure the school is following the plan effectively. According to the plan, the system must track the following: "truancy rates; frequencies, seriousness, and incidence of violence and drug related offense; programs offered be the local system to address these areas; incidence and prevalence, age onset, health related issues, and social disapproval of such actions" (GADOE, 2010, p.1). The relationship between school uniform policies and discipline has been explored in research studies, as provided in the following section.

In a study entitled, "The Effects of Dress on School Discipline," Sommers (2001) conducted an experimental research project to determine if school dress had an impact on

student behavior. Sommers (2001) studied 19 schools: 10 elementary school, 4 junior high schools/middle schools, and 5 high schools. Sommers' (2001) data were collected by the principals at each of the schools for various types of dress days: regular dress, dress down, and dress up. All of these dress days were held on the same day of the week in order to maintain consistency. For example, *dress down* days were always on Tuesday. The data included the number of discipline cases on each of the days, and each incident was rated as mild, moderate or severe.

Sommers (2001) compared the number and severity of the discipline problems with the type of dress that the students wore on that particular day. Of the 766 discipline cases that were reported by the discipline officers at the 19 schools, 233 occurred on regular dress days, 211 occurred on dress up days, and 322 occurred on dress down days. Of the 72 severe cases, 30 occurred on regular dress days, 15 on dress up days, and 27 of dress down days. Of the 172 moderate discipline cases, 44 occurred on regular dress days, 49 on dress up days, and 79 on dress down days. Of the 522 mild discipline cases, 159 occurred on regular dress days, 147 on dress up days, and 216 on dress down days. Sommers (2001) concluded that student dress had a positive impact on student behavior and attitude toward school. Sommers (2001) concluded that more research was needed to determine the impact of student dress on student behavior.

Further, Hughes (1996) found that middle school teachers perceived fewer discipline referrals when students wore uniforms, which was consistent with objective discipline referral data from the school district. Morgan (2007) studied attitudes regarding school uniforms on behaviorally and socially challenged middle and high school students. Parents saw positive change in the behavior of their children. McCarthy

and Moreno (1999) contrasted a middle school with no uniform program to a matched middle school that implemented a school uniforms program three years earlier. Students at the school with the uniforms program were less afraid of crime or harm at school. Bollinger (2002) contrasted two well-matched middle schools, one with a mandatory school uniform program and one without such a program, on measures of discipline and school climate. Bollinger (2002) found that discipline referrals were significantly lower in the school with a mandatory uniform program. Bollinger (2002) found no benefit in school climate from the perceptions of the parents or the professional on-site staff, even though discipline referrals decreased.

However, some published reports fail to fully support school uniforms for improving student behaviors. Draa (2006) found that suspension rates decreased, but expulsion rates did not decrease in a review of 64 Ohio secondary schools with uniform policies. Reynolds (2004) found no clear pattern of consistent support in a review of 19 quantitative studies relating school uniforms to discipline. Hoffler-Riddick (1998) contrasted the two years following to the three years leading up to the implementation of a school uniforms program and found no clear pattern of improvement in school discipline referrals or suspensions. Gonzales (2000) found that uniform and non-uniform elementary schools in New Mexico were similar in discipline referrals. McGloin (2009) measured perceptions of school climate in two Pennsylvania elementary schools which were matched except that one school had a mandatory uniforms program and one school did not. McGloin (2009) found no significant differences in perceptions of school climate from the perspective of the students or from the perspective of the teachers. Sher (1996) found that teachers and administrators in three urban schools believed that school

uniforms improved behavior outcomes, but these perceptions were not supported by objective measures of behavior from school files. In fact, punishments and suspensions increased slightly with the implementation of the school uniforms program (Sher, 1996).

Washington-Labat (2003) conducted interviews and found that teachers perceived that school uniforms were a positive influence on school culture, and a positive benefit to economically disadvantaged students. However, Washington-Labat (2003) found no difference in suspensions or referrals between districts that required school uniforms and school districts that did not require school uniforms in the State of Mississippi.

Johnson (2010) measured the impact of school uniforms on violence in 38 North Carolina public high schools and found no change in crime and violence or in suspensions for most of the high schools, even though the onsite school administrators saw school uniform as a positive impact on school safety. Johnson (2010) did not distinguish between rural and non-rural high schools, did not measure achievement or attendance, and did not account for race or students with disabilities status.

Combined, these studies show no clear pattern of a significant benefit from school uniforms in improving student behavior. Research focusing on student behavior before and after the implementation of school uniforms is necessary to determine whether school uniforms can assist schools in improving behavior and reducing incidences of discipline.

Academic Achievement and School Uniforms

Supporters of the uniform dress code policy have claimed that an increase in student learning and feelings toward school dress code is directly linked to improving the learning environment which leads to academic achievement (Stover, 1990). In Georgia high schools, students must take and pass the Georgia High School Graduation Tests

(GHSGT) before they earn a diploma. In addition to being necessary for graduation, the school is held accountable for the percentage of students who pass these exams each year. Although students have to pass five sections of the test in order to graduate, the English and math portions are the two tests that count toward AYP.

Since school systems are held accountable for meeting AYP and the AMO is raised every year, several systems are implementing policies to ensure student success and achievement. Murray (1997) evaluated student responses from a school with a uniform policy and a school without a uniform policy. He found the school with the uniform policy to possess a better school climate. He suggested school uniforms may increase student achievement through school climate.

Gouge (2011) contrasted the effects of school uniform by measuring two public high schools in East Tennessee. Initially, one school had a uniform program and one school did not. The school with the school uniforms program was significantly higher in graduation rate. Gouge (2011) then measured the effects of implementation of a uniform program at the same school that previously had no such program. Graduation rates improved after the implementation of a school uniform policy. Draa (2006) found that in one Ohio school district, "Mean graduation rates rose eleven percent at schools that required uniforms, compared to pre-uniform years" (p.1).

However, Reynolds (2004) found no clear pattern of consistent support in a review of 19 quantitative studies relating school uniforms to academic achievement. Hoffler-Riddick (1998) found a negative impact of school uniforms in grade point average following the implementation of the school uniforms program. Yeung (2009)

used data from the National Education Longitudinal Study and found no relationship between school uniforms and academic achievement on standardized tests.

It is important to note that perceptions may differ from reality when evaluating the impact of school uniforms on student achievement. Shimizu (2000) found that school uniforms are related to higher student expectations from the perspective of the students and from the perspective of the school staff, but Shimizu (2000) provided no objective evidence of higher academic achievement with school uniforms. Sher (1996) found that teachers and administrators in three urban schools believed that school uniforms improved academic outcomes, but these perceptions were not supported by objective measures of academic performance (Standardized SAT test) from school files. Similarly, Stevenson (2008) conducted a case study analysis to explore the impact of school uniforms in an urban public high school and found that teachers felt that school uniforms helped the students reach higher academic achievement, but Stevenson (2008) did not directly measure academic achievement. Hodge (2010) found no consistent pattern of academic benefit from a school uniforms program in a Florida middle school, but there was a perception of academic improvement from the perspective of parent and teacher focus groups.

Additionally, student rights to free expression and student acceptance of a school uniform policy are important. DaCosta's (2006) research included 22 urban, public high schools in which uniform policies had been put into place to curb violence and gang incidents. Data collected over a two-year period from student interviews served to assess student acceptance of the new policy. DaCosta also collected academic data from 9th grade classes in reading, math and science. DaCosta (2006) reported that 75% of students

were opposed to the new uniform policy because they felt their freedom was restricted, the expense of the uniforms was too great, and they did not feel the policy was needed. DaCosta reported that it is necessary for schools to balance the need for student safety and the need for students to be able to express their own unique identity. Importantly, no impact of school uniform on student achievement was evident.

Combined, the literature reviewed here failed to paint a clear picture in support of school uniforms as an effective methodology for improving academic success. Proponents of school uniform programs make a logical argument regarding why uniforms should improve academic performance, because of improved school climate, but the studies reviewed here suggest that perceptions of improvement may be evident while actual measureable achievement gains are not consistently realized.

Summary of Reviewed Literature

School uniform programs have been implemented to improve graduation rates by improving student attendance, academic achievement, and discipline referral rates. The theoretical and legal bases for school uniforms were reviewed in this chapter. Published studies on the effects of school uniforms provide a mixed set of results, with no unambiguous pattern of support for implementing school uniform policy to improve student attendance, academic achievement, and discipline referral rates. No studies to date explore the effects of school uniforms in high schools in rural Georgia, where students are at risk for not graduating, while accounting for race and students with disabilities status.

Mark Twain (n.d.) stated, “Clothes make the man,” (p. 942), which presents an empirical question addressed in the present study. The present study sought to fill this

gap in the published literature by exploring the effects of school uniforms on school attendance, academic achievement, and discipline referral rates by contrasting two rural Georgia high schools, School A, which had a uniforms program, and School B, which had no uniforms program.

CHAPTER THREE: METHODOLOGY

Introduction

Since the demands of educational accountability have increased over the years, school systems are trying to institute policies and procedures to increase their student performance. No Child Left Behind (2001) led to school systems being held accountable for student performance by evaluating student achievement through test scores, the school's report card, and using AYP (Adequate Yearly Progress). The common issues impacting student performance are attendance, academic achievement, and discipline referral rates.

As school systems across the country seek ways to improve their student achievement and meet the goals of AYP, some have turned to implementing school uniforms. To address these needs as well as other concerns regarding the apparent lack of focus on academics, low attendance, increased discipline issues, and increased school violence, educators began to look at the use of school uniforms as one means of dealing with these complex problems (Brunsma & Rockquemore, 1998).

