COLLEGE-BOUND STUDENTS: A STUDY OF THE RELATIONSHIP BETWEEN
RELIGIOSITY/SPIRITUALITY, AND ACHIEVEMENT IN CHRISTIAN SCHOOLS

by
William S. Wright
Liberty University

A Dissertation Presented in Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

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ABSTRACT

The achievement gap between private and public school college-bound students has continued to widen each year since 1972. The researcher studied the relationship of Christian school college-bound students’ religiosity/spirituality using a validated survey instrument and their achievement as measured on the Scholastic Aptitude Test. The literature implies a relationship, but there is a gap in studying homogeneous religious groups. Therefore, the researcher selected a homogeneous grouping, Texas Christian high school college-bound seniors, as the sample for this study. The researcher obtained permission to use the Religiosity and Spirituality Scale for Youth (RASSY) survey instrument and included demographic and score data from student Scholastic Aptitude Test (SAT) reports. The researcher used Pearson r to analyze relationships between students’ religiosity and spirituality as measured by the Religiosity and Spirituality Scale for Youth (RASSY), years enrolled in a Christian school, and students’ composite critical reading, mathematics, and writing SAT scores. Results indicated a positive and significant relationship between years enrolled in a Christian school and composite SAT scores.

Keywords: achievement gap, Christian school, college-bound students, RASSY, religiosity and spirituality, SAT
Dedication

This work is dedicated to the church leaders, parents, and children who provide the vision, training, and future of our nation. May God continue to bless our churches, homes, and schools.
Acknowledgments

First, I thank God for giving me the unction, energy, and perseverance to complete a project of this magnitude. Second, my wife and co-laborer, Terry, has provided unlimited encouragement through this process. Without her involvement, I would have never finished. Finally, my chair and committee have helped me grow as a researcher, scholar, and writer. I am humbled as I recognize that there are no guarantees of having a team of this quality.
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List of Abbreviations

American College Testing (ACT)
Association of Christian Schools International (ACSI)
Cardus Education Survey (CES)
Correlation ($r$)
Evangelical Christian Theory (ECT)
General Certificate in Secondary Education (GCSE)
Grade Point Average (GPA)
Hypothesis (H)
Institutional Review Board (IRB)
King James Version (KJV)
Mean ($M$)
National Assessment of Educational Progress (NAEP)
National Association of Private Schools (NAPS)
National Center for Education Statistics (NCES)
National Education Association (NEA)
No Child Left Behind (NCLB)
Programme of International Student Assessment (PISA)
Religious Identity Status (RIS)
Religiosity and Spirituality Survey for Youth (RASSY)
Religiosity/Spirituality Level (RSL)
Research Question (RQ)
Scholastic Aptitude Test (SAT)
Significance Level ($p$)

Socioeconomic Status (SES)

Standard Deviation ($SD$)

State of Texas Assessments of Academic Readiness (STAAR)

Survey of Christian High School Spirituality and Religiosity (SCHSSAR)

Texas Private School Accreditation Commission (TEPSAC)

Theory of Psychosocial Development (TPD)

Trends in International Math and Science Study (TIMSS)

United States of America (USA)
CHAPTER 1: INTRODUCTION

The achievement gap has been growing between public and private schools in the United States since 1972 (The College Board, 2015). Statistics cannot accurately describe how large the gap really is because of the dynamic of low-performing dropouts in the public sector. Since public high school dropouts are typically low-performers, removing them from the test-taking pool has had the effect of raising the average score of the remaining group taking achievement tests. Further, the achievement gap between black and white students in the private sector is significantly less than the achievement gap between black and white students in the public sector (Coulson, 2005). This phenomenon suggests a skewing of the public school score results, which falsely reports black males as the lowest-performing group when the lowest performers’ scores are not present because they dropped out of school and did not participate in the assessments that the remaining students did. The data reporting that private school college-bound graduates score higher than public school college-bound graduates on the Scholastic Aptitude Test (SAT) with a much narrower achievement gap between blacks and whites seems to suggest a demographic or school-level factor exits in private schools that is absent in public schools. Therefore, the present study surveyed a homogeneous grouping of Christian high school college-bound students to determine whether there was a positive and significant relationship between the factors, student religiosity and spirituality, and student composite SAT scores.

The Scholastic Aptitude Test, taken by college-bound juniors and seniors, is a norm-referenced test. As such, it is a barometer of achievement between groups of college-bound students. Early studies tied SAT scores to socio-economic status (SES),
but recent literature implies a positive and significant correlation between perceived social support and student achievement (Young, 2011). It is possible that philosophically homogeneous groupings of students contribute to academic achievement of the same in schools because perceived social support is high (Jeynes, 2003). Christian school populations tend to be homogeneous because parents must agree to a common statement of faith to enroll their children in these institutions.

Others equate high achievement with students of strong faith families (Godfrey, 2008), possibly due to the resilience youth develop because of strong church ties and the safety net it provides them (Regnerus, 2003), particularly in African-American students (Walker, 2002). Still others assert young Christians tend to be more intrinsically motivated than nonbelievers and because of their heightened intrinsic motivation, Christian students are more stable in behavior; have a better knowledge of the Bible; and have higher grade point averages (GPA) than their non-faith counterparts. (Jeynes, 2009).

The Cardus Education Survey (CES) recently challenged the status quo belief that Christian schools were havens for right-wing indoctrination of narrow-minded biblical beliefs (Pennings, 2011). The study revealed Christian schools are fertile soil for the development of high achieving students who are dedicated to God, community, church and family. Many studies examined the effects of religiosity, spirituality, or the interaction of the two on randomly-grouped students (Dowling, 2004; French, 2008; Good, 2006; Jeynes, 2009; Hernandez, 2011). A gap in the literature exists on testing these effects on a purely Christian school population. The proposed study will test the relationship of Christian high school students’ religiosity and spirituality (through a survey of their religious beliefs and behaviors) and SAT scores.
Background

For many years, educators have sought to discover what works in schools. From Moore (1934) to Marzano (2003), theorists and educators have been studying and sharing quality practices to improve student performance. We have learned much and legislators have acted on our new knowledge. The 103rd Congress enacted HR 1804 Goals 2000: Educate America Act as a response to educational research on America’s failing educational system. The funding from the act resulted in numerous educational reform projects, a reduction in local control, and standards-based education policy for public schools (Freeman, 1995).

Although the federal and state governments have poured billions of dollars into educational reform in the public sector, private school students have continued to widen the achievement gap between themselves and their public school counterparts since 1972 (Aud, 2012). While private school educators do not have to work with as diverse a spectrum of students as public school educators do (Keafer, 2016), the implication is that private school educators have benefitted from educational research findings more than public school educators have. However, until recently, few empirical studies have tested this hypothesis.

Problem Statement

The problem is that public school college-bound students have not kept pace with private school college-bound students in Scholastic Aptitude Test (SAT) Total Group Scores since 1972 (The College Board, 2015). Reviewing the National Assessment of Educational Progress (NAEP), public school high school seniors’ reading and math scores in 2008 were not significantly different from in the 1970s. History, geography,
and civics scores were flat in comparison of 2010 and 1994 reports. From a global perspective, the 2009 Program for International Student Assessment (PISA) indicated U.S. public school students were on par with other countries in reading literacy, but U.S. students’ average math score was lower than the average of the scores of other countries (Aud, 2012).

On the other hand, private religious school college-bound students’ SAT scores have steadily increased since 1972 (The College Board, 2015). Unfortunately, little data exist to compare United States private religious school students internationally. Only recently has literature looked to this sector for answers to the achievement crisis of public education (Dowling, 2004; French, 2008; Good, 2006; Jeynes, 2009; Hernandez, 2011).

**Purpose Statement**

The purpose of this correlational study was to test the Evangelical Christian theory that related the religiosity and spirituality of college-bound students to Scholastic Aptitude Test (SAT) scores. Participants in this study were senior college-bound students in Christian schools. The independent variable was religiosity/spirituality score. The dependent variable was SAT score.

**Significance of the Study**

This study provided insight to the relationship of religiosity/spirituality and college-bound student achievement. Researchers have studied the relationship of religion, spirituality, and student achievement (Godfrey, 2008; Jeynes, 2010; Regnerus, 2003; Walker, 2002; Yokum, 2010). This researcher attempted to extend the body of knowledge in the literature by correlating religiosity/spirituality scores of college-bound Christian school students to the same group’s SAT composite critical reading,
mathematics, and writing scores. By definition, religiosity is a measure indicating a person’s level of religious activities and spirituality is a measure of a person’s level of belief and dependence upon God. Though they are two distinct constructs (Walker, 2002), combined, these two measures represent a quantifiable score that researchers can correlate with other measures (Hernandez, 2011).

If a positive and significant relationship existed between religiosity/spirituality scores and SAT scores, Christian schools could use the survey to predict student achievement. Strategies such as evangelism, Bible devotions, and mentoring might increase students’ participation in church activities and personal faith. These increases could have a positive and significant effect on academic achievement (Jeynes, 2010).

“[Christians] worship God in spirit, rejoice in Jesus Christ, and have no confidence in the flesh” (Philippians 3:3, KJV). Studies have suggested that a relationship exists between spiritual and religious structure and adolescent thriving (Dowling, 2004). Further, Jeynes (2010), studying the achievement gap between blacks and whites, reported that although a significant achievement gap existed between black adolescent male students and their white counterparts in total group reports, there was no achievement gap between blacks and whites for intact families of faith. Therefore, it is possible that Christians who place their children in Christian schools will enable higher achievement in their children than if they placed their children in non-faith schools. This study might inspire Christian families to place their children in Christian schools. Finally, this study will be one-step toward a better understanding of how religion and spirituality can improve achievement in Christian children who are demoralized by the discontinuity of beliefs in a faithless school environment.
Research Questions

The achievement gap between private and public school students suggests there may be a relationship between type of school and student achievement. The researcher chose two research questions related to the problem and purpose of this study. The first question relates to the instrument the researcher chose to test the hypotheses. The second question queries the longevity of enrollment in a Christian school related to achievement scores.

RQ1: Is there a positive and statistically significant relationship between college-bound students’ RASSY scores and their critical reading, mathematics, and writing scores on the SAT?

RQ2: Is there a positive and statistically significant relationship between college-bound students’ time enrolled in a Christian school and their critical reading, mathematics, and writing scores on the SAT?

Null Hypotheses

The following hypotheses related to the research questions in the previous section form the framework for this study. Each statement is in null form. Null hypotheses are useful when carrying out tests of statistical significance ($p$) (Gall, 2007, pp. 138-139). The researcher can compare the results of the statistical test with the hypotheses and then rejected or failed to reject them based on the $p$ value of the test.

H$_{01}$: There is no statistically significant relationship between college-bound students’ RASSY scores and their composite critical reading, mathematics, and writing scores on the SAT.
H02: There is no statistically significant relationship between college-bound students’ time enrolled in a Christian school and their composite critical reading, mathematics, and writing scores on the SAT.

**Identification of Variables**

The independent variable in this study is the student religiosity/spirituality score based on the Religiosity and Spirituality Scale for Youth (RASSY) (Hernandez, 2011). Students complete the self-descriptive RASSY by answering questions on their behaviors and beliefs associated with God, the Bible, Jesus Christ, the Holy Spirit, and their life in the local church.

The dependent variables in this study will be student survey answers and critical reading, math, and writing scores from the Scholastic Aptitude Test (SAT) (The College Board, 2015). The SAT is a norm-referenced achievement test taken by juniors and seniors. Most Texas universities require students to take this test as a part of their enrollment process.

**Definitions**

During the course of this manuscript and study, the reader might require definitions of certain terms. Therefore, the author has provided definitions of uncommon terms, as follows:

1. *Evangelical Christian Theory (ECT)*

ECT rests upon the belief that the Bible, itself, is inerrant. As it came from God, the Creator, it contains the wisdom necessary for all life. Therefore, as a foundational resource, it is sufficient for creating pedagogy for teaching and learning (Cunningham, 1977).
2. *Religiosity and Spirituality Scale for Youth (RASSY)*

RASSY is a survey instrument (Hernandez, 2011) that employs a Likert Scale on thirty-seven behaviors and beliefs to arrive at a religiosity and spirituality score (Hernandez, 2011, p. Appendix)- Religiosity comprises behaviors and beliefs associated with God, the Bible, Jesus Christ, the Holy Spirit, and their life in the local church (Jeynes, 2010).

3. *Religion*

The term religion implies a relationship between humans and a supernatural power (Hill, 2000).

4. *Religiosity*

The construct of religiosity involves an individual’s participation and practice in a faith-based institution (Dowling, 2004). It is an extrinsic value (Good, 2006).

5. *Scholastic Aptitude Test (SAT)*

SAT is a norm-referenced achievement test required by many universities as part of their entrance requirements. The SAT reports mean score, percentile rank, scaled score, and standard deviation data. The scaled score range on each subtest is 200 to 800 (The College Board, 2015).

6. *Spirituality*

Spirituality refers to the level of one’s beliefs of Scripture or personal commitment to one’s faith. It is an intrinsic value (Good, 2006).
CHAPTER TWO: REVIEW OF LITERATURE

Introduction

The achievement gap has been growing between public and private schools in the United States since 1972 (The College Board, 2015). The College Board, organized in 1900, has helped colleges and universities identify capable students through standardized entrance exams or “College Boards” (The College Board, 2015). The Scholastic Aptitude Test (SAT), developed by Carl Brigham, first taken by college-bound juniors and seniors in 1926, is a norm-referenced test derived from earlier army alpha intelligence tests (Jacobsen, 2013). The test was unique in that its design tested aptitude for learning instead of subject mastery. Over the years, refinements to the SAT have provided valuable information for educators, policy makers, and researchers. As such, it is a barometer of achievement between groups of college-bound students.

