AN INVESTIGATION OF ASSESSMENT, EQUAL OPPORTUNITY, AND EDUCATIONAL EQUITY IN CONSERVATIVE EVANGELICAL SCHOOLS

by

Joseph Michael Scifo

Liberty University

A Dissertation Proposal in Partial Fulfillment

of the Requirements for the Degree

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ABSTRACT

The purpose for this ex post facto, causal comparative study was to use a three-tiered investigation; each tier was related to the investigation of equity and student achievement. Based on the literature, there is little to no research about the relationship between equity in conservative Evangelical Christian schools and student achievement. The data used in this study was drawn from conservative Evangelical schools. The research focus was on schools which are members of the Association of Christian Schools International (ACSI) in the Mid-America/Ohio River Valley Region. The participant schools were divided into different tiers and categories, in accordance with the size, tuition, and location. With use of the variables of location, school size, and cost per student, an ANOVA was used to analyze student achievement solely in ACSI member schools. Three separate ANOVAs were used to analyze the data for each part of the study. The first ANOVA was used to analyze student achievement in ACSI schools with regard to location; the second ANOVA was used to analyze student achievement in ACSI schools with regard to tuition; and the final ANOVA was used to analyze student achievement in ACSI schools with regard to enrollment size. The instrument used for measuring student achievement in this study was the Terra Nova Test (3rd Edition) for ACSI schools.

Keywords: equity, achievement, Christian education, Kingdom Education, Maslow's Hierarchy of Needs, school climate, family involvement

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List of Abbreviations

Analysis of Variance (ANOVA)

Association of Christian Schools International (ACSI)

English as a Second Language (ESL)

English Standard Version (ESV)

No Child Left Behind (NCLB)

Organization of Economic Cooperative Development (OECD)

Socioeconomic Status (SES)

Statistical Package for the Social Sciences (SPSS)

CHAPTER ONE: INTRODUCTION

Overview

Equity in education goes back to the very foundations of public education in America. From the time of its creation, public education has been unavoidably selective depending on the surrounding environment. Although equity as an isolated term is typically defined as being fair and equal, yet it is of greater weight in terms of education. Over the course of time, equity in education has been more of a political problem, rather than a problem with existing educational programs (Unterhalter, 2009). However, what correlations exist between equity and Christian education?

Background

Equity in education has been an issue since the early stages of public education, and has now become a global issue, and there does not seem to be an appropriate sense of urgency to address the issue (Klees & Qargha, 2014). Although several governmental policies have been implemented to bridge the gap in educational equity, it is difficult to determine the success of these policies**.** The most recent major attempt made by the members of the United States government was in 2011 (Devarics, 2012), when a bill was proposed to Congress**,** by which federal funds would be withheld from states, unless the disbursement of funds were equal between low-income and high income schools.

The current method to determine educational success is through the use of standardized testing. Although the focus of this study was not on the effectiveness of this method, the fact remains that standardized testing has been not only accepted, but encouraged as the primary means to measure student achievement. Teachers in public schools argue that teaching students how to navigate a standardized test rather than prepare them for their futures is a disservice to their development (Knoeppel, 2011). Furthermore, there is the question of whether the resultant

data can provide an accurate measurement of student achievement. However, according to Jennings & Bearak, (2014), the proper use of standardized testing data can be extremely effective: (a) in the assessment and review of curricula, (b) in monitoring overall academic growth and development, and (c) in identifying benchmark mastery or remedial needs.

Even admission into selective enrollment high schools, as well as continued higher education, is primarily based on some version of standardized test performance (Clark, 2010). Regardless of the amount of support for this method, the issues of equity in education are still present. Are these assessments provided equally to all students, regardless of race, location, resources, and size of the school? Are all students afforded with equal opportunity to be successful in their education, development, and potential future employment? The findings from current research (Goodman & Burton, 2012) have been used to adequately investigate the many factors that may affect students' ability to perform well on standardized testing and overall achievement.