Research Design

The present study employed a causal comparative design to examine the possible effects of a school uniform policy on attendance, standardized test scores, and student infractions by comparing two rural Georgia high schools, one with a school uniforms policy and one without a school uniforms policy. A causal comparative design, also

called an *ex post facto* design (Latin for "after the fact"), is appropriate when the treatment and the effects of the treatment have already occurred (Fraenkel, Wallen, & Hyun, 2011; Levy & Ellis, 2011). That is, a causal comparative design is appropriate when two or more existing groups are compared retrospectively (Fraenkel, Wallen, & Hyun, 2011; Levy & Ellis, 2011), as in the present study, which compared student outcomes at two high schools, one with and one without a school uniform policy.

In a causal comparative design, there are no experimentally controlled variables or treatment and there is no random assignment to groups (Fraenkel, Wallen, & Hyun, 2011; Levy & Ellis, 2011). Therefore, the primary threat to internal validity in a causal comparison study is inequality of groups. Validity is limited in causal comparative studies if groups are not well matched and if the statistical plan fails to account for potentially important differences between groups that could account for differences in the outcomes variables. (Fraenkel, Wallen, & Hyun, 2011). For these reasons, it is important to compare groups on variables that could affect the measured outcomes before conducting a formal study. To foster internal validity in causal comparative studies, Fraenkel, Wallen, and Hyun (2011) suggest to first identify variables that could impact outcomes, then determine whether these variables are different between groups, and then employ a statistical plan to control for these variables. That is, to foster internal validity, it is important to show that groups are well matched and that variables that are not well matched between groups are sought, identified, and accounted for in the analysis (Fraenkel, Wallen, & Hyun, 2011). The steps of Fraenkel, Wallen, and Hyun (2011) to foster internal validity were followed in the present causal comparative study.

The two schools in the present study were well-matched in geographic region, both existing in adjacent rural Georgia counties. Both schools were high schools, serving students grades 9 through 12. The two schools were similar in population size, with 624 students attending School A and 528 attending School B (GAOSA, 2010). Both schools had six full time administrators and support staff. School A (14:1) and School B (17:1) were similar in the ratio of students to teachers and identical in teacher to staff ratio (6:1) (GAOSA, 2010). Teachers at both School A and School B are contracted for 190 days per school year (GAOSA, 2010). Both School A (53%) and School B (52%) had more male than female students completing high school. Regarding graduates entering Georgia public colleges, both School A and School B were categorized as having "too few students entering" for the high school graduating class of 2009 (GAOSA, 2010). In these regards, the two schools were well matched.

However, the schools differed in in two important areas: students with disabilities status and race. School A had 15% SWD compared to 4% in School B (GAOSA, 2010). Further, School A was largely split between Black and White students, while School B was predominantly White (GAOSA, 2010). SWD and race are threats to validity because both race and SWD status may be predictive of student outcomes, and could thereby confound the present study of school uniform policy if not accounted for. For these reasons, it was important to account for race and SWD status in this causal comparative study.

To combat threats to validity, ANCOVA is appropriate when accounting for important covariates in causal comparative designs (Fraenkel, Wallen, & Hyun, 2011). Analysis of covariance (ANCOVA) represents a statistic specifically designed to account

for important covariates when testing hypotheses where the comparison of interest is a between groups comparison (Hayes, & Olds, 1992; Maxwell & Delaney, 2004; Tabachnick & Fidell, 2001). The present study was focused on the impact of a uniforms policy using a causal comparative design. Race and SWD status were accounted for in the present study by co-varying out their effect on outcomes via ANCOVA.

Additional threats to internal validity include location, loss of subjects, maturation, history, attitudes of subjects, regression, testing threats, and instrumental threats (Shadish, Cook, & Campbell, 2002; Tabachnick & Fidell, 2001). Location was not a threat to internal validity in the present study because both groups were located in adjacent rural counties in Georgia. Loss of subjects and maturation were not threats to internal validity because this study was cross-sectional, so students were only measured once. History was not a threat to internal validity because the present study utilized standardized tests that are only taken by 11th graders in the state of Georgia, so participants had no previous history with these standardized tests. Attitude of subjects represents a potential threat to validity in that the present study took no steps to assess the attitudes of subjects beyond the outcome measures of attendance and behavioral infractions. Statistical regression to the mean is an important validity concept when assessing scores that follow extreme performances, but the present study only measured students one each, so regression was not a threat to validity. Testing threats and instrumental threats to validity were not applicable because the present study did not employ differing tests or differing test forms that were non-equivalent. All student data for academic achievement represent standardized test scores, and were therefore

essentially identical for all students, regardless of which school they attended. For these reasons, internal validity was fostered in the present study.

By seeking potentially confounding variables, identifying areas where school were well matched, by identifying race and SWD status as potential confounding variables, then by accounting for race and SWD status via covariance, the present study followed the steps of Fraenkel, Wallen, and Hyun (2011) to foster internal validity in the present causal comparison study of the effects of school uniforms policy on attendance, standardized test scores, and student infractions in two rural Georgia high schools.

Research Questions and Hypotheses

Research Question 1: Attendance

Research Question 1 asked, Is there a significant difference between School A (with uniforms) and School B (without uniforms) in days absent in school year 2010-2011?

Hypothesis 1: Attendance. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in days absent in school year 2010-2011, after race and students with disabilities status are accounted for.

Research Question 2: Georgia High School Graduation Test Scores

Is there is a significant difference between School A (with uniforms) and School B (without uniforms) in scores on the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for?

Hypothesis 2: English Language Arts. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in

scores on the English Language Arts portion of the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for.

Hypothesis 3: Math. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in scores on the Math portion of the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for.

Research Question 3: Discipline Referrals

Is there a significant difference between School A (with uniforms) and School B (without uniforms) in discipline referrals in school year 2010-2011, after race and students with disabilities status are accounted for?

Hypothesis 4: Level-1 (minor) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in Level-1 (minor) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Hypothesis 5: Level-2 (intermediate) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in Level-2 (intermediate) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Hypothesis 6: Level-3 (major) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in Level-3 (major) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Participants

This study used data collected on 11th graders at two high schools in two rural southwestern counties in Georgia for the school year 2010-2011. The type of sampling was a sampling of convenience using two high schools in adjacent counties. One school adopted a school uniform policy prior to school year 2007-2008 while the other school followed a mandatory dress code policy. Demographically, the schools are very different. One school enrolls 85% white, 37% Black, and 12% Hispanic. The other school enrolls 47% White students, 52% Black students, and 0% Hispanic students. Each of the school's AYP (Adequate Yearly Progress) report, school report card, attendance, and student discipline records were used to determine the effect, if any, school uniforms had on these areas of concern. The reports were gathered from the county and/or state school website.

Setting

The study was conducted in two high schools located in two rural Southwest Georgia counties. One of the schools adopted the uniform policy prior to 2007-2008 school year in hopes of improving student and school achievement, student behavior, and discipline. The instructional curriculum in the schools is based on learner needs and background information. In school A, the school system administers educational and support services for approximately 3, 449 students in grades Pre-K through 12. There are three elementary schools (Pre-K through 5th grade) that feed into one of the four middle schools (6th through 8th grade) and the middle schools feed into one of the two county high schools. Where a student resides determines which school the student will attend.

The county spends $11, 488.00 per pupil within their school system. With regard to extra services, 18% of students are served under special education and 1% are characterized as being ELL (English Language Learners). One of the schools in the study met all requirements of AYP (Adequate Yearly Progress) this past year, while the other school did not meet all requirements this past year.

School B employs thirty-six full time teachers. The other high school in the study employs thirty-nine full time teachers and three part time teachers. All of the teachers at both schools have met the requirements of being highly qualified according to the report released from the Governor's Office of Achievement. For high school A, the school system administrators serve approximately 2000 students in grades Pre-K through 12. There are three elementary schools (Pre-K through 5th grade) that feed into one middle school (6th through 8th grade) and the middle school feeds into the county's high school. Since this county only has one high school, where the students reside is not an issue. The county spends $8520.00 per pupil within their school system. In regard to extra services, 11.77% of students are served under special education and none of the 2% of Hispanic students are served under ELL services.

School B followed a dress code policy while School A followed their school uniform policy. As for school A, the dress code policy was obtained from the high school where the study was being conducted. The policy states that students' pants must be worn at the waist. Exposed undergarments are prohibited. Boy's shirts are to be tucked in and girl's shirts are to completely cover their midriff and back. Pants are to be worn outside of boots. Holes are prohibited in pants unless the holes are completely patched. Pajama, lounge, jogging, or warm-up pants are prohibited regardless of the material. Skirts,

dresses, and shorts may be worn 2 inches from the top of the knee. All cleavage, abdomen, back, and shoulders must be completely covered. No attire, jewelry, bookbags, or notebooks may not display any items promoting violence, drugs, or sex. Head attire is prohibited. No visible piercings. No adornments that could be perceived as a weapon are prohibited. Trench coats are prohibited.

School A's school uniform policy was obtained from the high school where the study was being conducted. The policy states that the students' pants/jeans must be denim, solid khaki, or navy tailored pants. The size must be appropriate, worn on natural waist, and belts must be worn if pants have belt loops. Acceptable shorts colors are the same as the pants colors, but shorts have to fall below the knee. The time period in which shorts are allowed are: August through Labor day and April 1st through the end of school. Acceptable blouse/shirt colors are solid White, light blue, navy, burgundy, or their school colors. All shirts must have sleeves and a collar. Sweaters and jackets must be White, navy, or gray. No trench coats or other jackets that extend below the mid thigh are allowed. As for shoes, a back and a strap with heels are allowed. Heeled shoes should be mo more than two inches tall and other shoes must be laced and tied. All students must be compliant with the dress code. Those who are in violation will follow the discipline plan explained in the handbook for all students (Southwest Georgia School System).