Beyond the scope of this study, the College Board SAT offers subject tests, which report achievement data in three groups: English, history, and social studies; mathematics and science; and foreign and classical languages.

While most of the relevant literature on achievement gap relates the effects of ethnic and social backgrounds to student achievement, a gap in the literature exists on testing these effects on a purely Christian school population. The proposed study will test the relationship of Christian high school students’ religiosity and spirituality (through a survey of their religious beliefs and behaviors) and their SAT scores. This chapter includes the theoretical framework, review of literature, and a summary.
Theoretical Framework

In theory, all children can learn and achieve. However, learning and achievement depend upon intrinsic and extrinsic variables. Conflicts in values between home and school can diminish children’s ability to learn and assimilate knowledge. Christians, today, regard the books Solomon wrote under God’s inspiration as authoritative literature for training in wisdom. In the Bible, Solomon asserted that it is wise to ensure children learn from models consistent with their parents: “Hear, ye children, the instruction of a father, and attend to know understanding” (Proverbs 4:1, KJV). “Hear me now therefore, O ye children, and depart not from the words of my mouth” (5:7). “Hearken unto me now therefore, O ye children, and attend to the words of my mouth” (7:24). “Now therefore hearken unto me, O ye children: for blessed are they that keep my ways” (8:32). “Train up a child in the way he should go: and when he is old, he will not depart from it” (22:6).

The same author, believed by Bible scholars to be under God’s inspiration, wrote that the training in wisdom was the result of an investment by parents in the future: “A good man leaveth an inheritance to his children's children: and the wealth of the sinner is laid up for the just” (Proverbs 13:22). “In the fear of the Lord is strong confidence: and his children shall have a place of refuge” (14:26). “Children's children are the crown of old men; and the glory of children are their fathers” (17:6). “The just man walketh in his integrity: his children are blessed after him” (20:7). The last verse speaks to modeling for children. According to Solomon, children imitate their models. Solomon also asserted that children do not come into the world programmed with wisdom. In fact, the author
reported that quite the opposite was true: “Foolishness is bound in the heart of a child; but the rod of correction shall drive it far from him” (22:15).

Whether the Bible is the infallible and the foundation to all learning, this researcher believes that God has divinely empowered men to interpret Scripture and make applications that enlighten its infallible truths. Therefore, wise research involves beginning with Scripture and testing man’s theories in light of the Word of God. Hence, the underpinnings of this study rest on the intersection of wisdom from the Bible and man’s theories.

**Evangelical Christian Theory (ECT)**

Evangelical Christian Theory rests on the belief that children learn first from their parents (Deuteronomy 6:4-9) and then from teachers. ECT’s foundation is the Bible, the inerrant Word of God (Cunningham, 1977). The Bible contains numerous passages, which indicate God has placed in the heart of man the desire to learn about Him.

> O God, thou art my God; early will I seek thee: my soul thirsteth for thee, my flesh longeth for thee in a dry and thirsty land, where no water is; To see thy power and thy glory, so as I have seen thee in the sanctuary. (Psalm 63:1-2)

God orchestrated these events and instituted ordinances and festivals so the children of Israel would not forget their history (Exodus 12:26-27; 13:8-10, 14-16). God chose to use physical revelation to show people that He was the living Creator and the only God of the universe. Therefore, their remembrance of history was important in teaching younger generations to come.
Moreover, education became a prime directive of God to parents and grandparents so their children would continue to live in His ways. He revealed Himself to the children of Israel through nature and commanded them to remember historic events He had caused.

Only take heed to thyself, and keep thy soul diligently, lest thou forget the things which thine eyes have seen, and lest they depart from thy heart all the days of thy life: but teach them thy sons, and thy sons' sons; Specially the day that thou stoodest before the Lord thy God in Horeb, when the Lord said unto me, Gather me the people together, and I will make them hear my words, that they may learn to fear me all the days that they shall live upon the earth, and that they may teach their children. (Deuteronomy 4:9-10)

From this passage, ECT assumes the fear of the Lord is prerequisite to teaching. ECT asserts that children learn to trust and obey God because their parents and teachers hold God’s Word as a foundation for teaching and life (6:6). Trust, obedience, and holiness are three core values Christians hold dear.

The goal of ECT is intrinsic righteousness (Deuteronomy 4:25), which affects a person’s thoughts and molds extrinsic behavior. “For as he thinketh in his heart, so is he” (Proverbs 23:7a). Simply stated, everyone has presuppositions. Those presuppositions guide a person’s thoughts and outward behavior (Schaeffer, 2005).

**Theory of Psychosocial Development (TPD)**

Another lens through which to explore the relationship of thought and behavior is the Theory of Psychosocial Development. Similar to the biblical ideal of wisdom, Erikson (1980) saw thought and behavior as two psychological elements comprising the
construct of *ego identity*. The theorist also saw character development to be dependent upon the social identity of the individual.

Similar to ECT (Cunningham, 1977), Erikson asserted that it is important for children to learn from the perspective of their parent’s ideology. The more aligned ideological perspective yielded the greatest student achievement (Erikson, 1980). Extreme discontinuities between teachers’ and childrens’ ideology, goals, or values cause self-consciousness, discomfort, and a feeling of fragmentation followed by anxiety and inner conflict (Salkind, 2008, p. 352). The result of discontinuities could be lower than expected levels of achievement (Erikson, 1980).

TPD is comprised of eight stages of life that contribute to the development of ego and social identities. Formation of these identities is dependent upon successful resolution of specific developmental tasks during the eight stages of development. These stages relate to life dilemmas we, as humans, encounter from infancy to adulthood. Erikson categorized the stages of life by age, questions, and virtues. The first five stages range from infancy through adolescence and serve as important precursors to identity formation. Completion of a life stage occurs when a person constructs or reconstructs a new configuration of ego identity (Salkind, 2008).

For adolescents, the target population of this study, the crisis is between identity and confusion of roles. The big question for adolescents, according to TPD, is who they will be ideologically and occupationally. Their virtue is fidelity. Parents, teachers, peers, and community leaders contribute to the adolescent’s identity consolidation in this stage.

By definition, Psychosocial Moratorium is a time that schools offer teenagers opportunities to discover their potentials for occupations, professions, or careers. Adult
role models play an important role in this phase of psychosocial development. It is a period where mentoring and apprenticeship opportunities can yield much fruit in preparing a young person for adult life. However, if the adolescent fails to discover their potential in this stage, of development, a negative identity can be the result, which can lead to antisocial behavior in adulthood (Salkind, 2008, p. 353).

**Religious Identity Status (RIS)**

Most people in the United States say religion is very important in their lives (Gallup, 2013). However, religion is a broad concept. Though children learn godly wisdom from their parents and teachers, as ECT posits, they may be at different stages of development. RIS is a conceptual framework designed to increase understanding the interaction of spirituality and religion in people’s lives (Griffith, 2001). RIS structures religious identity into four stages: Diffusion, foreclosure, moratorium, and achievement (p. 14). The author related the four stages of RIS to Erikson (1980) stages of transition between adolescence and adulthood (p. 15) to explain how people come to and experience their faith.

The third stage of RIS, Moratorium, is similar to the Psychosocial Moratorium transition between adolescence and adulthood in TPD (Erikson, 1980). It is in this stage that adolescents begin examining themselves and questioning who they are. They might reformulate beliefs or internalize their spirituality. The quest can lead to doubt and uncertainty. Instead of black and white conceptualizations typified by younger ages, adolescents can reason complex explanations of themselves, their peers, and God. The moratorium stage is where many people try a faith different from that of their parents. Dependent on the quality of family and community support, this crisis of belief can end
In the adolescent affirming the faith values of the parents or developing an altogether different belief structure in the Achievement phase (Griffith, 2001, p. 18).

In conclusion, the intersection of ECT, TPD, and RIS seems to imply that children thrive best in a philosophically congruent environment to that of their families. The Bible, Erikson (1980), and Griffith (2001) agree that childhood through adolescence is a critical time of life for psychosocial development. In an attempt to better-understand how the intersection of ECT, TPD, and RIS affect children’s psychosocial development, the researcher studied the relationship of religiosity/spirituality and academic achievement on college-bound seniors attending a Christian high school.

**Literature Review**

Literature on education dates back to antiquity. The following literature review includes sections on the Bible, historic civilizations, the history of American education, Texas, national and international perspectives, achievement motivation, faith and achievement, and learning theory followed by a summary.

**The Bible**

The roots of education began in antiquity. God taught Ancient Israel His ways through the prophets, priests, and kings. However, Israel had had a long history of rebellion to God’s instruction before their capture and enslavement in Egypt of 400 years (Deuteronomy 1). After their escape from Egypt, Israel continued this pattern of rebellion prior to their slavery. Because of the nation’s refusal to heed God’s instruction, they wandered in the desert nearly forty years (Deuteronomy 2:14), lost all of their trained military (v. 16), and came into the Promised Land under new leadership, Joshua.
God, through Moses and Joshua, reviewed and renewed His promise to care for Israel if they would obey His teaching. He also wanted their spiritual trust and religious worship (Deuteronomy 6:4-9). Historically, Israel advanced when obedient to God’s commands (Deuteronomy 28) and declined when the people ignored His teaching (Deuteronomy 29). Throughout the Old Testament, this pattern of rebellion against God’s Word, Israel’s fall and repentance, and God’s restoration of the nation continued.

Years before the advent of Jesus Christ, Samuel, one of Israel’s greatest teachers, taught prophets to prophesy. His teaching was so effective, the men Saul sent to capture David received the Spirit of God while watching and began to prophesy (1 Samuel 19:20). Elisha, the prophet, taught the importance of faith in the face of adversity (2 Kings 4). Conversely, God warned His people to watch for false teachers. False teachers were those who did not have the Spirit of God.

If there arise among you a prophet, or a dreamer of dreams, and giveth thee a sign or a wonder,

And the sign or the wonder come to pass, whereof he spake unto thee, saying, Let us go after other gods, which thou hast not known, and let us serve them;

Thou shalt not hearken unto the words of that prophet, or that dreamer of dreams: for the Lord your God proveth you, to know whether ye love the Lord your God with all your heart and with all your soul. (Deuteronomy 13:1-3)

Jesus reiterated, “Whosoever therefore shall break one of these least commandments, and shall teach men so, he shall be called the least in the kingdom of heaven: but whosoever shall do and teach them, the same shall be called great in the kingdom of heaven” (Matthew 5:19).
Christ commanded the church, “Go therefore and make disciples of all the nations, baptizing them in the name of the Father and the Son and the Holy Spirit, teaching them to observe all that I commanded you; and lo, I am with you always, even to the end of the age” (Matthew 28:19-20). This command conveyed the weight of responsibility on disciples to teach others based on the foundation of God’s Word.

Historic authors have documented the rise and fall of civilizations since antiquity. In order to better-understand the American educational achievement gap and the decline of knowledgeable citizenry, the researcher sought parallels in historic literature to suggest events that led to the fall of civilizations. These parallels could provide valuable information for the present study design so that results could be generalized to a population larger than the scope of this study.

**Historic Civilizations**

Education, philosophy, and religion evolved to its present condition of foundationless philosophy similar to that of Rome near the advent of Jesus Christ. Historically, each succeeding generation that has not embraced fundamental faith has declined culturally and philosophically from the previous generation (Schaeffer, 2005).

The ancient Romans derived their culture from the Greeks after Rome conquered Greece in 146 B.C. The center of society and the meaning of all things to the Greeks was the polis. The polis was a city-state in which the citizenry was comprised of male landowners. The citizenry developed the culture, economy, government, military, and theology of the city-state; but no foundation existed upon which to build society. The citizenry contrived gods and cults to offer answers to life’s phenomena (Polis, 2013).
The Romans bought into this false philosophy and actually adopted the Greek gods as their own. There was no foundation on absolute truth. Consequently, without the availability of answers to life’s problems, Roman rule became cruel and uncompassionate under an authoritarian dictatorship. Eventually, the Empire disintegrated from within its regime (Schaeffer, 2005).

The Middle Ages gave rise to Christianity as an alternative to the chaos and cruelty of the extinct Roman Empire. However, this period did not return to biblical Christianity. Instead, the church became the governmental authority of the land. The theocratic government prohibited females going to school. Illiteracy increased in Europe (Schaeffer, 2005).

By the dawn of the Renaissance, this form of Christianity waned in popularity to Humanism, man’s exaltation of himself. Thomas Aquinas, the iconic character of this age trusted nature rather than God for its absolutes. While humanism was at its height in southern Europe, the Reformation was dawning in the north. Wycliffe and Huss paved the way for the emergence of the Reformation by preaching the preeminence of the Word and against the arrogance of the church’s rule over the authority of the Bible. Education rose to its apex (Schaeffer, 2005).

Modern science, philosophy, theology, and the arts continue to be interrelated as in previous eras. Christian leaders, Whitehead and Oppenheimer were key figures in promoting the advancements in science we see today. Schaeffer (2005) reiterated that the breakdown of modern science came because of man holding to theory instead of absolutes. Evolutionary theory replaced biblical absolutes in science. A return to
rationalism and optimism (a hope for unity of all life) has led to false science. This type of thinking has also infiltrated modern philosophy, theology, and the arts.