The absence of positive factors, as well as the presence of negative factors affecting student lives and achievement has been identified in recent studies. The focus of these studies were on several factors: (a) socioeconomic status (Borg, Borg, & Stranahan, 2009; Brown, Anfara, & Roney, 2004; Fitzpatrick, 2012; McKown, 2013; Poesen-Vandeputte, & Nicaise, 2015; & Reeves, 2012); (b) the amount of sleep students receive (Eide & Showalter, 2012); (c) student motivation (Gage, Sugai, Lewis, & Brzozowy, 2015; & Newton & Sandoval, 2014); (d) dilapidated and neglected facilities (Bowers & Urick, 2011); (e) diet and nutrition (Basch, 2011); (f) students' expectations of themselves and their environment (Wilson, 2014; & Taylor, 2014); (g) the provision of support for homework and tutoring (Nelson-Royes & Reglin, 2011; & Eren & Henderson, 2008); (h) racial disadvantage (Chapman, 2014; Jacobs, 2010; Lleras, 2008; &

Thompson, 2010); (i) teacher quality & motivation (Mahmood et al., 2011; Lin, 2010; Van

Maele & Van Houtte, 2015; & Winters, 2014); (j) school leadership (Price, 2015; & Zeinbadi,

2014); (k) the quality of physical surroundings and facility (Tayyabe, 2011; & Woolner et al.,

2007); (l) parental involvement (Ivan & Cristei, 2011; Jeynes, 2012; & Strayhorn, 2010); and

(m) school climate and culture (Sherblom, Marshall, & Sherblom, 2006).

Since there are even more factors, than those listed above, the issue of student

performance is complex. As reported by Wiliam, Klenowski, and Rueda (2010), in the

discussion of higher education; students from various high school programs, including college

preparation schools and training in standardized testing, as well as disadvantaged or under

achieving high schools, have little or no opportunity when they compete with their more affluent

counterparts. These inequities are compounded when the disadvantages of cost and limitations

of college choices are factors.

When the first colonies were settled in North America, education was perceived solely

for the purpose of training children to learn the Word of God (Watras, 2008). Based on the

theology of Calvinism, the Puritans and the Separatists, in different locations in North America,

both required civil authorities to ensure children were learning how to read and write the

principles of religion (Gutek, 2005). These were the first signs of the issues of equal opportunity

and equity in education for the U.S., particularly by the underprivileged. For many years after its

independence, the country was extremely segregated in regard to the *necessity* of education for

women.

Thomas Jefferson began to make his arguments in the early colonies that the primary goal

for education should be to develop good citizens for the nation, rather than a single focus on

religious beliefs (Gutek, 2005). An even simpler analysis of this approach to education includes

the fact that citizens need to be able to read, write, and be able to communicate clearly in order to understand the issues and challenges that arise through the existence of the nation. For example, citizens needed to be able to attain all basic education levels, if they were going to be able to vote for present and future leaders of the country, even though not all citizens of the early nation had access to this model (Gutek, 2005; & Caron, 2011).

Since public education was not available to many early settlements, the development of Dame schools became somewhat popular. Dame schools, typically taught by widows in the early 1600s, allowed for women to teach both boys and girls in their home, but also allowed the women to provide themselves with an income (Harper, 2010). The focus of these schools was to teach children to read and write, regardless of the families' occupations.

These schools were established before any formalized education system had been developed. The English Colonies recognized the need to establish such as system, and between 1642 and 1650, created laws which mandated towns to establish schools and forced children to attend (Watras, 2008). Although certain townships in Massachusetts had already been experimenting with the development of school systems, several other colonies had not felt it necessary to develop a school system. Colonists knew the value of literacy and numeracy from their home countries. Primary value was focused on reading for the Bible, as well as, the moral discipline of young. Available to only a select few, specifically males, --in general were included in education, yet education the 1600s excluded females, slaves, bonded servants, and Native Americans. These were the continuing signs of the issues of equal opportunity and equity in education in the Colonies, although not seen as issues during the time. Ironically, the leaders of the time felt an established educational system would promote uniformity throughout the colonies, and yet the majority of students learning to read and write were male (Cremin, 1970).

As the development of separations among societal classes became apparent, Rousseau began to make an argument for understanding the inequalities seen among education, prestige, property, and wealth (Gutek, 1995).