Instrumentation

The GHSGT (Georgia High School Graduation Test) results, attendance, and discipline referrals data were secured from the school district's central office and the Georgia State Department of Education website. The anonymity of the students was safeguarded through the elimination of any identifying information other than the

students' gender and grade level. The Georgia Department of Education compiles test scores, School Report Card, and AYP (Adequate Yearly Progress), which were retrieved from the state web site. Although the attendance and discipline records are reported to the state, the information was retrieved from the individual school data person through the software program *PowerSchool*. The researcher was granted permission to both of the schools' discipline and attendance records. The researcher recorded the data through using the number of infractions per student on the violations accumulated by the various groups of students: ethnicity and SWD (students with disabilities). The researcher recorded the number of infractions for each student at each school on a data collection sheet, which was transferred to a Microsoft Excel spreadsheet. Comparative results for the 2010-2011school year were analyzed to test the hypotheses of this study.

Attendance data were reported by the PowerSchool Student Information System, then provided to the researcher by the local education system. In this study, absenteeism was defined as students who missed more than fifteen days of school. This student data system records all of the students' attendance data each year, then that data are imported into the state's accountability reports to determine AYP (Adequate Yearly Progress). The data collected for this study were from the 2010-2011 school year. According to the State of Georgia (2010), "All of Georgia's second indicators (graduation rates, attendance rates, and achievement) are valid and reliable for AYP purposes" (p.40).

Disciplinary referrals were reported by the PowerSchool Student Information System and were provided to the researcher by the local education system. The disciplinary records were reported through formal referrals to campus administration reports from PowerSchool, which were used to certify the outcome measures. Discipline

referrals were measured by the frequencies of referrals at each discipline level. PowerSchool is considered to be a valid and reliable source of discipline referral data. Discipline referrals are entered into PowerSchool to tally the number of infractions, and then these official data are reported to the Georgia Department of Education. Discipline infractions were classified as Level-1 (minor infractions), Level-2 (intermediate infractions), or Level-3 (major infractions).

Student achievement was measured by using the English/Language Arts and math section of the Georgia High School Graduation Test scores and graduation rate. Even though the Georgia High School Graduation Test (GHSGT) consists of five sections (ELA, Math, Social Studies, and Science), ELA (English/Language Arts) and math are the only areas included in this study. The GHSGT scores were provided to the researcher by Georgia Department of Education and local school district, limited to eleventh grade test scores from the spring of 2011, representing the 2010-2011 school year. GHSGT ELA consists of one section with sixty-five questions and is scaled on a range from 100 to 350 points, while GHSGT math consists of one section with seventy-five questions, scaled on a range from 100 to 370 points, with scores below 200 considered to be below proficiency on GHSGT ELA or GHSGT math (GADOE, 2010). The eleventh grade scores were used for this study because Georgia High School Graduation Test is mandated for eleventh grader students in the state of Georgia.

Procedures

On November 8, 2010, approval was granted by the Liberty University IRB to conduct the study: The Relationship of School Uniforms to Student Attendance, Achievement, and Discipline in Southwest Georgia High Schools. A letter was sent to the

county's assistant superintendent explaining the research study. Permission was granted to the researcher in order to access the schools' data and discipline information. Because this was a causal comparative study, prior to testing the hypotheses, the two schools were assessed for threats to validity, detailed in the Research Design section above.

Student attendance, test scores and discipline infraction data were obtained by the researcher from the individual high schools. The data clerk at each school retrieved the relevant data from the student information tracking program PowerSchool (Pearson School Systems, Rancho Cordova, CA). PowerSchool is a program used by schools to store student data, such as demographics, scores, and any other personal pertinent information a school would need in order to effectively meet the needs of an enrolled student. To protect the student confidentiality, the data clerk eliminated the student names when importing student information into a Microsoft Excel spreadsheet (Microsoft Corp., Redmond Washington). Data files were sent to the researcher by the data clerk via electronic mail. After data were verified, files were merged and inspected for possible errors of misalignment before testing the hypotheses of the present study. All statistical analyses were conducted using SPSS software (SPSS Inc., Chicago Illinois).

Data Analysis

ANCOVA was used to test the hypotheses of the present study. ANCOVA was appropriate for Research Question 1 and Research Question 2 because the purpose of these analyses was to test the hypothesis of a possible effect of an independent variable (school uniforms, represented by School A and School B) on a single dependent variable (absenteeism, GHSGT Math, or GHST ELA) while accounting for potentially important covariates (race, SWD status) (Tabachnick & Fidell, 2001).

To test Hypothesis 3, MANCOVA and repeated-measures ANOVA were considered, because Hypothesis 3 included three dependent variables, representing levels of student disciplinary infractions. But the assumptions of MANOVA were not met. Homogeniety of covariance was violated (Box's M). Further, Level-2 infraction data were correlated with other levels, which violates to collinearity assumption of MANOVA, while Level-1 and Level-3 data were not correlated ($p = .16$), suggesting that Level-1 infractions are independent of Level-3 infractions. Repeated measures ANOVA was rejected because levels of infractions do not represent repeated measures on the same measuring instrument. For these reasons, ANCOVA was chosen to assess Hypothesis 3, but with a correction for multiple comparisons. To correct for alpha inflation from multiple comparisons, a Bonferroni "alpha splitting" correction (Maxwell & Delaney, 2004; Tabachnick & Fidell, 2001) was applied, so that the alpha level for Hypothesis 3 (.05) was split three ways, corresponding to the three dependent variables. Splitting an alpha of .05 by three provides a threshold of .0167 ($.05 / 3 = .0167$). By applying a Bonferroni correction for multiple comparisons, each infractions type in Hypothesis 3 was tested at a statistical significance threshold of $p < .0167$. All other hypotheses are tested at a threshold of $p < .05$.

Therefore, the six (6) hypotheses were tested in parallel ANCOVA analyses to encompass the six (6) dependant variables, but with the independent variable (School A with uniforms, School B without uniforms) and the covariates (race and SWD) identical in all analyses. The analysis plan is summarized in Table 1.

Table 1

Data Analysis Summary Table

Research Question	Hypothesis	Independent Variable	Dependant Variable	Covariates	Statistic	Effect Size
RQ1	H1	Uniforms	Absenteeism	Race SWD	ANCOVA	η_p^2
RQ2	H2	Uniforms	ELA	Race SWD	ANCOVA	η_p^2
	H3	Uniforms	Math	Race SWD	ANCOVA	η_p^2
RQ3	H4	Uniforms	Level-1 Infractions	Race SWD	ANCOVA	
	H5	Uniforms	Level-2 Infractions	Race SWD	ANCOVA	η_p^2
	H6	Uniforms	Level-3 Infractions	Race SWD	ANCOVA	

Effect sizes were calculated as partial eta squared (η_p^2), which represents the unique portion of the variance in the dependent variable accounted for by the independent variable with other variables accounted for in ANCOVA designs (Cohen, 1988; Neil, 2008; Tabachnick & Fidell, 2001). Effect size measures, like partial eta squared, are a recommended part of statistical reporting (Neil, 2008).

Partial eta squared (η_p^2) was calculated by SPSS using the following formula:

$$\eta_p^2 = SS_{effect} / (SS_{effect} + SS_{error})$$

Partial eta squared effects sized were categorized as small, medium, and large using the criteria of Cohen (1988):

0.01 = Small effect

0.06 = Medium effect

0.14 = Large effect

Data are presented as means (M), standard deviations (SD), and standard error of the mean (SEM), frequencies, and percentages, as appropriate, in text and in tables. ANCOVA results include the source table, which display the F-values and p-values necessary for evaluating the hypotheses of the present study. Figures are provided to visually supplement the text. For Hypothesis 3, the p-value threshold for statistical significance was set at .0167, reflecting the Bonferroni correction for multiple comparisons. For all other comparisons, the threshold for statistical significance was set at $p < 0.05$.

In chapter three, the methods and design are described, along with statistical analysis for the research questions. Analysis of data for each comparison for each school is explained in the Results Chapter which follows.

CHAPTER FOUR: RESULTS

Introduction

The purpose of the this study was to examine the school uniform policy in a southwest Georgia school system and the relationship the policy had to their attendance, academic achievement, and discipline referral rates. The quantitative data analyzed in this study were collected from the Georgia High School Graduation Test and the student information system Power School. The participating schools provided all quantitative data. The Power School student information system was used to examine absenteeism and disciplinary referral data. The Georgia High School Graduation Test scores were used to analyze participant achievement in Math and English Language Arts.

Participants

The participants of the study were 11th grade students in rural southwest Georgia. Data include the 2010-2011 school year only. Two high schools participated: School A, which had a uniform program, and School B, which did not have a uniform program. The Students with Disabilities enrollment status and racial group representation for School A and School B by year are detailed below.

Representation by Race

School A was 48% White and 48% Black, with 2% Asian and 2% mixed race. School B was 89% White, with 6% Black, 2% Hispanic and 2% mixed race. Table 2 displays the frequencies and percentages of participants by race at School A and School B.