One can trace the origins of modern philosophy back to Rene Descartes, a scholar of the Aristotelian philosophy of Thomas Aquinas through the Jesuit College of La Fleche (Cottingham, 1998). Descartes thought of philosophy as a complete ethical and scientific system. The philosopher believed it to be necessary for man to understand and embrace this system in order to live a good life (p. 7).

**History of American Education**

The founding fathers of the US Constitution were clearly interested in protecting people’s freedom of religion, freedom of speech, freedom of the press, freedom of assembly, and freedom to petition the Government. Emphasis of these values is evident in the inclusive and exclusive wording of the document itself.

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances. (US Constitution, 2015)

Further, Article X stated, “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people” (US Constitution, 2015). Therefore, the power of education belonged to the state or the people.

However, the National Education Association (NEA), founded in 1857 as the National Teachers Association and renamed in 1871 became the nation’s foundational philosophical organization for public education. Based upon Descartes philosophy of the
common good, the NEA achieved two major goals for public education within a twenty-year span between 1960-1979 that are not available for private education, including individuals who choose to home school their children. First, the NEA lobbied and won federal funding of public elementary and secondary schools. Second, the NEA influenced Congress to create the Department of Education in 1979 (Critchlow, D. & VanderMeer, P., 2013). These two victories established governance for education not provided by the Constitution and then empowered the new Department of Education through federal funding.

Because of the US empowerment of public education over private education, biblical theology and the Christian worldview have waned to humanistic philosophy and evolutionary theory. One reason for this transition is the presence of many cultures with diverse customs, family structures, and methods of transmitting culture to its young in the USA. This diversity is naturally present in American government schools. Because the establishment clause of the First Amendment to the Constitution of the United States, our public schools cannot legally endorse a single religion as a foundation for teaching and learning. Therefore, teaching on a biblical foundation is restricted and reserved for Christian schools. American public schools have no such foundation.

Attempting to fill the need for a philosophical base in public education, early twentieth century philosophers, and policy makers developed character education curricula. Unfortunately, the idea of character education died due to the failure to establish foundational values of good character (Leming, 2008). “Education without values, as useful as it is, seems rather to make man a more clever devil” (Lewis C., 1974).
Texas

Texas has the second largest population in the USA with more than twenty-five percent population change since the 2000 census (U.S. Census Bureau, 2010). Much of the change in population is due to immigration. Texas teachers are responsible to provide all students with an equal opportunity to learn. It is a difficult task for teachers to find ways to inspire achievement in students of every culture and socio-economic status (SES).

While students of low SES tend to score lower on the SAT as a group, often other intervening variables contribute to low scores. For example, students that scored lowest on the 2005 SAT were African American or Black with a family income of less than $10,000.00. These descriptors sound like low SES until one considers that, in general, senior classes of 250-499 students; public high schools; schools located within large cities; and even schools located within the United States scored lowest also (College Board SAT, 2005).

The problem is public school college-bound students score lower on the Scholastic Aptitude Test than private school college-bound students in total group reports. In Texas, 2012 public school college-bound students’ mean scores were 470 in critical reading; 496 in mathematics; and 456 in writing. Looking at the report from a historical perspective, the college-bound students’ total critical reading mean score in 1972 was 530. Critical reading sank to its lowest mean in 1991 and 1994 – 499 for male and female combined. The 2008 total group critical reading mean score was 502, only three points above the bottom in a 26-year history. Total math scores have increased
marginally from a mean of 509 in 1972 to 515 in 2008 the lowest mean scores of 492 being in 1980-1981.

Further, 2012 public school college-bound students scored a mean of 60 less in critical reading than the total group in 1972, representing the lowest group mean in 40 years. The same group’s mean math score was 13 points below the 1972 total group mean -- the lowest score since 1983. Statistics also reveal students of low SES (particularly African-American males) score lower on college entrance exams than students of middle or high SES (The College Board, 2015).

Religiously affiliated 2012 SAT mean scores were 540 in critical reading; 542 in mathematics; and 536 in writing. In the same report, independent CBS mean scores were 578 in critical reading; 586 in mathematics; and 575 in writing (The College Board, 2015). An analysis reveals private school (religiously affiliated and independent) college-bound students score well above their public school counterparts on the SAT.

Texas high schools now focus on the tenth grade State of Texas Assessment of Academic Readiness (STAAR) test instead of facilitating advanced academic skill acquisition needed to score well on the SAT. Large city school districts such as Houston have adopted measures that hold back ninth grade students until they can gain the necessary knowledge to pass the STAAR test. These measures, while necessary to maintain accreditation standards, cause some students to drop out from frustration with the system. Other students that stay the course end up scoring lower on the SAT than they would have had they spent more time learning advanced academic skills instead of preparing for assessment (Bracey, 2004).
National and International Perspectives

Two other perspectives, both nationally and internationally, support and confirm The College Board results from the Texas region. First, according to the NAEP, high school seniors’ reading and math scores in 2008 were not significantly different from in the 1970s. History, geography, and civics scores were flat in comparison of 2010 and 1994 reports. Second, the 2009 Program for International Student Assessment (PISA) indicated U.S. students were on par with other countries in reading literacy, but U.S. students’ average math score was lower than the average of the scores of other countries (Aud, 2012).

The U.S. lawmaker’s response to the problem of low performing college-bound students has been high stakes testing (Freeman, 1995). Lawmakers who believed schools needed to be accountable to teach what children needed to be ready for college implemented this response because many of the nation’s schools were failing. The No Child Left Behind Act (NCLB) promised stronger accountability for schools and teachers. It provided more local control for public schools and advocated for faith-based involvement to fulfill the spiritual needs of students. NCLB supported proven research methods in education such as reading, math, and science achievement, English fluency, and good teachers. Finally, NCLB gave parents a choice when their school was failing to send their children to another more successful school (NCLB, 2001). Unfortunately, many schools, especially schools not impacted by children in poverty, lost funding due to the Act (Lewis A., 2005).

Since NCLB, leaders and policy makers in the American public school system have increased the length of the school day and have more days in school each year than
other countries have in order to improve standardized test scores. While this practice might seem to make sense, research does not support it. In fact, students in other countries score higher on standardized tests than U.S. students do (Baines, 2007).

Because the test scores of students from these countries routinely eclipse the scores posted by American students in two international comparisons of student achievement — Trends in International Math and Science Study (TIMSS) and Programme of International Student Achievement (PISA) — an investigation of educational practices in higher-achieving countries might prove instructive. Four areas where the policy and practice in high-achieving countries run counter to current practice and policy in the U.S. are as follows: 1) time spent at school, 2) homework, 3) technology, and 4) schools as agents of social change. (Baines, 2007, p. 98)

Marzano (2003) saw that the failure of many educators was the result of a refusal to follow the guidance of educational research. Unfortunately, man’s perspective of good theory and practice does change from time to time. It is evident, from the data (ACT, 2011; Aud, 2012; The College Board, 2012) that something is missing or mismanaged in the public sector. It defies reason that public school CBS achieve poorly compared to other school types in the U.S. and schools of other nations (Baines, 2007). Identifying successful methods of teaching and learning may determine the cause of and propose a remedy to the problem. Indeed, researchers need to study the foundational values of systems to identify successful and unsuccessful patterns.

Everson (2004) studied the effects of gender, race, school resources, and program rigor on achievement. The authors argued that researchers should stop looking at
individual differences in relation to SAT performance and look at the environment where students live and attend class for indicators of how to improve achievement.

Family background influences SAT scores directly and indirectly, learning opportunities in and outside the school curriculum are related to SAT performance, and the characteristics of the schools matter when it comes to performance on the SAT. (Everson, 2004, p. 1)

Another cause of sagging college entrance scores could be state requirement of end-of-course examinations for high school graduation. States requiring standardized tests for high school graduation tend to have lower student scores on SAT and ACT than states that do not require standardized tests for graduation (Marchant, 2005).

The American College Testing (ACT) board recommended schools provide access to testing; prioritize the core curriculum; ensure CBS take college-preparatory coursework; evaluate coursework rigor; and plan guidance activities relevant to each college-bound student’s aspiration (ACT, 2011). Studies indicate that schools can improve college-readiness without significantly increasing cost of education. Simply requiring students to write comprehensively increases program rigor across all variables of gender and race without requiring additional resources or funding (Weed, 2006).

While the U.S. has continued to revise its tests (Baines, 2007), England’s Secretary of State for Education authorized privately-run City Academies in an attempt to end the cycle of failing inner-city government-run schools. Faith-based or secular organizations can open an Academy and British law allows Academies to admit up to ten percent gifted and talented students and faith-based Academies may screen based upon religious affiliation. All of the original Academies were located in high poverty areas
“and two of the schools originally took a much higher proportion of children from poor families than the other schools in their area” (Gorard, 2005, p. 375).

English lawmakers originally feared authorizing privately funded schools would increase segregation, but the City Academies either have maintained racial demographics or reduced segregation on their campuses. General Certificate in Secondary Education (GCSE) data indicates City Academies have achieved remarkable improvements over England’s state schools. (Godfrey, 2008). One has had astounding results in academic achievement attributed to its character-based core values (Pike, 2009). Before the government transfer of authority to Emmanuel Schools Foundation, students of the Thorne and Moorends government school had a 28 percent pass rate on GCSE examinations. With no significant changes in personnel other than the principal of the school, Trinity Academy posted a 34 percent GCSE pass rate in 2006. By 2009, the students of the new school demonstrated an 85 percent GCSE pass rate. Pike (2009, p. 26) indicated the only major change from the government to private school settings was the implementation of the biblically based character curriculum.

One-reason international private schools thrive where government schools fail is because government controlled public schools favor the government and its stakeholders (Adnett, 2004). Dissatisfaction with the performance and the costs of state schooling, together with the school choice critique and the emergence of the contracting approach, have in many countries renewed interest in the extension of private educational organizations (Adnett, 2004). Private non-profit schools focus on cost controls and innovation because of incentives and competition. Private school administrators and teachers are more concerned about the children and families they serve because of
expectations of stakeholders who support them (Adnett, 2004; Shleifer, 1998). Christian school educators have additional expectations from their stakeholders. Parents enrolling their children in Christian schools expect their children to learn from a biblical worldview. In addition, the educators themselves have an intrinsic motivation to teach based upon the Bible.

Other countries have implemented measures to give parents an opportunity to choose schools that provide better quality education. Australian government research, for example, has concluded that schools that teach religion and morality “are more effective than others at educating students” (Hoff, 2004). In fact, “for more than a generation, the Australian government has been giving per-pupil grants to private schools of all types – religious ones included – to underwrite the costs of educating students who otherwise might be attending government schools” (Hoff, 2004).

Some theorists and policy makers in the USA have begun to look at the private sector for answers to America’s declining educational system. Outside education, privatization usually yields reduced costs and greater productivity. Recent literature on school choice suggests governments consider not-for-profit organizations in their quest for school reform (Pugh, 2006).

Students in religiously based and independent schools score higher on the SAT than other groups. Jay P. Greene of The Charlotte Observer in cooperation with a team from Harvard University conducted an evaluation of a lottery program in four cities (Charlotte, New York, Washington, and Dayton) designed to give African-American students a chance at private education.
We found that in Charlotte, after only one year, students who received a scholarship to attend a private school scored 6 to 7 percentile points higher on standardized tests than did their counterparts who remained in the public schools. The Harvard team found a similar gain in New York, Washington, and Dayton after two years. (Greene, 2000)

The study went on to say that, the lottery itself eliminated many of the intervening variables such as SES, school resources, and facilities. The remaining variables that enabled these students to achieve more in private schools were parental choice, parent-involvement, and parent-satisfaction (Greene, 2000).

**Achievement Motivation**

The implication is private schools do a better job of educating college-bound students than public schools do. Arguably, public schools accept any student whereas private schools accept students on a case-by-case basis. The NAEP (2012) report reveals a narrower score gap between blacks and whites in private schools than in public schools. The question remains whether private schools have better systems than public schools or if the difference is accountable to the demographics of the populations. Schaeffer (2005) suggested we would find the reason was in the foundational values of education systems.

There is some support for the systems explanation in the literature. Schools with high percentages of students whose families qualify free and reduced lunch programs have the lowest achievement gains overall. However, successful schools in this sector have implemented reward systems, which reduce the effect of high poverty by encouraging students to become academic role models to their peers (Hallinan, 2010).
Thomas (2004) suggested black students outperformed white students on the SAT II after controlling for academic ability, family background, peer effects, and ambition.

Except academic ability, these effects align with Yokum (2010) Spiritual Needs/Motivation/Volition Framework. Yokum’s framework established that spiritual nourishment was necessary for student academic success. The author equated artistic inspiration to spiritual volition through many personal examples of artwork.

While causality should not be inferred among these relationships, it appears that someone’s personal spiritual influences (as exerted by family members, friends and fellow religious practitioners) has a greater impact on their frequency of engaging in expressions of spiritual volition and on his or her feelings of success attributable to spirituality (spiritual self-actualization). Also, the more a person practices expressions of spiritual volition, the more likely he or she is to attribute his or her personal successes to spirituality. (Yokum, 2010)

Earlier studies have tied SAT scores to socio-economic status (Everson, 2004; Corten, 2006), but recent literature implies a positive and significant correlation between perceived social support and student achievement. Young (2011) conducted a study comprised of 93 undergraduate students from three equal subgroups of African Americans, European Americans, and Hispanic Americans. Among the three subgroups, African Americans demonstrated a positive and significant correlation between perceived social support and student achievement. European and Hispanic results did not have positive and significant results.