The School Act of 1647 was put into place, again, with the specific goals of teaching citizens to read and write, interpret the Scriptures, and become more efficient and self-sustaining (Cremin, 1970). These schools were modeled after the original school systems, which developed in England, and had the specific purpose of training future clergymen and Biblical scholars (Cremin, 1970). Even in the foundations of education in Colonial America, all teachers were required to undergo teacher training, and be certified by either a local bishop or the minister of education in England (Cremin, 1970). Over time, curriculum expanded. Public education moved from Dame schools and hornbooks to universities and colleges; the latter accepted students as young as 10 to 12 years old.

According to Gutek (2005), Jefferson is still historically regarded as one of the most important founders of public education in America, he held that higher education should be restricted to those with the capability to govern. Over time, the provision of education has been a process of exclusion to inclusion. Jefferson is also credited with the concept that education should not be church-driven, and controlled by individual states, as it was when the Puritans first settled (Gutek, 2005).

However, the teachings of the Bible remained in the public school systems of the U.S. until the 1960s. Whether the goal is religious or civic, public education should be designed for the common good of its citizens. As the U.S. government supported the Jeffersonian approach to civic education, civic leaders will continue to make significant decisions regarding the identity of education in America (Satz, 2007). By making it clear that the Bible and prayer, as a Christian

believer, would be removed from all public schools, this would place the emphasis of education on teaching children to become good citizens, rather than followers of God (Crook, Freathy, & Wright, 2011). However, this also meant that issues in educational segregation, including race, gender, and socioeconomic status would quickly come into play.

As the educational programs in the U.S. began to be compared to other nations in the mid-20th century, the dominance of these programs was in jeopardy (Brookhart, 2013). In the 1940s, the U.S. was ranked #1 in terms of educational productivity; today, that rank has decreased to 21 in the developed world (Schleicher, 2009). The rationale for this issue is due to the socioeconomic differences among public schools throughout the country, particularly after the 1960s, as well as the clear issues of poverty during that time. Historically, when the U.S. youth were challenging all forms of authority during the 1960s and 1970s, many students viewed education of little value (Aronsen & Benedict, 2007).

Supporters of desegregation used data which showed an overall improvement in student achievement, whereas opponents of desegregation used the same data to demonstrate that overall U.S. performance would decline if public education (Brookhart, 2013). After the Supreme Court (Turner, 2015) banned desegregation in public schools, standardized testing was used as a tool on both sides of the argument. William, Klenowski, and Rueda (2010) noted that successful student assessment through the use of standardized testing can be directly attributed to: (a) appropriate time provided to students and teachers; (b) provision of equal amounts of resources, as well as (c) the use of alternative methods of assessment. Only through these measures, can a fair playing ground be attained for all students.

It was not until the Nation at Risk report was published (United States Department of Education, 1983), that U.S. citizens, political leaders, and educational leaders recognized the

need for new educational reform in America. However, the No Child Left Behind Act (NCLB, 2002), NCLB, was not the first government effort to attempt educational reform. In fact, it was President Johnson**,** who initiated both the Title I and Head Start programs in the U.S., as means to close the education gap in regard to inequality and poverty (Petrilli, 2013; NCLB, 2002; & Vinovskis, 1999). Nevertheless, as the U.S. attempted to close the gap, other nations advanced in the education of their students and even surpassed U.S. students, so that issue of unequal and unequitable education began to be noticeable.

Although the Nation at Risk report was produced in 1983 (United States Department of Education, 1983), in 1989, the members of the Charlottesville Educational Summit worked to identify possible solutions to the educational struggles of the U.S. However, the Summit members were unable to develop a viable solution until the NCLB (NCLB, 2002), formerly known as the Elementary and Secondary Education Act, legislation was technically re-implemented in 2002. After almost 15 years from the NCLB act, and some 50 years from the original inception, the goals have yet to be attained. Part of the reason why these types of large-scale educational reforms have not been reasonably successful is due to a lack of understanding about how to approach the gaps in achievement. As the U.S. has continued to implement governmental solutions to the educational inequity that exists, these solutions have continued to fail since the underlying issues regarding educational equity has been addressed (Goodman & Burton, 2010). In other words, rather than approach these issues of equity in education from multiple perspectives (e.g., exclusion, competition, and sensitivity of inequality), "the focus is solely placed on the development of the illusion to show that an effort is being made to provide all students with the same opportunities to success, but not the proper tools" (Jacobs, 2010).