Table 2

Race Descriptives by School

Race	Statistic	School B	School A	Total
Asian	Count	0	2	2
	Percent	0%	2%	1%
Black	Count	8	42	50
	Percent	6%	48%	23%
Hispanic	Count	3	0	3
	Percent	2%	0%	1%
Mixed	Count	3	2	5
	Percent	2%	2%	2%
White	Count	116	42	158
	Percent	89%	48%	72%
Total	Count	88	130	218

Because of the paucity of participants in Asian, Hispanic, and Mixed race categories, and because of the importance of accounting for race in assessing academic outcomes, race data were reduced to foster testing the hypotheses of the present study. When race data were reduced to two categories, White and NonWhite (Table 3), chi square analysis revealed that race was significantly disproportionate between schools, X^2 (1 degree of freedom) = 45.32, $p < .001$.

Table 3

Reduced Race Category Descriptives by School

Race	Statistic	School B	School A	Total
NonWhite	Count	14	46	60
	Percent	11%	52%	28%
White	Count	116	42	158
	Percent	89%	48%	72%
Total	Count	88	130	218

Students with Disabilities status

At School A, 15% of participants were SWD compared to 4% at School B (Table 4). This was significantly disproportionate by chi square analysis, X^2 (1 degree of freedom) = 8.27, $p < .004$. Because SWD status was disproportionate between schools and because of the importance of accounting for SWD status when studying academic outcomes, this study includes SWD status as a covariate when testing the hypotheses.

Table 4

Students with Disabilities status by School

SWD Status	Statistic	School A	School B	Total
No	Count	75	125	200
	Percent	85%	96%	92%
Yes	Count	13	5	18
	Percent	15%	4%	8%
Total	Count	88	130	218

Summary of Demographics. Participants included all 11th grade students at either of two high schools in rural southwest Georgia for the school year 2010-2011. School A, which had a uniform program, was predominantly NonWhite, with relatively more SWD students compared to School B, which did not have a uniform program. Therefore, the testing of the hypotheses will include SWD status and race as covariates to account for the disproportionate spread of race and SWD status across schools.

Testing of Statistical Assumptions

Prior to testing the hypotheses of the present study, key variables were assessed regarding the assumptions of the inferential statistical test, ANCOVA. The major assumption of ANCOVA is independence (Maxwell & Delaney, 2004; Tabachnick & Fidell, 2001). Independence was fostered by using objective, retrospective, quantitative data, so that no scores from any one participant could have intentionally affected the scores of other participants towards biasing the outcome of the present study. The minor assumptions of ANCOVA regard the shape of the raw data: skew, kurtosis, and homogeneity of variance. These assumptions are considered minor because ANCOVA is robust to violations of these minor assumptions (Harwell, Rubinstein, Hayes, & Olds, 1992; Lix, Keselman, & Keselman, 1996; Maxwell & Delaney, 2004; Micceri, 1989), which means that the false alarm rate (5% when p is set at 0.05) stays about the same regardless of skew or kurtosis (De Carlo, 1997; Glass, Peckham, & Sanders, 1972). The homogeneity of variance assumption was supported by the non-significant ($p > .05$) Levene's Test for Equality of Variances for GHSGT Math and GHSGT ELA (each $p > .05$), indicating that groups were similar in variance on these measures. Attendance and Level-1 infractions variability was significantly greater in the School B, while Level-2

and Level-3 infractions showed greater variability in the School A. Note that in each case, the higher value was associated with more variability, consistent with heteroscedasticity, wherein the higher the values, the greater the variance (Tabachnick & Fidell, 2001). Attendance, GHSGT Math, GHSGT ELA, and suspension data all showed significant positive skew (skew/standard error of skew > 2.0; Tabachnick & Fidell, 2001) and significant kurtosis (kurtosis > |3|). The recommended transformation for skew in data that represent counts per participant is the square root linear transformation (Tabachnick & Fidell, 2001; Tukey, 1977), but square root transformations failed to reduce heterogeneity of variance, skew, or kurtosis below the threshold for statistical significance. Further, substantive findings were the same using different expressions of variables, such that results using square root expressions agreed with results of the raw scores when testing the null hypotheses at a threshold of $p < .05$, reflecting the well-established robustness of ANCOVA to violations of minor assumptions (Harwell, Rubinstein, Hayes, & Olds, 1992; Lix, Keselman, & Keselman, 1996; Maxwell & Delaney, 2004). For these reasons, all text, tables, and figures in this chapter reflect raw (non-transformed) data in testing the hypotheses. MANCOVA and repeated-measures ANOVA were considered, but the assumptions of MANOVA were not met. Homogeniety of covariance was violated (Box's M). Further, Level-2 infraction data were correlated with other levels, which violates to collinearity assumption of MANOVA, while Level-1 and Level-3 data were not correlated ($p = .16$), suggesting that Level-1 infractions are independent of Level-3 infractions. Repeated measures ANOVA was rejected because levels of infractions do not represent repeated measures on the same measuring instrument.

Homogeniety of regression is an assumption of ANCOVA in which the regression slope of the covariate must be similar for both groups (Maxwell & Delaney, 2004; Tabachnick & Fidell, 2001). In the present study, the homogeniety of regression assumption was met for SWD across all hypotheses tested. However, race was inconsistent in meeting the homogeniety of regression across hypotheses. Race was not a significantly different predictor of Level-1, Level-2, or Level-3 infraction by school, fostering the homogeneity of regression assumption of ANCOVA. However, for absenteeism, race was slightly negative predictor of absenteeism for School A (with uniforms) and a significantly positive predictor of absenteeism in School B (without uniforms), violating the homogeniety of regression assumption of ANCOVA. While fully acknowledging the violation of this assumption, it is also possible that race could play a mediator or suppressor (MacKinnon, 2008; MacKinnon, Krull, & Lockwood, 2000) role in the relationship between school uniforms and absenteeism. That is, the inclusion of race as a covariate may strengthen (suppress) or weaken (mediate) the measured relationship between school uniforms and absenteeism. For these reasons, SWD and race were included as covariates in all analyses.

Hypothesis Testing

Unit 1: Attendance

Attendance was operationally defined the number of days absent in the 2010-2011 school year. Absenteeism was contrasted between School A (with uniforms) and School B (without uniforms).

Research Question 1

Is there a significant difference in the absenteeism between School A (with uniforms) and School B (without uniforms)?

Attendance. A between-groups analysis of covariance (ANCOVA) was conducted to assess possible differences between School A (with uniforms) (n = 88) and School B (without uniforms) (n = 130) in attendance (days absent), while accounting for race and SWD status. The dependent variable was missed days per student in the school year 2010-2011. Table 5 displays the descriptive statistics for each group, including means and standard deviations (SD) per school as raw (unadjusted) values and also adjusted for race and SWD. Students in School A (with uniforms) averaged 3.7 days absent (SD = 3.8) (M = 3.8, SD = 6.4 when adjusted for SWD and race), roughly half compared to School B (without uniforms), where students averaged 7.0 days absent (SD = 6.9) (M = 7.0, SD = 6.3 when adjusted for SWD and race) in year 2010-2011.

Table 5

Absenteeism descriptives by group

	Unadjusted		Adjusted		
Group	Mean	SD	Mean	SD	N
Without Uniforms	7.0	6.9	7.0	6.2	130
With Uniforms	3.7	3.8	3.8	6.4	88

Note. SD = standard deviation. Adjusted = values adjusted for race and students with disabilities (SWD).

ANCOVA: Absenteeism. ANCOVA was conducted, with school (School A with uniforms or School B without uniforms) as the independent variable, with absenteeism (days missed in school year 2010-2011) as the dependant variable, and with race (Caucasian = 1, NonWhite = 0) and students with disabilities status (1 = yes, 0 = no) included as covariates. Table 6 displays the ANCOVA results testing Hypothesis 1.

Absenteeism was significantly lower in School A (with uniforms) than in School B (without uniforms), $F(1,214) = 11.98$, $p < .001$ (Table 6) (Figure 1). The partial eta squared of .05 indicates that school uniforms accounted for 5% of the variance in absenteeism after accounting for race and SWD status. The observed power of .93 suggests that a replication of this study would find statistically significant differences 55% of the time. Neither SWD status ($F(1,214) = 1.35$, $p = .25$) or race ($F(1,214) = 0.04$, $p = .84$) were statistically significant covariates.

Table 6

Absenteeism Source Table

Source	SS	df	MS	F	p	Partial Eta2	Observed Power
SWD	46.32	1	46.32	1.35	0.25	<.001	0.21
Race	1.39	1	1.39	0.04	0.84	<.001	0.06
Uniforms	411.79	1	411.79	11.98	0.001	0.053	0.93
Error	7353.36	214	34.36				
Total	14993	218					

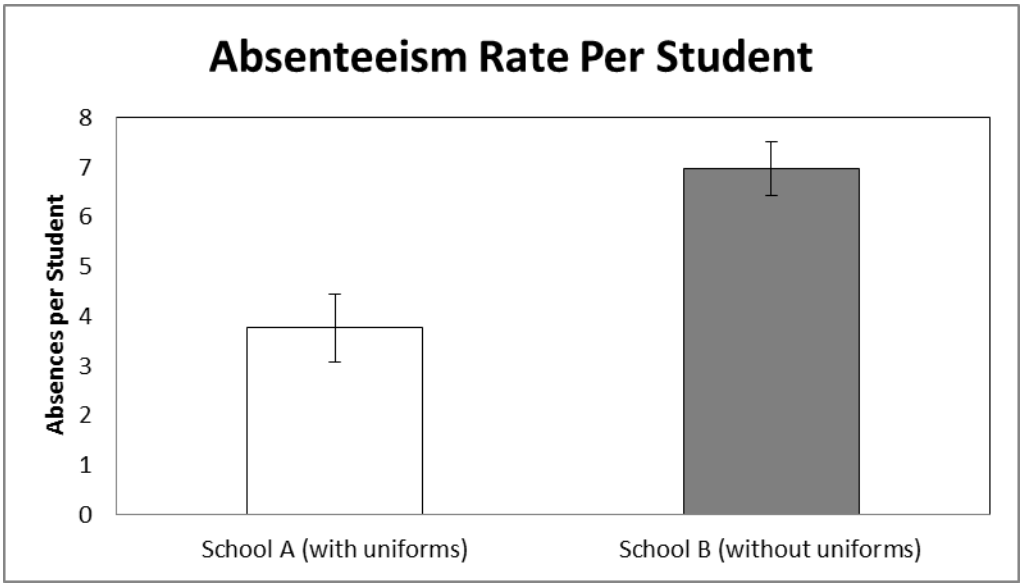

Figure 1. Absenteeism in School A (with uniforms) and School B (without uniforms). Bar Heights represent mean values. Error bars show the standard error of the mean (SEM).