Samson (2013) equated achievement in poor families with family factors such as quiet and orderly homes where parents were willing to control activities of their children and provide a high level of support for academic training.
The average and high achievers have homes that were quiet, orderly, and highly structured. Much of the talk in these homes centered on school activities. These students were involved in extracurricular activities, which promote and support discipline and responsibility. The parents not only discussed schoolwork with the children but also very often attempted to help with the work, even when the work was beyond their ability. (Sampson, 2013)

**Faith and Achievement**

Others equate high achievement with students of strong faith families (Godfrey, 2008), possibly due to the resilience youth develop because of strong church ties and the safety net it provides them (Regnerus, 2003), particularly in African-American students (Walker, 2002). Still others assert young Christians tend to be more intrinsically motivated than nonbelievers and because of their heightened intrinsic motivation, Christian students are more stable in behavior; have a better knowledge of the Bible; and have higher grade point averages (GPA) than their non-faith counterparts (Jeynes, 2009).

Regarding intact minority families, Jeynes (2003) found that when school administrators and teachers allow teens to express and demonstrate their faith in school, the achievement gap between ethnicities disappears. The implication is that spirituality alone and combined with religious values promotes a resilience in adolescents that promotes positive outcomes in home, school, and society (Kim, 2011). It is likely the pedagogical advantage private schools have over public schools is that students and staff can engage openly in religious and spiritual discussions (Jeynes, 2003). Finally, Jeynes (2003) found that black adolescent males living in intact families and embracing a religious doctrine had achievement scores similar to their white counterparts; whereas black adolescent males living without intact families and/or not embracing a religious doctrine tended to
have achievement scores significantly lower than those living in intact families and their white counterparts.

Dowling (2004), Good (2006), and Jeynes (2003) examined the effects of religiosity, spirituality, or the interaction of the two on public school students’ psychosocial adjustment. Dowling (2004) sought to identify religiosity, spirituality, and thriving as separate latent constructs.

The religiosity latent construct identified in the present analyses was confirmed to have four first order factors significantly associated with it: impact of religious belief, Adolescent spirituality and thriving 13 religious views, religious restrictions of God on people, and role of a faith institution in one’s life. In turn, the spirituality latent construct was confirmed to have three first order factors significantly associated with it: orientation to do good work, participation in activities of self-interest, and orientation to help people other than the self. Finally, thriving was confirmed to be composed of nine first order factors: Rules on youth presented by mother, rules for youth presented by father, presence of a moral compass, future orientation/path to a hopeful future, search for a positive identity, personal values, engagement with school, view of gender equity, and view of diversity. (Dowling, 2004, p. 13)

Good (2006) asserted overwhelming results indicated religiosity, not spirituality, was the determining factor in psychosocial adjustment. Religious students, regardless of their spirituality, affirmed a more positive psychosocial adjustment than nonreligious youth did. Further analyses revealed that religiosity did not necessarily imply church attendance. Rather, religiosity did imply community support. Therefore, the literature
seems to suggest some relationship exists between community effects on achievement in school.

Looking at the Bible, the interaction of behavior (religiosity) and spiritual life (spirituality) have had a distinct effect on cultural development around the world. A historical treatise, originally written to the nation of Israel, the Old Testament documents God’s commands and promises to ancient Israel.

To educators, God promised, “Now then go, and I, even I, will be with your mouth, and teach you what you are to say” (Exodus 4:12, NASB). To leaders, God commanded, “Then teach them the statutes and the laws, and make known to them the way in which they are to walk and the work they are to do” (Exodus 18:20). Regarding His Words, God commanded parents, “Teach them diligently to your sons and shall talk of them when you sit in your house and when you walk by the way and when you lie down and when you rise up” (Exodus 6:6-7).

These commands implied that all education centered on God’s Word with man deriving knowledge, understanding, and wisdom from the sacred texts and transmitting the same to the children. The Word of God became the foundation for the Hebrew culture described in the Old Testament. “Therefore thus says the Lord God, ‘Behold, I am laying in Zion a stone, a tested stone, a costly cornerstone for the foundation, firmly placed. He who believes in it will not be disturbed’” (Isaiah 28:16). This historical tradition continues in Christian education today.

Recent literature testing the effect of religion and spirituality in schools indicated that there was a strong relationship between both the overall and specific measures of Bible literacy and the educational and behavioral outcomes of secondary students.
Internationally, faith-based school students who take more Religious Education Examination subjects than non-faith school students score higher on standardized General Certificate of Secondary Education (GCSE) tests without the Religious Education scores added (Godfrey, 2008). It is possible that students’ level of Bible knowledge combined with their religious commitment and their intrinsic values undergirds their abilities to learn and achieve.

Studying the motivations and outcomes of Christian-based schools, the Cardus Education Survey challenged the status quo belief that Christian schools produce “a socially fragmented, anti-intellectual, politically radical, and militantly right-winged” graduate (Pennings, 2011, p. 5). Instead, Cardus researchers discovered a diversity of outcomes between Catholic, Protestant, non-religious private, and public schools with Protestant Christian school graduates demonstrated exemplary degrees of compliance, generosity, and outward-focus with a high commitment to God, church, family, and community. Catholic school graduates exhibited higher academic abilities than other school types (p. 6).

Cardus set out to measure three outcomes of Christian education: Spiritual formation, cultural engagement, and academic development. Their sample population was former Christian school students six to 21 years after graduation. In addition, Cardus researchers assessed the aspirations of over 150 Christian school administrators in the U.S. and Canada (Pennings, 2011, p. 5). While Cardus concluded that the motivations aligned with the outcomes of the Christian schools studied, the researchers questioned whether Christian schools provided a comprehensive institutional program (p. 6).
Overall, Cardus found that the integration of faith and learning was an earmark of Christian schools not found in other sectors. Protestant Christian and home school graduates tended to attend and support their churches more than Catholic, non-religious private, or public school peers. The Protestant and home school sectors had a higher reverence for authority than the others did (p. 16).

Protestant Christian school graduates distinguished themselves by their belief in moral absolutes, the infallibility of the Bible, and Jesus Christ as the only way to salvation. Further, this group had a countercultural perspective of premarital sex, living together before marriage, and divorce being immoral (p. 11).

The study went on to acknowledge that Protestant Christian school graduates were more charitable and financially supportive of their churches than the other groups were in the study. They were more committed to their congregations, missions, and volunteerism than their counterparts in other sectors were (p. 12). Further, Christian schools influenced their graduates’ lives outside of church. Cardus reported that these graduates believed “religion should be a part of the public debate on social and political issues” (Pennings, 2011, p. 13). Finally, Christian school graduates tended to select vocations and mates that aligned with their faith in Jesus Christ (p. 14).

The homogeneity of faith in Christian schools produced positive cultural and community engagement. Cardus found Christian schools served the public good. Graduates had strong senses of direction. They were confident in their abilities to deal with life challenges. They were thankful for their possessions and, though their group had lower earnings than their counterparts in other groups studied, they promoted stability in their communities by volunteering more than any other group did (pp. 15-16).
Sociologists typically use religiosity and spirituality when evaluating the effect of religion on a population (Good, 2006). Quantifiably, religiosity refers to the level of one’s behavior such as attendance or participation in church activities while spirituality refers to the level of one’s beliefs of Scripture or personal commitment to one’s faith. Religiosity is an extrinsic value and spirituality is an intrinsic value (Good, 2006). Researchers have previously associated these values with academic achievement (Regnerus, 2003). Where religiosity is an extrinsic value, spirituality is an intrinsic value. Intrinsic values tend to be more difficult to measure than extrinsic values. Even though it is difficult to measure, every culture has a spiritual nature. For example, spirituality is an important cultural dimension to the African American culture (Walker, 2002). The combination of religiosity and spirituality is the strength of their culture. In fact, research has shown a high correlation between spirituality and academic performance in African American students (p. 117).

As other religions advance in the world, studies in social competence and adjustment of various sects have emerged including studies to help professionals understand the religious and spiritual underpinnings of children’s development. One study tested the influence of religion on student achievement in Indonesia. Indonesia has the largest Muslim population in the world. French (2008) sampled 183 Muslim students averaging 13.3 years of age. The researchers assessed spirituality and religiosity of this group by using student and parent reports. Utilizing structural equation modeling analyses, French concluded involvement in Islam was associated with competence (French, 2008). In addition, this study implied that the religiosity of Muslim youth in the practice of Islam was highly correlated to academic development.
Within this culture, religion permeates all aspects of life, and competence in religious involvement is as important as competence in other spheres (behavioral and emotional control, academic success, helping others, and developing a positive view of self). (French, 2008)

Interest in the effects of religion and spirituality is not limited to religious education. The literature implies a positive and significant relationship between a person’s religious and spiritual life and good mental and physical health (Hill P. &., 2003). It is innate to human beings (Chandler, 1992). This emergent field of study has promise of testing the relationship of religion and spirituality on quality of life (Dowling, 2004). Dowling (2004) suggested that spirituality and religiosity combined and independently of one another contributed to adolescents’ positive development in relation to their contribution to society. Therefore, it is worthwhile studying these variables as they correlate to student achievement.

**Learning Theory**

Over the last 150 years, applied learning theory has had a significant part in student learning. Schools and teachers that use research findings to guide their teaching techniques tend to be better teachers than those that do not. Theories of learning provide explanations about the underlying mechanisms involved in the learning process. Whereas principles tell us what factors are important for learning, theories tell us why these factors are important (Ormrod, 2004, p. 31).

Ivan Pavlov, a Russian physiologist, based all learning on stimulus and response to that stimulus. Pavlov experimented with pairing stimulus and response to cause dogs to salivate. Pavlov determined that he could teach dogs by ringing a bell followed by the
presentation of food. He proved that the dogs, after several repetitions of the experiment, would salivate simply by ringing the bell with no food present afterward (Borum, 2006). Learning occurred even though the dogs had no control over the process.

Students in Pavlov’s mind, like his dogs, have no control over the learning environment, the curriculum, or the teachers in their schools. Pavlov’s theory would suggest that students learn according to the design of the learning system. If the design of the system is to pass a test, the students will learn to pass the test. If however, the design of the system is to impart advanced academic skills necessary to score well on the SAT, the students will learn those skills. Pavlov based all learning on stimulus and response to that stimulus.

Phobias can play a significant part in preventing a student from learning. John Watson’s experiment with Little Albert, in a negative way, demonstrates that fears can be learned. Watson conditioned Little Albert to be afraid of anything fuzzy and white by causing an unpleasant sound every time Albert tried to touch a white, stuffed rat. Amazingly, it only took five repetitions of the experiment to cause Little Albert to develop a phobia toward white, fuzzy things. Watson summed up his extreme belief in environmentalism in a famous quote:

Give me a dozen healthy infants, well-formed, and my own specified world to bring them up in and I’ll guarantee to take any one at random and train him to become any type of specialist I might select – doctor, lawyer, artist, merchant-chief, and yes, even beggar-man and thief, regardless of his talents, penchants, tendencies, abilities, vocations and race of his ancestors. (Watson, 1925, p. 82)
Students, by Watson’s definition are a product of their environment. Students in low socio-economic groups may resist engaging in “risky” educational activities that promote academic achievement (Ormrod, 2004, pp. 35-36). Students that resist engaging in educational activities, regardless of the activities’ goals are the ones that will likely not score well on the SAT. The students’ backgrounds and experiences (SES) mold their abilities to learn and score well on the SAT.

Taking Watson’s theory one-step further, Guthrie theorized, “a stimulus that is followed by a particular response will, upon its recurrence, tend to be followed by the same response again. This S-R connection gains its full strength on one trial” (Ormrod, 2004, p. 44).

Guthrie’s belief in one-trial learning indicates that it may only take failing a test one time to cause a student to fail repeatedly and then reject learning activities altogether. Guthrie would say that the learned fear of failing and the resulting lack of academic achievement, not SES, is the cause of low SAT scores in college-bound students.

Drive, habit strength, and reinforcement are central to Clark Hull’s theory. Unlike his predecessors, Hull believed that between stimulus and response was a variable he termed “E” which determined how the organism responded to the stimulus. This variable introduced elements of the organism’s environment, physical condition, emotional state, etc. to the $sE r$ equation and provided an explanation of why experimentation with a given stimulus would produce a different response in various individuals (Schrock, 2006). For example, one could consider socio-economic status the “E” in this equation. Therefore, the variables present in various students’ backgrounds do determine their drives, motivations, learning abilities, and attitudes toward learning.
the necessary skills to score well on the SAT. Hull would conclude that low SES students would not score well on the SAT.

Skinner’s basic law of conditioning was that behaviors followed by reinforcers were likely to happen again. This theory has been termed Operant Conditioning. He believed and demonstrated through experimentation that behavior could be shaped through successive approximations so that rewards are given for responses that grow closer to the intended goal (Skinner, 2006/1990). Skinner’s Operant Conditioning suggested that SES and SAT scores are unrelated because students of low SES can be motivated to learn and develop the advanced academic skills necessary to score as well as other students if appropriate reinforcement is provided at the appropriate time.