Currently, many educators maintain that the program has been counterproductive, due to the requirement of strict compliance by already low-performing schools (Jennings & Bearak, 2014). Educators in a dozen states refused to fully implement the NCLB (NCLB, 2002) in spite of the risk of loss of federal funds, in comparison to a state, whose educators have accepted full participation of the program (Mongiello, 2014). Mongiello noted several reasons why educators and schools might not choose to participate: (a) it mandated that all students meet standardized assessment standards as identified by the program; (b) the requirements that the achievement gap is to be closed for all students, especially those students with language deficiencies; and (c) states must conduct internal reviews to ascertain the effectiveness of their educational programs and standards (Mongiello, 2014).

However, as noted by Riley and Coleman (2012), the idea that increased funding and resources will help increase student achievement may be an unrealistic expectation. If educators, schools, school districts, state government leaders, as well as federal leaders, do not cooperate according to a unified procedure, the result will become a discussion of control, rather than a discussion of solutions to issues. An example of this can be seen as national education officials maintain high expectations for all schools in the midst of an educational reform plan and conduct single-track evaluations.

When low performance schools are placed on academic probation, this only magnifies the problems of the factors listed earlier and puts tremendous pressure on teachers and administrators (Gebhard & Harman, 2011). Although school districts in rural, suburban, and urban settings are vastly different, the performance ratings are the same, based on information and assessment from one centralized context. In addition, the requirements of the NCLB act

(NCLB, 2002) do not acknowledge any dysfunction presented by parents, students, teachers, principals, or the overall school culture in general (Nielsen, 2013).

The U.S. is not the only country in which there is an achievement gap (Hemelsoet, 2012). Several other nations struggle with this issue, due directly to the disparity between socioeconomic classes within certain countries. In other words, in nations where there is markedly lower economic population, there would be an achievement gap between rich and poor students. For example, in Belgium there are extremely large gaps in socioeconomic groups, which contribute to large disparities in the achievement gap of the students; whereas schools with higher levels of resources, teacher tenure, and leadership retention are more likely to achieve well above the former (Poesen-Vandeputte & Nicaise, 2014). Leaders of Canada during the 1800's held extreme fear for the nation developing uneducated, undisciplined, and therefore dangerous populations that would endanger the future of Canada. (Brownlee, 2013).

In nations with more severe social constraints, such as Liberia, the freedoms and opportunities for education are extremely difficult for women, as well as certain children (Cuesta & Abras, 2013). Cuesta and Abras (2013), stated the reasons for these constraints included birth order, gender, number of children in the family, economic status, education and age of the head of the household, location of residency, region of descent, and exposure to any national conflicts.

In China, where extremely large socioeconomic gaps exist, college entrance exams were used as a way to provide equal opportunity for all citizens to have the opportunity to attend higher education (Hu, Li, & Gan, 2014). The strategy was counterproductive, as citizens felt the language, test contexts, and test-taking strategies were not sufficiently disseminated to them, which only resulted in more social tension (Wang, 2010). Some European nations, such as Germany, do not place a high emphasis on education, and parents are not always given the full

choice of the educational tracks their children are determined to pursue (West & Nikolai, 2013).

Most European nations have fairly equalized education at earlier stages of schooling, but become more and more stratified as a child progresses through secondary and higher education.

As also found in the United States, different European nations have different perspectives and expectations regarding parental involvement. However, parental involvement did not necessarily decrease as resources and/or economic status also decreased. Specifically, Montenegro and Albania present the lowest rate of parental participation, followed by medium participation by Croatia and Bosnia-Herzegovina. Romania, Moldova and, most of all, Serbia demonstrated the highest levels of parental involvement, even though they are not regarded as wealthy nations (Ivan & Cristei, 2011). In the case of Albania, parents who perceive a stronger duty to support their children with homework are less present in class meetings. This is the opposite of Montenegro or Serbia where parents with a lesser sense of duty participate less often in class meetings. As for the rest of the countries included in analysis – Croatia, Romania, Moldova, and Bosnia-Herzegovina – the relationship between these two variables is not statistically significant.