Because, after race and students with disabilities status are accounted for, School A (with uniforms) was significantly lower than School B (without uniforms) in absenteeism at the threshold of $p < .05$, Null Hypothesis 1 was rejected.

Summary of research question 1. High absenteeism results contrasting students with uniforms and students without uniforms demonstrated a significant difference between schools. School A (with uniforms) was significantly lower in that School B (without uniforms) in absenteeism. Because differences were statistically significant at a threshold of $p < .05$, null Hypothesis 1 was rejected.

Unit 2: Achievement

Achievement data included the English Language Arts and Math sections of the Georgia High School Graduation Test (GHSGT) scores. The GHSGT populations were the eleventh grade students for each of the two high schools. To assess Research

Question 2, data were analyzed using ANOVA at a threshold of $p < .05$, and using Partial Eta Squared to assess Effect Size.

Research Question 2

Is there a significant difference of GHSGT scores in high schools with and without the implementation of school uniforms? The percentage of eleventh grade first time test takers passing the English language arts and math sections of the Georgia High School Graduation Test (GHSGT) was used to measure student achievement. Complete data were available for 2010 -2011 school year.

GHGST English. A between-groups analysis of covariance (ANCOVA) was conducted to evaluate the null hypothesis of no significant difference in GHSGT ELA scores between School A (with uniforms) ($n = 67$) and School B (without uniforms) ($n = 126$). The dependent variable was GHSGT ELA (English Language Arts).

Table 7 displays the descriptive statistics for each group as well as for the entire sample. GHSGT ELA scores at School A (with uniforms) averaged 230.6 ($SD = 23.7$) ($M = 233.1$, $SD = 25.0$ when adjusted for SWD and race), while GHSGT ELA scores at School B (without uniforms) averaged 232.9 ($SD = 23.2$) ($M = 231.4$, $SD = 24.3$ when adjusted for SWD and race).

Table 7

GHSGT ELA score descriptive by group

	Unadjusted		Adjusted		
Group	Mean	SD	Mean	SD	N
Without Uniforms	232.9	23.2	231.4	24.3	126
With Uniforms	230.6	23.7	233.1	25.0	67

Note. SD = standard deviation. Adjusted = values adjusted for race and students with disabilities (SWD).

ANCOVA: GHGST ELA. ANCOVA was conducted, with school (School A with uniforms or School B without uniforms) as the independent variable, with GHGST ELA as the dependant variable, and with race (Caucasian = 1, AA or Non White = 0) and students with disabilities status (1 = yes, 0 = no) included as covariates. Table 8 displays the ANCOVA results testing Hypothesis 2.

Table 8

GHGST ELA ANCOVA Source Table

Source	SS	df	MS	F	p	Partial Eta2	Observed Power
SWD	2785.42	1	2785.42	5.23	0.02	0.03	0.62
Race	1474.34	1	1474.34	2.77	0.10	0.01	0.38
Uniforms	102.22	1	102.22	0.19	0.66	<.01	0.07
Error	105381	198	532.22				
Total	10985800	202					

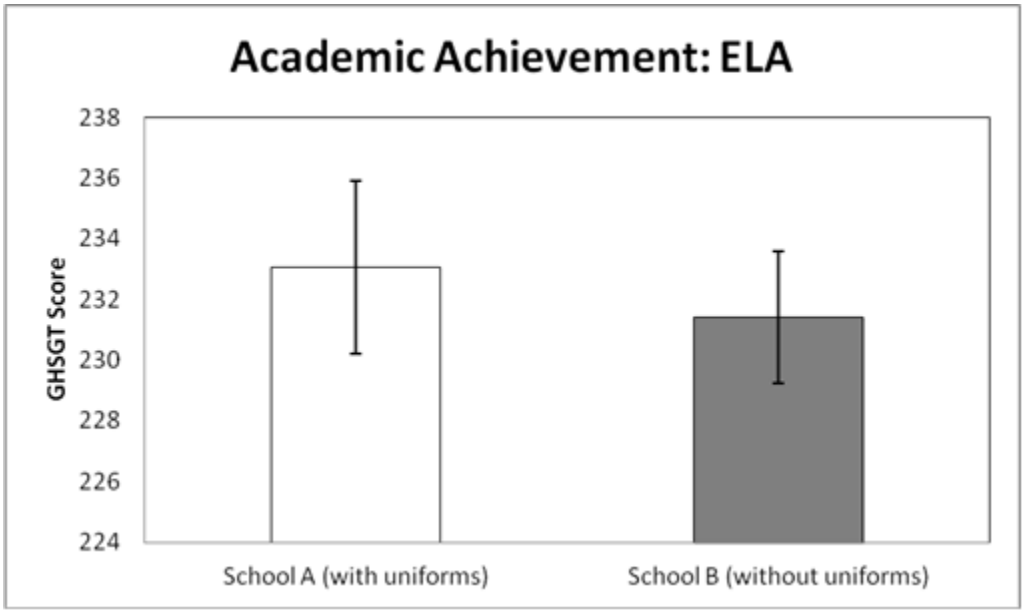

Figure 2. GHSGT English Language Arts at School A (with uniforms) and School B (without uniforms). Bar heights reflect values adjusted for race and SWD status. Error bars represent standard error of the mean (SEM).

The effect of school uniforms on GHSGT ELA was small and not statistically significant, F (1,198) = 0.19, p = 0.66; Partial Eta Squared = 0.02) (Table 8, Figure 2). The observed power of 0.07 suggests that the effect of school uniforms barely registers above the .05 power that reflects the false alarm rate at a threshold of $p < .05$, suggesting no effect. SWD status was a significant covariate, F (1,198) = 5.23, $p < 0.02$. Race was not a significant covariate, F (1,198) = 2.77, p = 0.10 (Table 8). Because there was no statistically significant difference between School A (with uniforms) and School B (without uniforms) groups in GHGST ELA after race and students with disabilities status were accounted for, Null Hypothesis 2 was not rejected.

GHGST Math. A between-groups analysis of covariance (ANCOVA) was conducted to evaluate the null hypothesis no significant difference in GHSGT Math scores between School A (with uniforms) (n = 67) and School B (without uniforms) (n =

126). The dependent variable was GHSGT Math. Table 9 displays the descriptive statistics for each group. GHSGT math scores at School A (with uniforms) averaged 235.6 (SD = 30.1) unadjusted and 235.5 (SD = 36.71) when adjusted for SWD and race, while GHSGT math scores at School B (without uniforms) averaged 246.5 (SD = 37.2) unadjusted and 235.5 (SD = 36.7) when adjusted for SWD and race.

Table 9

GHSGT Math score descriptive by group

	Unadjusted		Adjusted		
Group	Mean	SD	Mean	SD	N
Without Uniforms	246.5	37.2	246.5	35.6	126
With Uniforms	235.6	30.1	235.5	36.7	67

Note. SD = standard deviation. Adjusted = values adjusted for race and students with disabilities (SWD).

ANCOVA: GHGST Math. ANCOVA was conducted, with school (School A with uniforms or School B without uniforms) as the independent variable, with Enhanced GHGST Math as the dependant variable, and with race (Caucasian = 1, AA or Non White = 0) and students with disabilities status (1 = yes, 0 = no) included as covariates. Table 10 displays the ANCOVA results testing Hypothesis 3.

The effect of school uniforms on Enhanced GHSGT math trended higher for School B (without uniforms), but this effect was not statistically significant, F (1,189) = 3.69, p = 0.06; Partial Eta Squared = 0.02) (Table 10, Figure 3). The observed power of 0.48 suggests a roughly 50-50 chance of finding a statistical significant difference if this

study was replicated. SWD status was a significant covariate, F (1,189) = 6.84, p < 0.01. Race was not a significant covariate, *F* (1,189) = 1.27, *p* = 0.26. Because there was trend but no statistically significant difference between School A (with uniforms) and School B (without uniforms) groups in Enhanced GHGST Math after race and students with disabilities status were accounted for, Null Hypothesis 3 was not rejected.