Social learning theory emphasized observation and modeling others’ attitudes, behaviors, and emotional reactions (Bandura, 1961) (Wright, 2006). Albert Bandura suggested that learning was based upon modeling behavior. Learning, according to Bandura, was dependent upon SES. Students from wealthy families living in wealthy neighborhoods tend to be well educated and would score better than students that grow up in poverty. The reason for this phenomenon, Bandura would say, is modeling.

Edward Tolman’s, theorist of purposive behaviorism, proposed that once an organism knew the goal it was to achieve, that organism would learn what was necessary to achieve that goal. Reinforcement was not important or necessary (Ormrod, 2004, p. 157). Even though Tolman experimented primarily with rats, his theory can easily be applied to SES and SAT. A student from low SES could learn to score well on the SAT just as a student from a high SES could. College-bound students having low scores on the SAT simply do not know how to get high scores. They do not have an understanding
of what is necessary to achieve the goal. Students who know that advanced academic skill development is what is necessary to score well on the SAT do what is necessary to attain those skills.

Children were the focus of Vygotsky’s research; however, his work can be generalized to learning beyond childhood. His socio-cultural perspective asserted that a person’s society and his culture determined his ability to learn. The first few years of life determined a person’s mental processes, thought patterns, and language. Vygotsky theorized that adults formally and informally shape a child’s view of the world and determine how competent the child will become.

Vygotsky’s thoughts on learning have stimulated theorists and practitioners to create ways of overcoming the problems created by low SES. New teaching techniques designed to overcome low SES such as classroom discussion and cooperative learning, reciprocal teaching and apprenticeships, and adult guidance programs are examples of Vygotsky’s influence on modern education (Ormrod, 2004, pp. 169-171).

Knowledge, and how children develop knowledge, was the focus of Jean Piaget’s work. In his experiments on intelligence, he became aware that intelligence testing (particularly the work of Simon & Binet) was administered incorrectly. The right and wrong aspect of the tests did not give a fair measure of intelligence because it did not take into account the way a child reasons. He believed that to discover a child’s true intelligence, one had to interview the child and make observations of the child in his environment. Piaget’s theory would infer that the whole idea of a college-bound student scholastic aptitude test was not a true measure of a student’s intelligence. In order to determine a student’s ability to succeed in college, one would need to observe the student
in school and take notice of patterns of behavior and exhibited intelligence. Further, a child’s environment played a large part in his development through four stages of cognitive development: Sensorimotor stage (birth to two years old), Preoperational (two to seven years old), Concrete operations (seven to eleven years old), and Formal operations (twelve years and older) (Piaget, 2006).

Depending on the socio-economic status, students would pass through each of these stages differently because of the way in which they learn to learn. Piaget theorized that children learn in three ways: Assimilation (incorporating learning into what they already know), Accommodation (adapting to the new information) and Equilibration (continual striving toward a balance between self and the environment) (Piaget, 2006). Because the theorist’s model of learning involved learner-centered stages dependent upon the family background, Piaget would agree and confirm that SES does have an effect on SAT scores for college-bound students even though Piaget himself would have disagreed with the idea of administering a test to determine intelligence, knowledge, or skills.

Summary

Faith-based providers seem to be the best answer to the education crisis in Western countries (Godfrey, 2008; Pike, 2009; Jeynes, 2010). The College Board statistical evidence implies that a college bound student achieves more in a private school than the same student would in a public school. Much of the literature suggests private schools have the advantage of selection over public schools who must take all students; however, there is a gap in the literature on the effect of religion and spirituality on school achievement, especially in the private Christian school sector.
Research in child and adolescent development around the world has shown a high correlation between religiosity/spirituality, and achievement. The historical accounts of the Bible indicate religion and spiritual life are necessary for societal advancements. Historical accounts of ancient civilizations reveal the startling truth that a society without its foundation resting on moral absolutes is bound for destruction. Modern research has confirmed these relationships through empirical studies in sociology.

The American government has ignored its founding document, the US Constitution, which prevented the federal government from being involved in education, leaving the task to the states and the people. Instead, Congress bowed to the wishes of the powerful NEA, which, in turn developed the public school system we know today. Today, the federal government funds public schools and prohibits those schools from endorsing any religion.

Unfortunately, our nation’s shift from federal separation from education to federal support of education and the resulting abandonment of any religion except Humanism in the classroom has caused a learning disconnect, resulting in lower achievement, for some groups. In fact, the literature suggests that certain groups such as African-American males have a rich heritage of religion and spirituality ingrained in their early childhood education from their community prior to beginning school. These same students find it difficult to assimilate knowledge in an environment void of religion and spirituality (Jeynes, 2009). Therefore, it is possible that when these children enter a public school where the philosophy does not rest on the god of their childhood, a philosophical discontinuity exists that diminishes students’ ability and to achieve. This implication is consistent with modern cognitive learning theories including theorists such as Pavlov,
Watson, Guthrie, Hull, Skinner, Bandura, Tolman, Vygotsky, and Piaget. Hence, the purpose of this study is to discover whether a relationship exists between religiosity/spirituality and student achievement.
CHAPTER THREE: METHODS

The purpose of this correlational study was to test Evangelical Christian Theory (Cunningham, 1977), Theory of Psychosocial Development (Erikson, 1980), and Religious Identity Status (Griffith, 2001) as they relate the religiosity and spirituality of students to their Scholastic Aptitude Test (SAT) scores for students in Christian schools. This chapter contains the design, research question, hypotheses, participants, setting, instrumentation, and procedures of this study.

Design

The researcher used a correlational research design to determine if a relationship existed between students’ religiosity/spirituality level (RSL) and achievement test scores, as measured by the Scholastic Aptitude Test (SAT). This research design was chosen because it attempts to explore the relationship between student SAT scores and RSL. Further, correlational designs are helpful in studying problems in education, especially since the researcher can explore the degree of relationship between variables (Gall, 2007, p. 336). Since randomization was not possible in this study, the researcher adopted the control procedure of comparing homogeneous groups based on collected demographic data to help achieve equality of groups (Gall, 2007, p. 337). Data from the SCHSSAR study comprised the variables for this test. Specifically, the researcher used individual case RASSY scores and individual case composite SAT scores for the variables in this test.

Research Questions

The achievement gap between private and public school students suggests there may be a relationship between type of school and student achievement. The researcher
chose two research questions related to the problem and purpose of this study. The first question relates to the instrument the researcher chose to test the hypotheses. The second question queries the longevity of enrollment in a Christian school related to achievement scores.

RQ1: Is there a positive and statistically significant relationship between college-bound students’ RASSY scores and their composite critical reading, mathematics, and writing scores on the SAT?

RQ2: Is there a positive and statistically significant relationship between college-bound students’ time enrolled in a Christian school and their composite critical reading, mathematics, and writing scores on the SAT?

**Null Hypotheses**

The following hypotheses related to the research questions in the previous section form the framework for this study. Each statement is in null form. Null hypotheses are useful when carrying out tests of statistical significance ($p$) (Gall, 2007, pp. 138-139). The researcher can compare the results of the statistical test with the hypotheses and then reject or support them based on the $p$ value of each test.

$H_01$: There is no statistically significant relationship between college-bound students’ RASSY scores and their composite critical reading, mathematics, and writing scores on the SAT.

$H_02$: There is no statistically significant relationship between college-bound students’ time enrolled in a Christian school and their composite critical reading, mathematics, and writing scores on the SAT.
Participants and Setting

This section includes details of the sample and setting of the study. The researcher presents general demographics, including the area of the country surveyed and the time, place, and environment that the survey took place.

Sample

The participants in this study was comprised of male and female Christian school students ranging 17- to 19-years-old from various ethnicities in the state of Texas who consented to the administration of the Survey of Christian High School Spirituality and Religiosity (SCHSSAR) survey. To participate in the study, students must have attended a Christian school in the state of Texas and must have taken the Scholastic Aptitude Test (SAT) General Exam at least one time. The sample size was 242 participants from 67 Christian high schools in the state of Texas. After excluding surveys where the participants responded 0 (I never do OR believe this) to all 37 survey questions, the sample size was 242 participants from 67 schools in the state of Texas.

Setting

The researcher selected a number of Christian schools in the state of Texas with populations large enough to fill the range of the sample size. The researcher sent a recruitment letter to the selected school administrators for distribution to qualifying students. Interested students followed the instructions on the recruitment letter to navigate to the study website using a personal computer where they read the informed consent document and consented to participation in the survey. The researcher conducted the survey online in October through December of 2014.
Instrumentation

SAT State Profile Report

The SAT State Profile Report provided aggregate data on critical reading, mathematics, and writing. It also provided disaggregated data on these tests by gender, year taken, high school type, ethnicity, student background, academic record, course-taking patterns, and college plans. The researcher used demographic questions and score data from the SAT Texas Profile Report as a model for the demographic questionnaire portion of the Survey of Christian High School Spirituality and Religiosity Survey (SCHSSAR). The SCHSSAR demographic data and survey answers were dependent variables in the study. The SAT score data was the independent variable in the study.

RASSY

Developed originally to study undergraduate and graduate psychology students’ religiosity and spirituality level (RSL), Religiosity and Spirituality Scale for Youth (RASSY) posed questions designed for young people. The RASSY survey instrument (Hernandez, 2011) employed a Likert Scale on thirty-seven behaviors and beliefs to arrive at a RS score (Hernandez, 2011, Appendix C). The range of the RASSY scale is zero (I never do or believe this) to three (I always do or believe this). After survey administration, the researcher simply added the scores of each response using a Microsoft Excel spreadsheet to input answers to each question and calculate total scores for each case. Low RASSY scores indicated low RSL. High RASSY scores indicate high RSL. Hernandez validated the instrument using Cronbach’s alpha coefficient. The survey composite internal consistency estimate was strong ($a = .95$) and the composite reliability was strong ($r = .85$) (Hernandez, 2011).
Demographic Questionnaire

The demographic questionnaire queried ethnicity, first language, best language, citizenship, and religious affiliation (The College Board, 2015) and number of years attending a Christian school. The demographic queries provided data that the researcher used to analyze the relatively small Christian school sample as it related to the larger SAT general population in the data analysis discussed in Chapter Four. Using categorical data similar to SAT, the researcher could study the intervening effects of the same demographics on the sample population even though the sample population was significantly smaller than the whole group surveyed on the SAT. The additional demographic, number of years attending a Christian school, enabled the researcher to test the effect of longevity of attendance in a Christian school as it related to participant SAT scores. Finally, data on citizenship and religious affiliation revealed trends in the Christian school sample or the general SAT population that might be of interest in the future.

SCHSSAR

The researcher created the Survey of Christian High School Spirituality and Religiosity (SCHSSAR) by combining the demographic survey modified from the SAT application (The College Board, 2015) and the RASSY survey (Hernandez, 2011). Then, the researcher converted the survey into a web-based form using Word Press, a website development program. The final edition of the survey resided on the researcher’s school website, [https://www.covenantcommunityschools.org/schssar](https://www.covenantcommunityschools.org/schssar).
Procedures

During the development of the prospectus, the researcher asked permission (Appendix A) and received a reply of consent (Appendix B) to use the RASSY instrument. Once the author of the survey gave consent, it became Appendix B of the proposal.

The researcher then designed a recruitment letter for distribution to Christian high school students who had taken the SAT in the state of Texas. The recruitment letter indicated the purpose of the survey and the possible benefits to schools in the general population. During the Institutional Review Board (IRB) review of the research study application, one of the IRB members asked for consent letters from selected heads of schools on individual letterheads as confirmation of consent. The Board agreed this step was necessary. This requirement made it necessary to gain contact information for heads of schools prior to IRB approval.

In response to this request, the researcher designed a recruitment letter (Appendix G) for heads of schools. The researcher designed a database and collected contact information on heads of schools from the Texas Private School Accreditation Commission (TEPSAC) and the National Association of Private Schools (NAPS).

The TEPSAC website lists Texas-based private accreditation organizations and schools accredited by these organizations. NAPS is a national accreditation organization for private schools, but does not have a Texas-based affiliate. Therefore, NAPS is not on the list of TEPSAC accrediting organizations.

Contact information for the schools in the database came from various sources, including professional publications, directories, and websites. Finally, the researcher
mail merged the recruitment letter with the database, printed, and mailed the letters to the heads of schools. After gaining consent from heads of schools in the researcher-created Texas Christian Schools database, the researcher polled Christian schools in the state of Texas with senior student populations large enough to fill the sample range of the study.

The researcher developed a time line for survey delivery, procedures for implementation, and directions for completion of informed consent and survey participation. The researcher amended the timeline after the Liberty Institutional Review Board required consent letters from schools the researcher planned to survey. The researcher changed the survey dates from mid-October 2013 to January 13-17, 2014 to facilitate collection of contact data for heads of schools, distribution of recruitment letters, and receipt of consent letters from schools.

Unexpectedly, compilation of the contact information took much longer than originally planned, delaying the survey further. Surfing school websites for contact information was time-intensive work and some schools had incorrect, missing, or outdated information. Of the 140 schools in the original search of accredited Christian high schools, only 89 were still in operation in February 2014. Out of 89 letters sent, four came back undeliverable; one letter indicated the school no longer had high school; two administrators requested more information before they were willing to give consent (these were on school letterheads, though); and four heads of schools conveyed consent to the survey on school letterhead. The two heads of schools requesting more information were concerned with three main things: Time involvement to take the survey, method of delivery, and parental consent.
The researcher mailed recruitment letters to these schools’ administrators with a postage-paid return envelope for returning their consent letters. Three days following the mailing, the researcher composed a follow-up email to each recipient with notice of the mailing including recital of the key components of the letter. The most important component was that the administrators respond with consent on school letterheads.