Japan was able to recognize the large social class issues during its post WWII reestablishment. The research has shown that although the challenges in education were difficult for a time in Japan, the conservative approach to education was what brought Japan to the educational giants of the 1980s, as well as to this day (Entrich, 2013). Another reason for the success of the educational prowess found in Japan was the notion of having all citizens in line with the concept of developing the whole child, including personality, correct raising of children, sound mind and body, developing an intrinsic value of life, develop of deep level of responsibility, as for laying the foundations for a peaceful society (Strong, 2012).

The Nordic nations in Europe also have high successful educational prowess, mostly due to a similar high regard to education as in Japan. The citizens in these nations understand the importance of its citizens' education programs being at the higher priority level in the interests of longevity, tradition, and pride of their nations (West & Nikolai, 2013). Probably the most significant pattern seen through the studies of education in other countries is parental involvement, as well as expectations for the child to succeed.

In most cases, the parents of these nations not only fully support the education of their child, but they do not take the right to education lightly. They recognize the potential for their children to succeed with the obtainment of a quality education as the cornerstone to do so. In Korea, respect for fully qualified teachers is one of the top reasons for their educational success, as well as positive peer motivation, parental involvement, and educational programs (Houck & Eom, 2012). Quite obviously, respect for teachers has become a major challenge in America, which has abruptly become a nation of litigation and entitlement, though losing the essence of accountability.

Much of the same concepts found in the now antiquated Education Mission, can still be found among the Christian schools throughout the United States. Conservative notions to a holistic approach can also be found in the mission statements of the Association of Christian Schools International (ACSI), as well as its member and associated schools. The research must show where Evangelical Christian schools lie in comparisons of factors affecting student achievement. The theory establishing the basis for this study was Abraham Maslow's Hierarchy of Needs Self-Actualization Theory (Maslow, 1943). Maslow's Hierarchy of Needs Self-Actualization Theory included several individual needs that must be met in order for an individual (student) to progress toward self-actualization, or in the case of education,

independent learning (Maslow, 1964). The goal of Maslow's theory is to guide individuals to reach their highest potential (Taormina & Gao, 2013). The similarities between Maslow's Hierarchy of Needs and the values found in Evangelical Christian education will be discussed in Chapter Two. These overarching values found in Evangelical Christian schools should support Maslow's Hierarchy of Needs Theory, regardless of location, size, or cost, so long as students' needs are being met. This study will investigate whether or not significant equity issues exist within the Evangelical Christian school system.

Problem Statement

Currently, there is a lack of empirical research studies about the topic of student achievement and Christian schools. In other words, the missions of conservative Evangelical schools are similar to the original U.S. Education Mission established in 1947 (Hazlett, 2011), and yet these schools been able to outperform their public school counterparts, even with no major school reform. The public school reforms have been identified as being extreme, as well as numerous; yet, the remedies to educational struggles continue to lack the success rate of other more conservative approaches to educational reform, even when compared at an international level (Brookhart, 2013).

However, since there are obvious differences among Christian schools themselves, especially in regard to size of enrollment, annual cost of tuition, and school location, it was important to investigate if the achievement gap exists among conservative Evangelical schools at an extreme level as well. Whether a Christian school has an enrollment size of 1,000 or 200, a tuition rate of $10,000 or $4,000, or be in a rural or suburban setting, the achievement gap should not be extreme. Even operating off the income of low-income parents for tuition, in low-income neighborhoods, which is often the problem for public schools, and yet Evangelical Christian schools are still able to operate with much higher standards. Evangelical Christian schools often

become members of Christian school organizations for a means of solidarity and community.

Although there are many different Christian school organizations, the Evangelical schools for

this study were members of the Association of Christian Schools International (ACSI). Further

information regarding other Christian school organizations will be presented in Chapter 3.