Table 10

Enhanced GHGST Math ANCOVA Source Table

Source	SS	df	MS	F	p	Partial Eta2	Observed Power
SWD	8061.58	1	8061.58	6.84	.01	0.03	0.74
Race	1497.20	1	1497.20	1.27	.26	0.01	0.20
Uniforms	4347.55	1	4347.55	3.69	.06	0.02	0.48
Error	222798	189	1178.83				
Total	11606512	193					

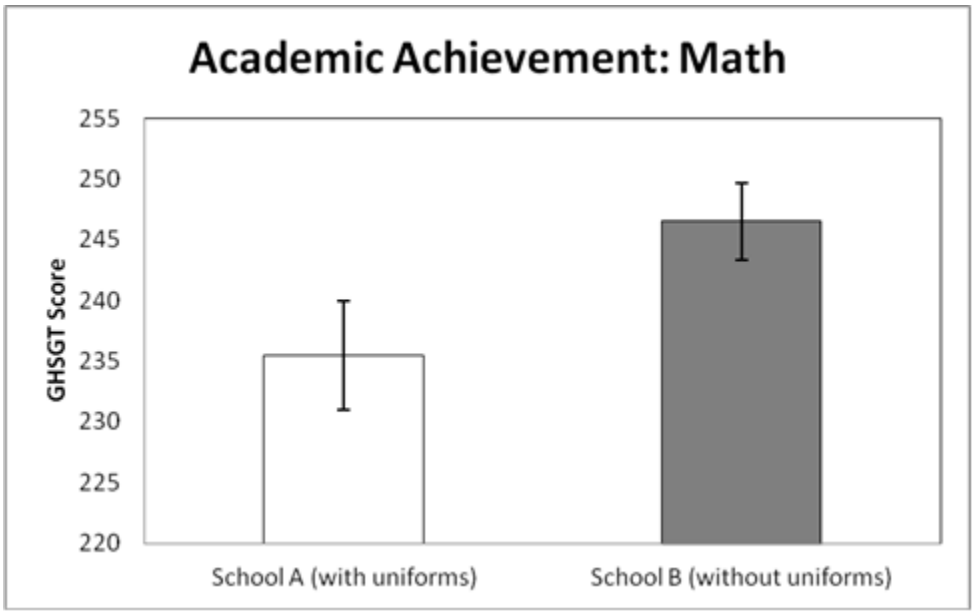

Figure 3. GHSGT Math at School A (with uniforms) and School B (without uniforms).

Bar heights reflect values adjusted for race and SWD status. Error bars represent standard error of the mean (SEM).

Summary of Research Question 2. Null Hypothesis 2 and null Hypothesis 3 were not rejected because no significant differences was found between School A (with uniforms) and School B (without uniforms) in Math or in English Language Arts in school year 2010-2011, after race and students with disabilities status were accounted for. However, it is important to note the statistical trend ($p = .06$) of lower scores for School A (with uniforms) than School B (without uniforms) in GHSGT Math.

Unit 3: Behavior

Behavior data was measured by the total number of discipline referrals per student in school year 2010-2011. .Discipline infractions were classified at three levels. Level-1 was minor infractions, Level-2 was intermediate infractions, and Level-3 was major infractions.

Research Question 3

Is there a significant difference between School A (with uniforms) and School B (without uniforms) in discipline referrals in school year 2010-2011, after race and students with disabilities status are accounted for?

ANCOVA was conducted, with school (School A[with uniforms] or School B [without uniforms]) as the independent variable, with Level-1, Level-2 and Level-3 discipline referral infractions as the dependent variables, and with race (Caucasian = 1, AA or Non White = 0) and students with disabilities status (1 = yes, 0 = no) included as

covariates. Table 11 displays the Level-1, Level-2, and Level-3 discipline referral infractions at School A (with uniforms) and School B (without uniforms).

Table 11

Infraction rate descriptive by group

		Unadjusted		Adjusted		
Infraction	Group	Mean	SD	Mean	SD	N
Level-1	Without Uniforms	.75	1.43	.82	1.28	130
	With Uniforms	.50	.80	.40	1.31	88
Level-2	Without Uniforms	.26	.71	.30	1.24	130
	With Uniforms	.83	1.63	.77	1.27	88
Level-3	Without Uniforms	.02	.15	.05	.57	130
	With Uniforms	.28	.83	.25	.58	88

Note. SD = standard deviation. Adjusted = values adjusted for race and students with disabilities (SWD).

Level-1 infractions. At School A (with uniforms), there were .50 Level-1 infractions per students (SD = .80) (M = .40, SD = 1.31 when adjusted for SWD and race), compared to .75 Level-1 infractions per student (SD = 1.43) (M = .82, SD = 1.28 when adjusted for SWD and race) at School B (without uniforms) (Table 11). This difference was not statistically significant at the Bonferroni corrected threshold of $p < .0167$, $F(1, 214) = 4.85$, $p = .03$ (Table 12, Figure 4). For Level-1 infractions, Race ($F(1, 214) = 4.80$, $p = .03$) and SWD status ($F(1, 214) = 1.04$, $p = .31$) were not significant covariates at the Bonferroni corrected threshold of $p < .0167$. These finding demonstrated

a trend towards lower absenteeism in School A (with uniforms) but failed to reject the null hypothesis of no significant difference between School A (with uniforms) and School B (without uniforms) in student Level-1 discipline referral infractions, when race and SWD status were accounted for.

Table 12

Level-1 Student Discipline Referral Infraction ANCOVA Source Table

Source	SS	df	MS	F	p	Partial Eta2	Observed Power
SWD	0.27	1	0.27	0.19	0.67	0.00	0.07
Race	6.98	1	6.98	4.80	0.03	0.02	0.59
Uniforms	7.05	1	7.05	4.85	0.03	0.02	0.59
Error	311.33	214	1.45				
Total	413.00	218					

Level-2 infractions. At School A (with uniforms), there were .83 Level-2 infractions per students (SD = .1643) (M = .77, SD = 1.27 when adjusted for SWD and race), compared to .26 Level-2 infractions (SD = .71) (M = .30, SD = 1.24 when adjusted for SWD and race) per student at School B (without uniforms) (Table 11). This difference was statistically significant, $F (1, 214) = 6.63$, $p < .01$ (Table 13, Figure 4). For Level-2 infractions, neither Race ($F (1, 214) = 2.17$, $p = .14$) nor SWD status ($F (1, 214) = 0.74$, $p = .39$) were significant covariates. These finding rejected the null hypothesis of no significant difference between School A (with uniforms) and School B

(without uniforms) Level-2 discipline referral infractions, when race and SWD status were accounted for.

Table 13

Level-2 Student Discipline Referral Infraction ANCOVA Source Table

Source	SS	df	MS	F	p	Partial Eta2	Observed Power
SWD	1.00	1	1.00	0.74	0.39	0.00	0.14
Race	2.96	1	2.96	2.17	0.14	0.01	0.31
Uniforms	9.03	1	9.03	6.63	0.01	0.03	0.73
Error	291.54	214	1.36				
Total	365.00	218					

Level-3 infractions. At School A (with uniforms), there were .28 Level-3 infractions per students (SD = .83) (M = .25, SD = .58 when adjusted for SWD and race), compared to .02 Level-3 infractions (SD = .15) (M = .05, SD = .57 when adjusted for SWD and race) per student at School B (without uniforms). (Table 11). This difference was not statistically significant at the Bonferroni corrected threshold of $p < .0167$, $F (1, 214) = 5.69$, $p < .02$ (Table 14, Figure 4). For Level-3 infractions, Race ($F (1, 214) = 4.36$ $p = .04$) and SWD status ($F (1, 214) = 1.66$, $p = .20$) were not a significant covariates. These finding demonstrated a trend towards more Level-3 infractions at School A (with uniforms) but failed to reject the null hypothesis of no significant difference between School A (with uniforms) and School B (without uniforms) in Level-3 discipline referral infractions, when race and SWD status were accounted for.

Table 14

Level-3 Student Discipline Referral Infraction ANCOVA Source Table

Source	SS	df	MS	F	p	Partial Eta2	Observed Power
SWD	0.47	1	0.47	1.66	0.20	0.01	0.25
Race	1.25	1	1.25	4.36	0.04	0.02	0.55
Uniforms	1.62	1	1.62	5.69	0.02	0.03	0.66
Error	61.09	214	0.29				
Total	70.00	218					

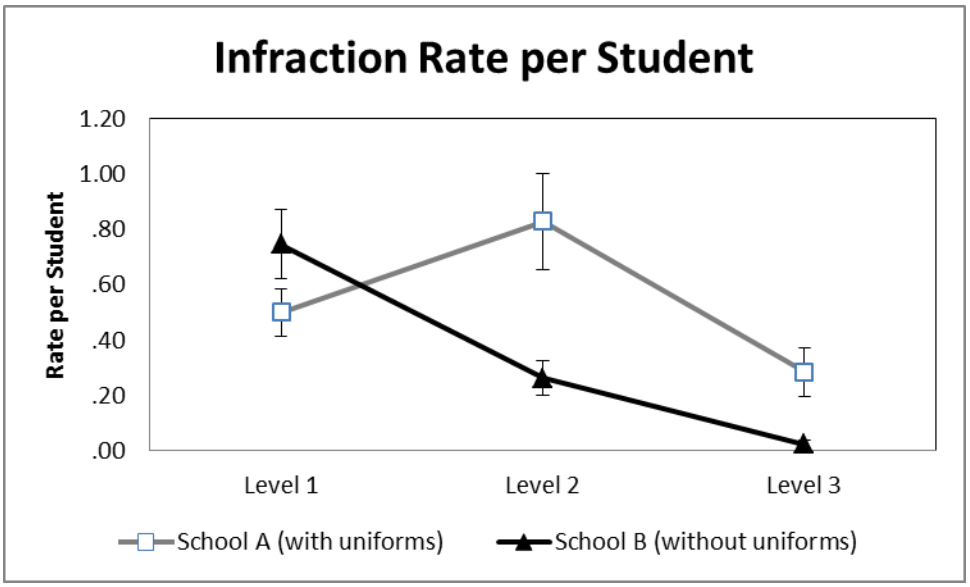

Figure 4. Infractions in School A (with uniforms) and School B (without uniforms). Icon heights indicate mean values adjusted for race and SWD status. Error bars reflect the standard error of the mean (SEM).