The small number of returns combined with the comments from those requesting more information implied the likelihood that administrators needed more information before making a commitment to participate. Therefore, the researcher redesigned the process of delivery to the heads of schools and provided additional information on both the proposed research and the survey questions. The researcher revised the Head of Schools recruitment letter in an email format with the student Recruitment Letter (Appendix E) and a copy of this dissertation proposal for administrator perusal. The researcher permitted recipients to test the online survey so they could become comfortable with the process prior to committing their schools’ participation in the study. The researcher hoped that this additional step would increase the likelihood that schools would participate in the study.

The researcher designed the survey using the services of an experienced professional web developer. The researcher merged items from Appendices C, D, and E into the online environment including the informed consent notice and selection buttons for “Agree” and “Disagree.”

After gaining consent and obtaining approval for the research proposal, the researcher submitted an Internal Review Board (IRB) packet. After gaining IRB approval in late April 2014, the researcher sent a recruitment letter to the selected school
administrators for distribution to qualifying students. Interested students would follow the instructions on the recruitment letter to navigate to the study website using a personal computer where they would read information and consent to participation in the survey. The researcher originally intended to conduct the survey online in October 2013, but due to revision requests by the IRB and the associated time required to obtain approval, the initial survey response was low because schools were engaged in end-of-year activities and finals. Therefore, the researcher decided to launch the survey again in September 2014, which would be a better time of year to gain administrative and faculty support of such a project.

During the summer, the researcher contacted the Association of Christian Schools International (ACSI) to solicit endorsement for the survey. ACSI is the largest accrediting body of Christian Schools in the world. Therefore, gaining this organization’s endorsement for the survey would help motivate Christian school administrators to promote participation in the survey. Dr. Derek Keenan responded positively to the initial contact and provided a letter of endorsement written to school administrators.

The researcher sent two follow-up e-mails as reminders one week before and one day before the survey is to begin. The researcher offered no monetary incentive to complete the survey. However, all participants who completed the survey qualified for a drawing of a $50.00 Amazon gift card upon completion of the survey. The survey instrument collected no personally identifiable information. Instead, registration for the drawing required only an email address to control use and to use as a vehicle for delivery of the Amazon.com gift card certificate. However, the design did not connect the email
registration for the drawing to the survey in any way. The survey instrument redirected
the participant to the drawing page at the conclusion and exit from the survey. The
personal online participation feature of the survey protects institutions from liability (e.g.
Family Educational Rights and Privacy Act) and protects students’ privacy. Furthermore,
the researcher believed that the anonymity of the survey might have eliminated the
apprehension students might have toward participation. Student participants could be
honest and feel safe disclosing their beliefs and activities because they could respond to
the prompts anonymously.

Data Analysis

A bivariate correlational technique, product-moment correlation coefficient
computation (Pearson r) (Gall, p. 347), was used to analyze the two null hypotheses.
H₀₁: There is no statistically significant relationship between college-bound students’
RASSY scores and their composite critical reading, mathematics, and writing scores on
the SAT; and H₀₂: There is no statistically significant relationship between college-bound
students’ time enrolled in a Christian school and their composite critical reading,
mathematics, and writing scores on the SAT.

The researcher used Statistical Package for the Social Sciences (SPSS) software
to conduct Pearson r analyses of the data relating to RQ1 and RQ2 to determine whether
to reject H₀₁ and H₀₂. SPSS was an appropriate tool to use because it is an industry-
standard instrument used in the fields of education, psychology, and social science. The
value of this test was its ability to determine whether the RASSY score in the SCHSSAR
study was a good predictor of the SAT score in the study.
The *Pearson r* was useful because both SCHSSAR and SAT variables are continuous scores and because *r* has a small standard error (Gall, 2007). The product-moment correlation *r* can be used with any number of bivariate score sets. In this study, *Pearson r* was appropriate to find whether there was a positive and significant relationship between religiosity/spirituality and student achievement because the data set consisted of religiosity/spirituality scale data (the independent variable); SAT score (the dependent variable) and demographic data.

Further, the researcher designed a non-directional study to support or reject the null hypotheses $H_01$ and $H_02$ individually. Doing so reduced the possibility of intervening variables in the analyses.

Finally, after data analysis was completed, the researcher reported results of the analyses in the succeeding chapter. Then, after careful evaluation, the researcher concluded with findings and made recommendations for additional research. This type of empirical research is valuable to Christian administrators and educators exploring ways to improve achievement in the population they serve. Findings from research that validates practices and procedures in Christian schools substantiates the need for such schools in our nation.
CHAPTER FOUR: FINDINGS

The purpose of this correlational study was to test Evangelical Christian Theory (Cunningham, 1977), Theory of Psychosocial Development (Erikson, 1980), and Religious Identity Status (Griffith, 2001) as they relate the religiosity and spirituality of students to their Scholastic Aptitude Test (SAT) scores for students in Christian schools. In this chapter, the researcher presents the statistical data from the study. The reader will find the charts, graphs, tables, and statistics presented in the order that the researcher posed the research questions and hypotheses in the previous chapters.

Research Questions

The achievement gap between private and public school students suggests there might be a relationship between type of school and student achievement. The researcher chose two research questions related to the problem and purpose of this study. The first question relates to the instrument the researcher chose to test the hypotheses. The second question queries the longevity of enrollment in a Christian school related to achievement scores.

Descriptive Statistics

In the online Survey of Christian High School Spirituality and Religiosity (SCHSSAR), 242 eleventh- and twelfth-grade male and female students participated. While 190 (78.5%) of the participants were twelfth-grade students, the mean grade level was 11.785 (SD = .4116) due to the eleventh-grade population of 52 (21.5%) participants. Students had been enrolled in a Christian school between three and ten years with a mean of 5.942 years enrolled (SD = 2.8116). Twelfth grade students enrolled three or less, 4 to 6, and 10 or more years represented the 25th, 50th, and 75th percentiles of the total
population, respectively. The family income range for the survey population was less than $40,000 to more than $200,000 per year with a family income mean of $83,884 (SD = 61.4536) and quartile income ranges of $40,000 to $50,000, $60,000 to $70,000, and $140,000 to $160,000.

The total group had a mean SCHSSAR score of 54.702 (SD = 30.0118). Scores of 27.00, 56.00, and 83.25 represented the 25th, 50th, and 75th percentiles, respectively (See Error! Reference source not found.). Composite Scholastic Aptitude Test (SAT) scores for the total group had a range of 222 to 2340 with a mean of 1562.438 (SD = 435.0246). Scores of 1358, 1640, and 1850 represented the 25th, 50th, and 75th percentiles, respectively. See illustrations in Figure 1. Frequency of SAT scores by quartile ranking, and data analyses in Error! Reference source not found.
Figure 1. Frequency of SAT scores by quartile ranking.

Table 1
Comparison of SCHSSAR and Demographics

<table>
<thead>
<tr>
<th></th>
<th>SCHSSAR SCORE</th>
<th>GRADE</th>
<th>YEARS ENROLLED</th>
<th>CHRISTIAN SCHOOL</th>
<th>FAMILY INCOME</th>
<th>COMPOSITE SAT SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Valid</td>
<td>242</td>
<td>242</td>
<td>242</td>
<td>242</td>
<td>242</td>
</tr>
<tr>
<td></td>
<td>Missing</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>54.702</td>
<td>11.785</td>
<td>5.942</td>
<td>83.884</td>
<td>1562.438</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>30.0118</td>
<td>.4116</td>
<td>2.8116</td>
<td>61.4536</td>
<td>435.0246</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>.0</td>
<td>11.0</td>
<td>3.0</td>
<td>.0</td>
<td>222.0</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>109.0</td>
<td>12.0</td>
<td>10.0</td>
<td>200.0</td>
<td>2340.0</td>
<td></td>
</tr>
<tr>
<td>Percentiles 25</td>
<td>27.000</td>
<td>12.0</td>
<td>3.000</td>
<td>40.000</td>
<td>1357.500</td>
<td></td>
</tr>
<tr>
<td>Percentiles 50</td>
<td>56.000</td>
<td>12.0</td>
<td>4.000</td>
<td>60.000</td>
<td>1640.000</td>
<td></td>
</tr>
<tr>
<td>Percentiles 75</td>
<td>83.250</td>
<td>12.0</td>
<td>10.000</td>
<td>140.000</td>
<td>1850.000</td>
<td></td>
</tr>
</tbody>
</table>
Ethnicities represented in the total group of 242 participants were Asian (A), American Indian (AI), Black or African-American (B), Mexican (M), Other Hispanic/Latino/Latin-American (OH), and White (W). Table 2 reports this distribution.

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid A</td>
<td>2</td>
<td>.8</td>
<td>.8</td>
<td>.8</td>
</tr>
<tr>
<td>AI</td>
<td>10</td>
<td>4.1</td>
<td>4.1</td>
<td>5.0</td>
</tr>
<tr>
<td>B</td>
<td>36</td>
<td>14.9</td>
<td>14.9</td>
<td>19.8</td>
</tr>
<tr>
<td>M</td>
<td>28</td>
<td>11.6</td>
<td>11.6</td>
<td>31.4</td>
</tr>
<tr>
<td>OH</td>
<td>28</td>
<td>11.6</td>
<td>11.6</td>
<td>43.0</td>
</tr>
<tr>
<td>W</td>
<td>138</td>
<td>57.0</td>
<td>57.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>242</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The demographic survey prompted participants to indicate their religious preference or affiliation. Choices were Christian Protestant (CP), Roman Catholic (RC), or Other/None (O/N). Table 3 displays the religious diversity of the total group.

<table>
<thead>
<tr>
<th>Religion</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid CP</td>
<td>140</td>
<td>57.9</td>
<td>57.9</td>
<td>57.9</td>
</tr>
<tr>
<td>O/N</td>
<td>46</td>
<td>19.0</td>
<td>19.0</td>
<td>76.9</td>
</tr>
<tr>
<td>RC</td>
<td>56</td>
<td>23.1</td>
<td>23.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>242</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Results**

Research Question 1 queried whether the RASSY survey scores demonstrated a positive and statistically significant relationship to the composite SAT scores reported in the demographic survey used in the SCHSSAR study. In order to determine whether this relationship existed, the researcher tested the data using Pearson $r$. For 242 participants,
the scores on the RASSY ($M = 54.702$, $SD = 30.0118$) and the composite scores on the SAT ($M = 1562.438$, $SD = 435.0246$) were not positively or significantly correlated, $r(242) = -.069$, $p = .284$. Table 4 illustrates these results.

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Descriptive Statistics</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
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<tr>
<td>SCHSSAR SCORE</td>
<td></td>
<td>54.702</td>
<td>30.0118</td>
<td>242</td>
</tr>
<tr>
<td>COMPOSITE SAT SCORE</td>
<td></td>
<td>1562.438</td>
<td>435.0246</td>
<td>242</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Correlations</th>
<th>SCHSSAR SCORE</th>
<th>COMPOSITE SAT SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCHSSAR SCORE</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>242</td>
</tr>
<tr>
<td>COMPOSITE SAT SCORE</td>
<td>Pearson Correlation</td>
<td>-.069</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.284</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>242</td>
</tr>
</tbody>
</table>

Therefore, the results of Pearson $r$ on RQ2 failed to reject null hypothesis $H_{01}$:

There is no statistically significant relationship between college-bound students’ RASSY scores and their composite critical reading, mathematics, and writing scores on the SAT.

Research Question 2 sought to test the relationship of continuous years of enrollment in a Christian school on composite SAT scores. As with RQ1, the researcher used Pearson $r$ in this analysis. As illustrated in Table 5, for the 242 students enrolled in Christian schools, the number of years enrolled ($M = 5.942$, $SD = 2.8116$) and the students’ composite SAT scores ($M = 1562.438$, $SD = 435.0246$) were positively and significantly correlated, $r(242) = .265$, $p = .000$. 
Table 5

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Mean</th>
<th>Std. Deviation</th>
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</tr>
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<tbody>
<tr>
<td>YEARS ENROLLED CHRISTIAN SCHOOL</td>
<td>5.942</td>
<td>2.8116</td>
<td>242</td>
</tr>
<tr>
<td>COMPOSITE SAT SCORE</td>
<td>1562.438</td>
<td>435.0246</td>
<td>242</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Correlations</th>
<th>YEARS ENROLLED CHRISTIAN SCHOOL</th>
<th>COMPOSITE SAT SCORE</th>
</tr>
</thead>
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<tr>
<td>YEARS ENROLLED CHRISTIAN SCHOOL</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>242</td>
</tr>
<tr>
<td>COMPOSITE SAT SCORE</td>
<td>Pearson Correlation</td>
<td>.265**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>242</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

Therefore, the results of Pearson $r$ rejected null hypothesis $H_02$: There is no statistically significant relationship between college-bound students’ time enrolled in a Christian school and their composite critical reading, mathematics, and writing scores on the SAT.

As the survey progressed, the researcher noticed an unexpected trend. Many of the student surveys had high SCHSSAR scores with low SAT scores. Conversely, many of the student surveys had low SCHSSAR scores with high SAT scores. Therefore, the final analysis failed to reject the first null hypothesis.