The success or failure of a school can be notably influential on the representation of a

district, neighborhood, or even city (Silverman, 2014). The problem is that sufficient data has

not been produced showing disparities between achievement levels of conservative Evangelical

schools; nor is there sufficient data describing reasons for the successes of conservative

Evangelical schools.

Purpose Statement

The purpose for this ex post facto, causal comparative quantitative study was to conduct a

three-tiered investigation, in which each tier relates to equity and student achievement. Based on

the research available, there was little evidence to support the idea that a relationship exists

between equity in conservative Evangelical schools and student achievement. The study, an ex

post facto causal comparative procedure was conducted to investigate whether there was a

statistically significant difference in student achievement in conservative Evangelical schools,

depending on school location, school size, or cost per student.

The independent variables of the study were categorized according to school setting,

school size, and annual tuition cost per student. Each independent variable consisted of

subcategories for each variable. The independent variable, school setting, consisted of schools in

rural, urban, or suburban environments. The second independent variable was school enrollment

size. The subcategories for school enrollment size consisted of small, medium, medium-large,

and large schools, in regard to the total student enrollment of each school in the study. The final

independent variable was based on the cost of education per student, and was categorized into

schools of either high tuition or low tuition. Since the participants of the study were

conservative Evangelical schools, this cost was based specifically on the annual cost of tuition

per student for the schools in the study. The participants of the study were to be students within

ACSI, Mid-America Region. Composite national percentage scores were used for each school

participating in the study. There are over 400 ACSI schools in the Mid-America Region, and

over 1600 throughout the U.S. that use the Terra Nova testing program. This study used as many

schools as possible to meet the desired sample size for each variable. To be more specific, the

desired sample size for this study was to have at least 10 schools for each variable and category.

Significance of the Study

The significance of this study was based on the lack of research pertaining to the purpose

for this study. In this researcher's review of the literature, no empirical studies have been

conducted with non-denominational Christian schools to examine issues related to student

academic achievement. However, there have been several studies done to measure student

achievement within the Catholic schools system (Dallavis, 2014; Bempechat, Boulay, Piergross,

& Wenk, 2008; O'Keefe & Scheopner, 2009; & Sanders, 1996). However, these studies were

done for the purpose of examining factors affecting student achievement in Catholic schools, but

not cross comparisons among different Catholic schools. Boerema (2011) reported that,

currently, there was a need for Christian school leaders to conduct extensive research in order to

understand achievement comparisons between all school systems, including Christian vs. public,

Christian vs. other private schools, and Evangelical Christian schools vs. other Christian schools.

The pressures on educators, whether public or private, have increased notably in recent

years. In particular, parents have shifted this pressure to teachers, as the expectations of parents

may be beyond the capabilities of the student and focused on high performance on standardized

testing (Addi-Raccah, & Arviv-Elyashiv, 2008). When Christian schools were first founded and

organized, parents were highly pleased because they knew their children would learn about God's Word, and the education attained from Christian schools would be satisfactory (Schultz, 2003). However, Schultz (2003), also argued that in this demanding age of entitlement, many parents of Christian schools now expect the highest academic standards, with perhaps less focus on Biblical instruction.

According to Pike (2011), a British educator, the goal of conservative Evangelical schools is to provide students with academic excellence, though their original identities in Christ are not compromised. With both negative and positive factors which affect student achievement in public schools, students in conservative Evangelical schools may outperform them on the average, but for more intrinsic reasons. One of England's most successful schools in the nation is not a Christian school, but has been successful with the utilization of Christian-based values such as: (a) purpose in life, (b) humility, (c) compassion for others, (d) integrity in all interactions, and (e) accountability and responsibility for student actions.

In the Cayman Islands, a study showed that people understand the church leader's responsibility of establishing good moral character among the people, and have been moving toward the integration of Biblical principles in public schools, without designating them as Christian schools (Minot, 2010). Similarly, Christian schools are seen by the government as private schools that can have a positive influence on their society (Zandstra, 2012). Yet it remains extremely difficult for Evangelical Christian schools to gain public and governmental support in the United States, primarily because of the fear of indoctrination of students, as well as a refusal to acknowledge the current moral issues in the U. S. (Smith, 2013). Although Christian high schools outperform public school counterparts in college preparedness, Christian

schools must continue to establish high standards, in order to produce competitive graduates in a competitive age (Riley, 2006).