Summary of research question 3. Discipline infractions were classified into three levels. Level-1 (minor infractions) trended lower in School A (with uniforms), while Level-2 (intermediate infractions) were significantly lower and Level-3 (major infractions) trended lower in School B (without uniforms) when race and SWD status were accounted for. Because significant differences in discipline referral infractions between schools were found, the null hypothesis was rejected.

Summary of Results

The results of the four research questions are presented within this chapter. The data were collected from the GHSGT and the student information system PowerSchool at two Southwest Georgia schools. The PowerSchool student information system was used to examine absenteeism and disciplinary referral data. The GHSGT scores were used to analyze achievement in ELA and math. Three research questions were addressed.

Research Question 1 asked, is there a significant difference between School A (with uniforms) and School B (without uniforms) in absenteeism (days absent per student) in school year 2010-2011, after race and students with disabilities status are accounted for? Null Hypothesis 1 was rejected because students at School A (with uniforms) had fewer days absent than students at School B (without uniforms).

Research Question 2 asked, is there is a significant difference between School A (with uniforms) and School B (without uniforms) in scores on the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for? Null Hypothesis 2 was not rejected because School A (with uniforms) and School B (without uniforms) were similar in GHSGT ELA. Null Hypothesis 3 was not rejected because School A (with uniforms) trended lower in GHSGT Math compared

to School B (without uniforms), but this difference was not statistically significant at the .05 threshold ($p = .06$).

Research Question 3 asked, is there a significant difference between School A (with uniforms) and School B (without uniforms) in discipline referrals in school year 2010-2011, after race and students with disabilities status are accounted for? Null Hypothesis 4 was not rejected because School A (with uniforms) trended higher than School B (without uniforms) in Level-1 discipline referral infractions, but this difference did not reach the threshold for statistical significance. Null Hypothesis 5 was rejected because School A (with uniforms) had significantly more Level-2 discipline referral infractions than School B (without uniforms). Null Hypothesis 6 was not rejected because School A (with uniforms) trended higher in Level-3 discipline referral infractions, but this difference compared to School B (without uniforms) did not reach the threshold for statistical significance.

Overall, findings were mixed. School A (with uniforms) had better attendance than School B (without uniforms), but somewhat trended lower in math scores. No differences were found between schools in ELA. Compared to School B (without uniforms), School A (with uniforms) had somewhat fewer Level-1 (minor) discipline referral infractions, but more Level-2 (intermediate) and Level-3 (major) infractions. In summary, school uniforms were associated with better attendance, but worse behavior.

The following discussion chapter restates the problem addressed by this research, reviews the findings in context of specific hypotheses, then discusses the findings in the context of previously published literature. Implications of the present findings are

provided, in addition to limitations of the present study and recommendations for future research.

CHAPTER FIVE: DISCUSSION

Introduction

The study of school uniforms is important. Schools and school districts are facing the challenge of being able to supervise student attire in order to promote order, create a conducive learning environment, and ward off gang activity (Swafford, Jolley, & Southward, 2011). In May of 2006, the Board of Education in the southwest county of Georgia in which the study was conducted implemented a standardized dress code for K-12 schools. The Board adopted this school uniform policy hoping to produce some of the benefits touted by school uniform proponents. Since the implementation of the policy, the changes in School Attendance, academic achievement, graduation rates, and discipline referral rates as revealed in this study may connect to the Board of Education's approval of a fixed uniform for all students. According to Brunsma and Rockquemore (1998), a closer examination of the uniform reform discussion is needed before educational reformers can assert that school uniforms policies can create an improved school environment. Based on the study and Bandura's Modeling Theory, the researcher would not recommend implementing a uniform policy without further research due to the many limitations of this study.

While there is limited empirical data to support the supposed positive effects of school uniform policy on attendance, academic achievement, and discipline referral rates, school uniform policies continue to increase. This study was conducted to determine if

school uniforms had improved school attendance, behavior, and enhanced student achievement by looking at GHSGT ,attendance, and the frequency of discipline infractions at two high schools in rural southwest Georgia.

Restatement of Problem

A study was needed to analyze the effects of uniforms and provide information for future decisions regarding the use of uniforms in conjunction with dress codes in public school systems. This study focused on a rural school system in southwest Georgia with two high schools, one with a school uniforms program (School A) and one without a school uniforms program (School B). No previous study analyzed the effects that uniform policy had on attendance, standardized test scores, and behavior, while accounting for race and students with disabilities status. Therefore, the purpose of this study was to determine differences between two southwest Georgia high schools, one with a uniforms program and one without a uniforms program, in measures of attendance, academic achievement, and discipline referrals, while accounting for race and students with disabilities status.

Quantitative Results

Analysis of attendance data showed that School A (with uniforms) had better attendance than School B (without uniforms) after accounting for race and students with disabilities status. Georgia High School Graduation Test results revealed that, after accounting for race and students with disabilities status, School A (with uniforms) trended lower than School B (without uniforms) in math, while the schools were similar in English Language Arts. Student discipline referral data showed that School A (with uniforms) had significantly more infractions overall, and significantly more Level-2

(intermediate) and Level-3 (major) discipline referral infractions than School B (without uniforms) after accounting for race and students with disabilities status. These results are summarized below.

Summary of Results

This summary of results is organized by research question. Each research question is restated, followed by a restatement of the hypotheses. A determination is made to either reject or not reject each null hypothesis. This summary leads to a discussion of the results.

Research Question 1

Research Question 1 asked, Is there a significant difference between School A (with uniforms) and School B (without uniforms) in absenteeism (days absent) in school year 2010-2011, after race and students with disabilities status are accounted for?

Null Hypothesis 1: There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in the percentage of students who missed more than fifteen days in school year 2010-2011, after race and students with disabilities status are accounted for.

Null Hypothesis 1 was rejected because School A (with uniforms) had significantly fewer days absent than School B (without uniforms) after race and students with disabilities status were accounted for.

Research Question 2

Research Question 2 asked, Is there is a significant difference between School A (with uniforms) and School B (without uniforms) in scores on the Georgia High School

Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for?

Hypothesis 2: English Language Arts. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in scores on the English Language Arts portion of the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for.

Null Hypothesis 2 was not rejected because School A (with uniforms) and School B (without uniforms) not significantly different in GHSGT ELA after race and students with disabilities status were accounted for.

Hypothesis 3: Math. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in scores on the Math portion of the Georgia High School Graduation Test in school year 2010-2011, after race and students with disabilities status are accounted for.

Null Hypothesis 3 was not rejected because School A (with uniforms) trended lower in GHSGT Math compared to School B (without uniforms), but this difference was not statistically significant at the .05 threshold ($p = .06$).

Research Question 3

Research Question 3 asked, Is there a significant difference between School A (with uniforms) and School B (without uniforms) in discipline referrals in school year 2010-2011, after race and students with disabilities status are accounted for?

Hypothesis 4: Level-1 (minor) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in

the rate of Level-1 (minor) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Null Hypothesis 4 was not rejected because School A (with uniforms) trended lower than School B (without uniforms) in Level-1 (minor) infractions, but this difference failed to reach the threshold for statistical significance after race and students with disabilities status were accounted for.

Hypothesis 5: Level-2 (intermediate) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in the rate of Level-2 (intermediate) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Null Hypothesis 5 was rejected because School A (with uniforms) had significantly more students with Level-2 (intermediate) infractions than School B (without uniforms) after race and students with disabilities status were accounted for.

Hypothesis 6: Level-3 (major) infractions. There is no statistically significant difference between School A (with uniforms) and School B (without uniforms) in in the rate of Level-3 (major) infractions in school year 2010-2011, after race and students with disabilities status are accounted for.

Null Hypothesis 6 was not rejected because School A (with uniforms) trended high than School B (without uniforms) in Level-3 (major) infractions, but this difference failed to reach the threshold for statistical significance after race and students with disabilities status were accounted for.

Discussion of Results

Research Question 1

School A (with uniforms) had significantly fewer days absent than School B (without uniforms) after race and students with disabilities status were accounted for. This finding was consistent with the findings of Stevenson (1999), who found improvements in school attendance following the implementation of a school uniforms program in 28 schools in Texas. The present results were also consistent with the findings of Gonzales (2000), who found that uniform schools had higher attendance rates than non-uniform schools in New Mexico. This is important, because Levine (1992) found a significant correlation between student attendance and student achievement.

However, not all published reports support the efficacy of school uniform programs on student attendance. The National Educational Longitudinal Study of 1988 failed to show a relationship between school uniforms and school attendance (Brunsma & Rockquemore, 1998). Draa (2006) found four schools improved in attendance and two schools declined in attendance in a study of six Ohio high schools. When averaging across all schools, Draa (2006) found no significant attendance advantage from a school uniforms program.

The relationship between school uniforms and school attendance is complex and dynamic. While the present study only contrasted two schools for one year, Washington-Labat (2003) contrasted school districts that required school uniforms to school districts that did not require school uniforms in the state of Mississippi and found that attendance was higher for the first year, but not for subsequent years following the implementation of a school uniforms policy. Further, NAEP's survey (May 2000) reported that half of

participating principals saw no effect of uniforms on attendance. These differences may reflect the differing circumstances across the schools participating in the NAEP,s survey. That is, the mixed findings evident across the published literature may simply reflect the differential effect that a uniforms program can have – depending on school factors. The results of the present study support uniforms policy towards fostering student attendance, but this may merely reflect a short-term effect, or an effect that was grounded in student variables, school variables, or the quality of the school principal. Further research will be required to clarify the intriguing relationship between school uniforms and student attendance.