However, one of the demographic data, Years in Christian School, proved to be the factor most significant in the study. From this data, the researcher found that there was a positive and significant correlation between years attending a Christian school and SAT scores. Though unexpected, the data spoke and the researcher discovered a plausible direction for future studies.
CHAPTER FIVE: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The achievement gap in American education has been on the rise since the early 1970s. Researchers over the years have hypothesized solutions to the ever-widening gap between whites and blacks. Best practices educational research has produced volumes of fixes for the American public schools. The work of Marzano and others has shown us the problems and proposed solutions, but the achievement gap between black and white Americans remains.

The achievement gap in private religious schools in America is demonstrably narrower than in American public schools. The College Board Scholastic Aptitude Test (SAT) reveals this achievement gap. However, there is little empirical research indicating the cause of this phenomenon. The absence of empirical evidence of academic achievement in private schools is due to the lack of quantifiable data coming from the private sector. The researcher in this study attempted to fill a gap in the literature by conducting a correlational study of SAT demographic information and student responses to a religious practice and spirituality survey.

Discussion

In theory, all children can learn and achieve. However, learning and achievement depend upon intrinsic and extrinsic variables. Conflicts in values between home and school can diminish children’s ability to learn and assimilate knowledge.

Interestingly, the data suggested a different relationship between the family demographics, the Religiosity and Spirituality Survey for Youth (RASSY) scores, and Christian college-bound student Scholastic Aptitude Test (SAT) scores than the researcher originally expected. This researcher had observed Christian school students
for more than 25 years. The personal observation was that Christian students who acted out their faith performed better in school and achieved higher scores than students who did not act out their faith. They qualified by comparatively higher grade point averages and SAT scores than public high school college-bound seniors. Therefore, the practical evidence implied that the Christian school college-bound graduates in the present study would score higher on the RASSY survey than non-Christian college-bound graduates would. However, the data spoke otherwise. It failed to reject the first null hypothesis.

The data suggested there might be a decline in religiosity and spirituality the longer a student attends a Christian school, but the reader should use caution interpreting the data this way because a larger sample might reveal different results. However, it is conceivable that students attending nonsectarian schools might score the same or better on the RASSY survey than Christian high school students did.

A possible explanation of the decline in religiosity and spirituality of students attending Christian school for an extended time is the moratorium stage of Religious Identity Status (RIS). Originally designed for an older age grouping (college students), the Religiosity and Spirituality Scale for Youth (RASSY) used questions that a mature believer would fully support. Adolescents, according to the moratorium stage of RIS would naturally question the questions. This factor could explain why some participants would answer the questions more negatively than they would if they were in another stage of RIS.

Further, it was not possible to predict the students’ SAT scores based upon Family Income. Students from some high-income families scored low on the SAT while others
scored high on the test. Similarly, students from some low-income families scored high on the SAT while others scored low on the test. Even though this data does not address a specific research question or null hypothesis, it supports findings in the literature.

Even though this study cannot predict causal effect of a particular statistic, it seems likely that the longer a student attends a Christian school, the higher their SAT score will be. This finding relates to the effects of philosophic consistency between home and school (French, 2008; Pennings, 2011) and the effect of community support of adolescent behavior (Jeynes, 2009).

The longevity finding also supported Evangelical Christian Theory (ECT) if the school philosophy supported the parents’ philosophy. ECT rests on the belief that children learn first from their parents (Deuteronomy 6:4-9) and then from teachers. ECT’s foundation is the Bible, the inerrant Word of God (Cunningham, 1977). The Bible contains numerous passages, which indicate God has placed in the heart of man the desire to learn about Him. ECT asserts that children learn to trust and obey God because their parents and teachers hold God’s Word as a foundation for teaching and life (Deuteronomy 6:6). The product of ECT is intrinsic righteousness (4:25), which affects a person’s thoughts and molds extrinsic behavior (Schaeffer, 2005).

Similar to the biblical ideal of wisdom, the Theory of Psychosocial Development (Erikson, 1980) saw thought and behavior as two psychological elements comprising the construct of ego identity. The theorist also saw character development to be dependent upon the social identity of the individual. TPD asserted that it is important for children to learn from the perspective of their parent’s ideology. The more aligned ideological
perspective yielded the greatest student achievement, according to TPD. The present study’s longevity of attendance in a Christian school supported this theory.

The last theory cited in this study was Religious Identity Status. Of particular interest was the third stage of RIS, moratorium, because the target sample for this study was adolescents, whom typically fall in this stage of development. It is here where many adolescents begin examining themselves and questioning who they are. They might reformulate beliefs or internalize their spirituality. The quest can lead to doubt and uncertainty. Instead of black and white conceptualizations typified by younger ages, adolescents can reason complex explanations of themselves, their peers, and God. The moratorium stage is where many people try a faith different from that of their parents (Griffith, 2001, p. 18).

Conclusions

Reviewing the actual survey documents, many of the students who scored highly on the RASSY actually had the lowest scores on the SAT while others who had very low RASSY scores were some of the top SAT scores in the sample.

In this study, there was no significant relationship of a student’s RASSY score and the same student’s SAT score. Students with high RASSY scores had high SAT scores while others with high RASSY scores had low SAT scores. Similarly, students with low RASSY scores had low SAT scores while others with low RASSY scores had high SAT scores.

Even though the data failed to reject the first null hypothesis, the data rejected the second null hypothesis: There is no statistically significant relationship between college-bound students’ time enrolled in a Christian school and their critical reading,
mathematics, and writing scores on the SAT. Statistically, the longer a student attends a Christian school, the higher the student scores on the SAT critical reading, mathematics, and writing were. This finding returned a correlation between longevity of attendance in a Christian school, not religious behavior or spirituality, to students’ SAT scores.

**Implications**

For many years, educators have sought to discover what works in schools. Although the federal and state governments have poured billions of dollars into educational reform in the public sector, private school students have continued to widen the achievement gap between themselves and their public school counterparts since 1972 (Aud, 2012). The implication is that private school educators have benefitted from educational research findings more than public school educators have. However, until recently, few empirical studies have tested this hypothesis.

Solomon in the Bible recorded the most ancient of learning theories. Christians, today, regard the books Solomon wrote under God’s inspiration as authoritative literature for training in wisdom. In the Bible, Solomon asserted that it is wise to ensure children learn from models consistent with their parents. Modern literature concurs with Solomon’s writings (Dowling, 2004; French, 2008; Jeynes, 2003-2010; Sampson, 2013).

In particular, Sampson (2013) and others confirmed much of Solomon’s writings without as much as one reference to the ancient book of Proverbs. Modern researchers have the advantage and ability to compare and contrast ancient literature and modern literature to find both fact and fiction in educational research.

Concepts, such as parents training their children versus parents not training their children (Dowling, 2004; French, 2008; Jeynes, 2003-2010; Sampson, 2013), support the
wisdom literature in the Proverbs. “A good man leaveth an inheritance to his children's children: and the wealth of the sinner is laid up for the just” (Proverbs 13:22). “In the fear of the Lord is strong confidence: and his children shall have a place of refuge” (14:26). “Children's children are the crown of old men; and the glory of children are their fathers” (17:6). Finally, “The just man walketh in his integrity: his children are blessed after him” (20:7).

Conversely, “Foolishness is bound in the heart of a child; but the rod of correction shall drive it far from him” (22:15). In fact, parents should “withhold not correction from the child: for if thou beatest him with the rod, he shall not die” (23:13) and “the rod and reproof give wisdom” (29:15a). Simply stated, children imitate their models.

History teaches that God has divinely empowered men to interpret Scripture and make applications that enlighten its infallible truths. Therefore, quality empirical research must rest on the intersection of wisdom from the Bible and man’s theories.

The intersection of ECT, TPD, and RIS combined with the literature seemed to imply that children learn best in a philosophically congruent environment to that of their families. The Bible, Erikson (1980), and Griffith (2001) agree that childhood through adolescence is a critical time of life for psychosocial development.

The moratorium stage of RIS offered an explanation to the unexpected results of the survey. Originally designed for an older age grouping (college students), the Religiosity and Spirituality Scale for Youth (RASSY) used questions that a mature believer would fully support. Adolescents, according to the moratorium stage of RIS would naturally question the questions. This phenomenon could have caused some
participants to answer the questions more negatively than they would if they were in another stage of RIS.

**Limitations**

While the controls in Chapter One ensure internal validity of the study, some limitations and threats to the external validity of this study did exist. The sample school populations were small. Most of the schools in the sample had less than 100 students and class sizes were typically less than 18 students. Therefore, the findings might not be generalizable to populations larger than this study’s sample because class size has a negative correlation to achievement in elementary and secondary schools (Konstantopoulos, 2009).

Further, sampling for this study was by convenience and all the participants were from Christian schools in Texas. Since the population for this study was a homogeneous grouping of Christian school students, their responses might be significantly different from the responses of students from another region or another school sector due to cultural or economic factors, which were beyond the scope of this study.

In school settings, there are differing degrees of spiritual and religious diversity. The interaction of students from other faiths and students of nonreligious families influence students’ attitudes toward religion and spirituality. However, the researcher utilized an intentional homogeneous grouping in order to fill a gap in the literature involving Christian high school students. Since this study sampled a homogeneous grouping, Christian college-bound senior high school students, one cannot generalize the findings of this study to the total population of college-bound high school senior students in the state of Texas.
Further, the present study is a correlation study, which only shows relationship, not cause and effect. In other words, this study is not predictive in any way.

Finally, admissions policies of private schools, including Christian schools, vary from school-to-school. This intervening variable presented another limitation in this study. Some schools require new students to take an achievement test as part of the admission requirements. Other schools have no such requirement in their admissions policy.

The schools that require the pre-enrollment test usually do so to qualify candidates for admission to their academic programs. Students applying to these programs must score a minimum percentile (i.e. seventieth percentile) academically to qualify for admission. Those who score below the minimum rank may not enroll at all.

Many Christian schools do not enroll students based upon prior academic achievement. These schools typically enroll students to assist parents in training their children according to the biblical mandate (Deuteronomy 6:4-9). Schools of this nature assess students upon enrollment and then record progress by formative assessments along the way. Achievement is secondary to spiritual growth. Students in this sector may have lower SAT scores than students of schools requiring a minimum achievement ranking for enrollment.

Spirituality and religious practices aside, students qualifying for admission in Christian schools requiring an admissions exam and a minimum threshold would logically score higher SAT scores as a group than students of schools not requiring this qualification. This factor could have skewed the statistics of this study.
Recommendations for Future Research

Our country needs new educational research in the private sector. In particular, a longitudinal study of students in various types of private and public schools might reveal why the achievement gap between blacks and whites is narrower in private schools than in public schools. Stemming from the present study, researchers need to answer the question of why there is a significant correlation between longevity in a Christian school and academic achievement. We must gain more empirical evidence from faith-based schools than we have done in the past. Even though funding for research in the private sector is quite limited, it is likely that privately funded schools hold the answers to the big questions in education. Then, practitioners and policymakers must work together to reconstruct our educational systems for our children and our country.
Appendix A: RASSY Permission Request

Dear Ms. Hernandez,

I am currently working on my proposal for my dissertation at Liberty University. The study I want to do would benefit from the survey instrument you used in your dissertation, *The Religiosity and Spirituality Scale for Youth*. From what I can see, you authored this instrument and validated it during your dissertation process. Therefore, I respectfully request permission to use this instrument in its entirety. If you consent, please reply so to this email. I will include the contents of this email, RASSY, and your reply (if consent is given) in the appendices of the dissertation along with the appropriate citation in the references. Thank you.
Appendix B: RASSY Permission to Use Reply from Hernandez

Hi William,

I received your contact info from LSU with the request below. Please feel free to use the RaSSY. Let me know if you have any questions or need more info, or if you have all the information you needed and just needed permission. Thanks so much!
Appendix C: Religiosity and Spirituality Survey for Youth

Appendix D: Demographic Survey

Adapted from the College Board SAT (2015)

**How do you describe yourself?**

___ American Indian or Alaska Native

___ Asian, Asian American or Pacific Islander

___ Black or African American

___ Mexican or Mexican American

___ Puerto Rican

___ Other Hispanic, Latino or Latin American

___ White

**What language did you learn to speak first?**

___ English only

___ English and another language

___ Another language

**What language do you know best?**

___ English

___ English and another language about the same

___ Another language

**What is your citizenship status?**

___ U.S. citizen or U.S. national

___ U.S. permanent resident or refugee

___ Citizen of another country

**Indicate Your Religious Preference or Affiliation**
__ Christian Protestant
__ Roman Catholic
__ Other/None

**Indicate your level in school**

__ Junior
__ Senior

**How many years have you attended a Christian school?**

__ Three or less
__ Four to six
__ Seven to nine
__ Ten or more

**What was the approximate combined income of your parents before taxes last year?**

__ Less than $40,000
__ About $40,000 to $50,000
__ About $50,000 to $60,000
__ About $60,000 to $70,000
__ About $70,000 to $80,000
__ About $80,000 to $100,000
__ About $100,000 to $120,000
__ About $120,000 to $140,000
__ About $140,000 to $160,000
__ About $160,000 to $180,000
__ About $180,000 to $200,000
More than $200,000

What were your most recent SAT scores?

Critical Reading: __________

Mathematics: __________

Writing: __________
Appendix E: Recruitment Letters

Student Recruitment Letter

Dear Student:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for an Ed. D., and I am writing to invite you to participate in my study.

If you choose to participate, I will ask you to complete an online survey of your personal demographic information, Scholastic Aptitude Test (SAT) scores, religious practices, and spiritual beliefs. It should take approximately thirty minutes for you to complete the survey. Your participation will be completely anonymous, and no personal, identifying information will be required.

To participate, go to https://www.covenantcommunityschools/SCHSSAR, and enter the password, SCHSSAR.

An informed consent document is located on the webpage. The informed consent document contains additional information about my research. Please click "Agree" or "Disagree" at the end of the informed consent document to indicate that you have read it and would like to take part in the survey.

After you complete the survey, you will have the opportunity to enter your email address into a drawing to receive a $50.00 Amazon gift card. Clicking "Submit" at the end of the survey redirects you to a page where you can enter your email address for the drawing. For your protection, I will not be able to connect your survey with your email address. However, if your email is drawn, I will send you the gift card to the email address you provide.

Sincerely,

William Wright
Candidate
Dear Parent:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for an Ed. D., and I am writing to invite your child/high school student to participate in my study.

If you choose to allow your child/high school student to participate, I will ask him or her to complete an online survey of his or her personal demographic information, Scholastic Aptitude Test (SAT) scores, religious practices, and spiritual beliefs. It should take approximately thirty minutes for the student to complete the survey. Their participation will be completely anonymous, and no personal, identifying information will be required.

An informed consent document accompanies this letter. The informed consent document contains additional information about my research. Please sign the informed consent document and print your child/high school student’s name in the space provided if you agree to his or her participation in this study.

After your child/high school student completes the survey, he or she will have the opportunity to enter an email address into a drawing to receive a $50.00 Amazon gift card. Clicking “Submit” at the end of the survey redirects the participant to a page where he or she can enter an email address for the drawing. For your child/high school student’s protection, I will not be able to connect his or her survey with the email address provided. However, if your child/high school student’s email is drawn, I will send the gift card to the email address he or she provides.

Sincerely,

William Wright
Candidate
Dear Sir or Madam:

As a graduate student in the School of Education at Liberty University, I am conducting research as part of the requirements for an Ed. D. I am writing to invite your junior and senior high students who have taken the Scholastic Aptitude Test (SAT) to participate in my study, College-bound students: A Study of the Relationship between Religiosity/Spirituality and Achievement in Christian Schools.

If you consent for your students to participate, they will be asked to participate in a survey of their personal demographic information, Scholastic Aptitude Test (SAT) scores, religious practices, and spiritual beliefs. It should take approximately thirty minutes for them to complete the survey. Their participation will be completely anonymous, and no personal identifying information will be required.

If you agree to participation, please reply your consent on your school’s letterhead. The wording of the letter of consent can be simply, “As head of [your school name], I offer consent of our school to participate in William S. Wright’s study, College-bound students: A Study of the Relationship between Religiosity/Spirituality and Achievement in Christian Schools.” I will forward your consent letter to Liberty University Institutional Review Board for its approval for me to conduct this study. Once approved, I will notify you with instructions for student participation.

Sincerely,

William S. Wright
Ed.D. Candidate
Dear Head of School,

Recently, I sent you a letter informing you of a study I have proposed as part of the requirements for completion of my doctoral program at Liberty University. The letter is self-explanatory, but I wanted to alert you of its arrival. You can spot it easily because the letter is in a blue envelope.

The Institutional Review Board at Liberty wants me to gain consent from administrators of schools where I plan to conduct my study before it will grant me permission to move forward with the study. Your consent must be returned on school letterhead using the enclosed, postage-paid envelope. However, consent does not obligate you or your school in any way.

If you have questions, please contact me by email or telephone.

Serving for the Master,
William S. Wright
Candidate
Appendix F: Consent Forms

WEBSITE CONSENT FORM

College-bound students: A Study of the Relationship between Religiosity/Spirituality and Achievement in Christian Schools

William Wright
Liberty University
School of Education

You are invited to be in a research study of religious behavior/spirituality and academic achievement. You were selected as a possible participant because you are a junior or senior attending a Christian school who has taken the Scholastic Aptitude Test (SAT). I ask that you read this form and ask any questions you may have before agreeing to be in the study.

William Wright, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The purpose of this study is to test the relationship of a high school junior or senior student’s religious behavior and spiritual life to academic achievement as measured by the SAT.

Procedures:

If you agree to be in this study, I would ask you to do the following things: Answer the questions of the online survey accurately and honestly. No one, except the researcher, will have access to your answers and I will not collect any personally identifiable information. I will ask you to provide your email address for the $50.00 Amazon gift card drawing. The survey has two parts: The Religiosity and Spirituality Survey for Youth (RaSSY) is thirty-seven questions, which will take ten to fifteen minutes to complete. The second part is the demographic survey. This instrument requires you to know your most recent SAT scores and your family background such as household income, religious preference, race, etc. It will require five minutes or less to complete.

Risks and Benefits of being in the Study:

The study has minimal risks. These risks are no more than the participant would encounter in everyday life. However, in completing the survey, you will read questions that might cause introspection of beliefs and/or religious practices. This risk is similar to participation in church activities such as Sunday school, youth group, or worship services.

There are no direct benefits to participation.

Compensation:

Upon completion of the survey, you will have the option of entering a drawing for a $50.00 Amazon.com Gift Card.
Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely in a password-protected database on my web server and only I will have access to the records. Upon completion of the study, I will publish only the disaggregated results of the survey. If you wish to enter the drawing for the Amazon gift card you will only need to provide an email address to enter.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or the school you attend. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is William Wright. If you have questions now or later, you are encouraged to contact the researcher by email. The faculty advisor for the researcher is Dr. Jeffrey Crawford. You may contact Dr. Crawford by email.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515.

You may print or save a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

Agree

Disagree

IRB Code Numbers: 1684.051314

IRB Expiration Date: 05/13/2015
HEAD OF SCHOOL CONSENT FORM

College-bound students: A Study of the Relationship between Religiosity/Spirituality and Achievement in Christian Schools

William Wright
Liberty University
School of Education

Your high school students who have taken the Scholastic Aptitude Test (SAT) are invited to be in a research study of religious behavior/spirituality and academic achievement. I selected your high school as a possible research site because I believed it to be a Christian high school whose students have taken the Scholastic Aptitude Test (SAT). I ask that you read this form and ask any questions you may have before agreeing to your high school students participating in the study.

William Wright, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The purpose of this study is to test the relationship of a high school junior or senior student’s religious behavior and spiritual life to academic achievement as measured by the SAT.

Procedures:

If you agree to your child/high school student participating in this study, I would ask your child/high school student to do the following things: Answer the questions of the online survey accurately and honestly. No one, except the researcher, will have access to your answers and I will not collect any personally identifiable information. I will ask you to provide your email address for the $50.00 Amazon gift card drawing. The survey has two parts: The Religiosity and Spirituality Survey for Youth (RaSSY) is thirty-seven questions, which will take ten to fifteen minutes to complete. The second part is the demographic survey. This instrument requires you to know your most recent SAT scores and your family background such as household income, religious preference, race, etc. It will require five minutes or less to complete.

Risks and Benefits of being in the Study:

The study has minimal risks. These risks are no more than your child/high school student would encounter in everyday life. However, in completing the survey, he/she will read questions that might cause introspection of beliefs and/or religious practices. This risk is similar to participation in church activities such as Sunday school, youth group, or worship services.

The benefit to participation is the potential knowledge Christian school educators can gain from this study. If a positive and significant relationship exists between religiosity/spirituality and SAT scores, Christian school educators might target discipleship training for low-scoring students in their schools in order to increase achievement.
Compensation:

Upon completion of the survey, your child/high school student will have the option of entering a drawing for a $50.00 Amazon Gift Card.

Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely in a password-protected database on our web server and only researchers will have access to the records. Upon completion of the study, I will publish only the disaggregated results of the survey. Participants who wish to enter the drawing for the Amazon.com gift card need only to provide an email address to enter.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to allow your child/high school student to participate will not affect his/her current or future relations with Liberty University or the school he/she attends. If you decide to allow your child/high school student to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is William Wright. If you have questions now or later, you are encouraged to contact the researcher by email. The faculty advisor for the researcher is Dr. Jeffrey Crawford. You may contact Dr. Crawford by email.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515.

You may print or save a copy of this information to keep for your records.

Statement of Consent:

I am the Head of School consenting to participation in this study. I have read and understood the above information. I have asked questions and have received answers. I consent for my child to participate in the study.

If the previous four statements are true, please click the following link, which will take your student to the first page of the survey: https://www.covenantcommunityschools.org/SCHSSAR
The password, when prompted, is SCHSSAR. If the link above fails, you may copy it and paste it into your browser.

IRB Code Numbers: 1684.051314

IRB Expiration Date: 05/31/2015
PARENT CONSENT FORM

College-bound students: A Study of the Relationship between Religiosity/Spirituality and Achievement in Christian Schools
William Wright
Liberty University
School of Education

Your child/high school student is invited to be in a research study of religious behavior/spirituality and academic achievement. Your child/high school student was selected as a possible participant because he or she is a junior or senior attending a Christian school who has taken the Scholastic Aptitude Test (SAT). I ask that you read this form and ask any questions you may have before agreeing to your child/high school student participating in the study.

William Wright, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

The purpose of this study is to test the relationship of a high school junior or senior student’s religious behavior and spiritual life to academic achievement as measured by the SAT.

Procedures:

If you agree to your child/high school student participating in this study, I would ask your child/high school student to do the following things: Answer the questions of the online survey accurately and honestly. No one, except the researcher, will have access to your answers and I will not collect any personally identifiable information. I will ask you to provide your email address for the $50.00 Amazon gift card drawing. The survey has two parts: The Religiosity and Spirituality Survey for Youth (RaSSY) is thirty-seven questions, which will take ten to fifteen minutes to complete. The second part is the demographic survey. This instrument requires you to know your most recent SAT scores and your family background such as household income, religious preference, race, etc. It will require five minutes or less to complete.

Risks and Benefits of being in the Study:

The study has minimal risks. These risks are no more than your child/high school student would encounter in everyday life. However, in completing the survey, he/she will read questions that might cause introspection of beliefs and/or religious practices. This risk is similar to participation in church activities such as Sunday school, youth group, or worship services.

The benefit to participation is the potential knowledge Christian school educators can gain from this study. If a positive and significant relationship exists between religiosity/spirituality and SAT scores, Christian school educators might target discipleship training for low-scoring students in their schools in order to increase achievement.

Compensation:
Upon completion of the survey, your child/high school student will have the option of entering a drawing for a $50.00 Amazon Gift Card.
Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely in a password-protected database on our web server and only researchers will have access to the records. Upon completion of the study, I will publish only the disaggregated results of the survey. Participants who wish to enter the drawing for the Amazon.com gift card need only to provide an email address to enter.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to allow your child/high school student to participate will not affect his/her current or future relations with Liberty University or the school he/she attends. If you decide to allow your child/high school student to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The researcher conducting this study is William Wright. If you have questions now or later, you are encouraged to contact the researcher by email. The faculty advisor for the researcher is Dr. Jeffrey Crawford. You may contact Dr. Crawford by email.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515.

You may print or save a copy of this information to keep for your records.

Statement of Consent:

I am the parent or legal guardian of the student whose name appears below. I have read and understood the above information. I have asked questions and have received answers. I consent for my child to participate in the study.

Parent/Guardian Signature

Parent/Guardian Printed Name

Minor Student Name

IRB Code Numbers: 1684.051314

IRB Expiration Date: 05/13/2015
Appendix G: Liberty University Institutional Review Board Approval Letter

May 13, 2014

William S. Wright

IRB Approval 1684.051314: College-Bound Students: A Study of the Relationship between Religiosity, Spirituality, and Achievement in Christian Schools

Dear William,

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.

Please retain this letter for your records. Also, if you are conducting research as part of the requirements for a master’s thesis or doctoral dissertation, this approval letter should be included as an appendix to your completed thesis or dissertation.

Thank you for your cooperation with the IRB, and we wish you well with your research project.
Dear School Administrator,

This letter is to urge your positive response to the request for participation of your college bound junior and senior students in a research study on religious behavior and academic achievement. William Wright is conducting this study to complete the requirements for his doctoral studies at Liberty University. The results will be published and will benefit the Christian school movement in the challenging days in which we are serving.

I am well assured of the professional standards and confidential manner in which this research will be conducted. The collection of data and the reporting of such data will meet the standards for academic research. Liberty University has verified to me the IRB approval of the study, as well as the process of data collection and confidentiality.

I would encourage you to participate in this study as a great value to your school; your own professional development, as well as making a significant contribution to the research base for the Christian school movement. ACSI heartily endorses this research project and we appreciate you giving it serious consideration.

[Signature deleted. Original document on file.]
## Appendix I: ACT/SAT Conversion Chart

<table>
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<tr>
<th>ACT Composite Score</th>
<th>Estimated SAT CR+M+W</th>
<th>Estimated SAT CR+M+W (Score Range)</th>
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(Act, 2015)
References


http://www.baptistbanner.org/Subarchive_4/408%20Exodus%20Mandate.htm


http://liberator.net


http://www2.ed.gov/policy/elsec/leg/esea02/index.html


http://tip.psychology.org


http://tip.psychology.org