The No Child Left Behind Act of 2002 mandates that schools must have less than 15% of its students missing more than fifteen days of attendance to meet AYP (Adequate Yearly Progress). Towards these ends, school uniform programs are enacted, often based on the humanistic principles of Maslow's Hierarchy of Needs (2003) and Bandura's (1986) social cognitive theory, which suggests that "relatively new behaviors can be acquired simply by watching a model" (Dollard & Miller, 1950, p. 234). While published reports reviewed in this dissertation do not universally support the efficacy of school uniforms to improve school attendance, present findings provide empirical evidence supporting the utility of school uniform program towards meeting the attendance mandate of NCLB.

Research Question 2

Achievement in English Language Arts was similar between School A (with uniforms) and School B (without uniforms). Scores on the math section of the GHSGT trended lower in School A (with uniforms). These findings were consistent with the

findings of Brunsma and Rockquemore (1998), who found no improvement in academic achievement following the implementation of a school uniform program in LBUSD. In fact, according to Brunsma and Rockquemore, "A negative effect of uniforms on student academic achievement was found" (1998, p.1). DeLong (1998) found a weak negative correlation between wearing uniforms and academic performance. Da Costa's (2006) study failed to show any student achievement gains due to the implementation of a school uniform program. Further, Ward (1999) studied two middle schools and found academic improvement in one school but not the other school following implementation of the uniform program.

According to the social cognitive theory of Bandura, students serve as models for one another, and while they will not imitate exactly the behaviors of other students, they will learn through observation. Further, Bandura postulated that, "relatively new behaviors can be acquired simply by watching a model" (Dollard & Miller, 1950, p. 234). While it may be true that students model each other and observe reinforcement patterns, present findings suggest that school uniforms might not lead to improved academic performance.

In theory, it is possible that the use of school uniforms positively affects math scores and ELA scores in some situations, but that the present study was merely inadequate to demonstrate that relationship between these two high schools. However, the trend ($p = .06$) towards lower math scores for School A (with uniforms) cannot be ignored, and indicates that caution and follow-up research are warranted before advocating for school uniforms if the goal is focused on the outcome measures of

standardized ELA and math scores. The present findings provide no support for the use of school uniforms to improve standardized ELA and math scores.

Research Question 3

Discipline infraction results did not favor school uniforms in the present study, with a trend towards fewer minor infraction but more intermediate and major infractions evident in in School A (with uniforms) than in School B (without uniforms). This is important because Murray (1997) found that a school with a uniform program was perceived as having a better school climate than a matched school without a uniform program. Results of the present study were consistent with Sher (1996), who found punishments and suspensions increased slightly after the implementation of a school uniforms program.

However, the results of the present study were not consistent with the findings of DeLong (1998), who contrasted two schools and found that the school without uniforms had more gross insubordination. In fact, the opposite was seen in the present study. Bollinger (2002) found that discipline referrals were significantly lower in the school with a mandatory uniform program. Further, Draa (2006) found mixed results, with some schools improving and some schools not improving in student suspension rates. Furthermore, Reynolds (2004) found no clear pattern of consistent support in a review of 19 quantitative studies relating school uniforms to discipline. Lastly, Johnson (2010) found no change from school uniforms in crime and violence or in suspensions for most of the 38 North Carolina public high measured. Present findings provide no empirical evidence that uniforms reduce behavioral infractions.

Implications

No Child Left Behind mandated that, by the 2013-2014 school year, 100 percent of Georgia high school students will be required to take and pass the English Language Arts and Math Georgia High School Graduation Test (GHSGT) because each state is mandated to reach 100% participation and 100% passing by 2013-2014. Towards reaching these goals, the following implications derive from the reviewed literature and the empirical findings of the present study.

The first implication of the present study is that school uniforms may benefit some students. Better attendance in School A (with uniforms) compared to School B (without uniforms) points to an area of potential benefit.

The second implication of the present study is that uniforms may actually be associated with lower student performance in some outcome categories. In particular, students in School A (with uniforms) were more likely to commit Level-2 (intermediate) and Level-3 (major) behavioral infractions compared to School B (without uniforms), but somewhat fewer Level-1 (minor) infractions. These findings imply that practitioners should anticipate the possibility of more fights and major disputes if uniforms are implemented. Also, School A (with uniforms) trended lower in math and no benefit of uniforms was evident on standardized test of English Language Arts.

Third, these mixed findings imply that practitioners and theoreticians should exert great caution when making broad statements regarding the impact of school uniform programs on student outcomes without separately assessing attendance, academic achievement, and discipline referral rates.

Limitations and Recommendations for Future Studies

Limitations of the Present Study

The following limitations apply to this study:

1. The research design limited the study in that some potentially important factors were not included, factors that may contribute to attendance, academic achievement, and discipline infractions of participants. The present analysis did not control for teacher's training or certification, instructional strategies used, teacher experience in the subject area, how teachers designed and planned lessons, the pace of lessons, and the previous performance of students.
2. All data were maintained by the rural school districts and the GADOE (Georgia Department of Education). No external verification was made regarding the accuracy and proper maintenance of the governmental database.
3. The class sizes and school schedules were not controlled.
4. Only data from the 2010-2011 school year were included.
5. The study was limited to high school.
6. The study was limited to only two school districts in a limited geographic area.
7. The sample was not randomly selected. The two high schools in Southwest Georgia counties that participated in this study constituted a sample of convenience.
8. Possible classroom behavior policies and different tolerances of teachers for behavior between schools were not measured, and therefore limited the study.

9. The study did not account for the relative quality, likability, or disciplinary style of the administration at the two schools, from staff up to principal. It is possible that school-level factors such as these may account for the mixed findings in this study and in previous studies.
10. Potentially important variables were not considered, such as baseline student attendance, tests scores, and behavior from previous years, or the school culture, or the possibility of innate ability and behavioral differences between students of the two schools included in this study.
11. The lack of qualitative information (staff surveys, qualitative interviews) that could have potentially revealed perceived cause and effect relationships between school uniforms and student outcomes limited the study.
12. Since the researcher was previously an assistant principal at a school with an active uniform policy, the conclusions of the study could be biased.

Recommendations for Future Research

The following recommendations derive from the results of this study:

1. Replicate the present study with broader samples in different geographical areas, including multiple measures of student outcomes.
2. Conduct qualitative interviews to fully characterize the effects of uniform policy on students, staff, and teachers.
3. Analyze the impact of staff and local school factors, including disciplinary policy, quality of leadership, and style of implementation when exploring the effects of school uniforms on outcomes.
4. Further explore parent, teacher, and student attitudes towards uniform policy.

5. Students have rights of expression and school district administrators have a duty to protect the safety and security of students. From banning gang colors to employing a school uniforms program, balancing these rights and responsibilities is an important area for future research.
6. Longitudinal studies will be necessary to determine the long-term outcomes from school uniform interventions on later student performance.

Conclusion

Mark Twain (n.d.) stated, “clothes make the man” (p. 942). Findings from the present study of two high schools in rural Georgia suggest that it may depend on the man and the situation, as no clear pattern of support was evident in the measured results. On the one hand, School A (with uniforms) demonstrated better attendance and somewhat fewer minor behavior infractions than School B (without uniforms). On the other hand, School A (with uniforms) trended towards lower scores in a standardized math test and more disciplinary behavioral infractions, including more intermediate and major offenses.

States and school districts are under increasing pressure to meet the challenging mandates of No Child Left Behind and the associated AYP goals. School uniform policy represents one potential avenue to meet these goals. However, just as the published literature demonstrates inconsistent results across studies, the present findings provide additional empirical evidence that the benefits of school uniforms may be mixed, and that great caution should be exercised when hypothesizing uniformed outcomes from uniform programs.

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APPENDIX A

September 1, 2010

Dear,

I am currently a doctoral student at Liberty University in Lynchburg, Virginia and am working on my doctoral dissertation. My work is focused on school uniforms and their relationship to student behavior, test scores, attendance and graduation rate. I am interested in studying this subject in relation to rural a Georgia school similar to the one at which I am an administrator. We do not currently have a uniform policy, and I am interested in studying your system since it has a similar composition of students and economic levels to our system. I would like to study data concerning your discipline referrals, test scores, attendance and graduation rate both prior to and after the implantation of uniforms. In order to complete my research, I need access to information from 2004-2010. I will not need any individually identifiable information such as student name or id number. I would also like to have access to student demographic information such as age, gender, socio-economic status (if available), and disability (if applicable).

I am hopeful that you will be able to work with me and will allow me access to your student data. I am certainly willing to provide you with a copy of my findings. I welcome the opportunity to discuss my study further with you. Please respond via mail, e-mail or phone at your convenience. I look forward to hearing from you.

Sincerely,

Russell Sowell, Principal

APPENDIX B

October 22, 2010

To whom it may concern:

Russell Sowell has been granted permission to conduct research at schools in County. This study will explore school uniforms and their relationship to student behavior, test scores, attendance and graduation rate.

Sincerely,

APPENDIX C

LIBERTY
UNIVERSITY.

The Graduate School at Liberty University

November 8, 2010

Russell Sowell
IRB Approval 1009.110810: The Relationship of School Uniforms to Student Behavior, Academic Achievement and Discipline in a Southwest Georgia High School

Dear Russell,

We are pleased to inform you that your above study has been approved by the Liberty IRB. This approval is extended to you for one year. If data collection proceeds past one year, or if you make changes in the methodology as it pertains to human subjects, you must submit an appropriate update form to the IRB. The forms for these cases were attached to your approval email.

Thank you for your cooperation with the IRB and we wish you well with your research project.

Sincerely,

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