The construct of Christian or moral education is termed in the public school system as value or character education, yet educators in public schools are reluctant to present morals, values, characteristics, teachings, influences that may connect them with Christianity (Etherington, 2013). Although teaching values alone is not sufficient, some (Dickens, 2015; & Reck, 2012) argue that in order to be more competitive, Christian schools must also emphasize their educational successes. Currently, education is considered mandatory globally (OECD, 2015). This is the purpose of this current research study.

Research Questions

The following research questions guided this study. Each research question was directly correlated to the three parts of the study.

RQ1: Is there a statistically significant difference between achievement test scores in rural, urban, and suburban conservative Evangelical Christian schools, as measured by Terra Nova (3rd ed.; ACSI)?

RQ2: Is there a statistically significant difference between achievement test scores of small, medium, medium-large, and large conservative Evangelical Christian schools, as measured by Terra Nova (3rd ed.; ACSI)?

RQ3: Is there a statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high tuition and low tuition as measured by Terra Nova (3rd ed.; ACSI)?

There were several null hypotheses associated with this research study. There were several because of the complexity and number of independent variables that were used in the study.

H_01: There is no statistically significant difference between achievement test scores in rural, urban, and suburban Evangelical Christian schools.

H_02: There is no statistically significant difference between achievement test scores of small, medium, medium-large, and large conservative Evangelical Christian schools.

H_03: There is no statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high and low tuition costs.

Definitions

1. *Equity (in education)* – Equity is defined as being equal and fair; in the context of education, it means that all children have an equal and fair opportunity to quality education (Unterhalter, 2009).

2. *Achievement Gap* – An educational term used to describe large disparities in the scores from standardized achievement testing, which are sometimes found among students of various family backgrounds, races, socioeconomic situations, and location (Noguera, 2009).

3. *Homeschooling* – A method of education in which parents take the responsibility for the education their children, due to their desire to separate themselves from public education provided by the government (Murphy, 2013).

4. *Kingdom Education* – A perspective of education which suggests that the Bible needs to be at the center of all methods of education (Schultz, 2003).

5. *Maslow's Hierarchy of Needs* – An educational theory which bases the education of a child on first meeting physiological needs, then progressing toward the goal of independent learning and self-actualization (Maslow, 1943; & Taormina & Gao, 2013).

6. *Student Achievement* – Also known as academic achievement, it is considered to be the eventual goal of all educational programs, resources, and curricula for students, typically measured by formal assessments (Knoepp & Brewer, 2011).

7. *School Climate* – A condition or general feel of a school, although difficult to measure, which can positively or negatively affect all aspects of a school, including learning environment, satisfaction, and academic achievement (Gulsen & Gulenay, 2014).

8. *School Culture* – A term referring to the systems of beliefs, rituals, traditions, perceptions, relationships, and attitudes that form the general persona of a school (Hidden Curriculum, 2014).

9. *Discipline Gap* – Similar to the achievement gap, the discipline gap refers to the wide variety of ways that children are raised and how it affects their willingness to learn, respect school authorities, and maintain self-control with the desire to learn. Often, the discipline gap is dependent upon family structure and/or the absence of parental involvement (Gregory, Skiba, & Noguera, 2010).

10. *Christian Education* – Private education in which the teachings of Jesus Christ and the Bible are at the center of all policies, procedures, instruction, curriculum, as well as all stakeholders (Education Dynamics, 2015).

11. *Equal Opportunity* – Regarding education, equal opportunity is an approach to education which requires all children are entitled to the same educational programs, resources, and support to be successful in their education. Areas of equal education opportunity include social opportunity, success and recognition based on merit, equal distribution of opportunities, and equal school outcomes and objectives (Hemelsoet, 2012).

12. *Urban Schools* – schools within the city limits of any city in the ACSI Mid-America Region with a population of at least 50,000 (U.S. Census Bureau, 2010).

13. *Suburban "Urban Cluster" Schools* – schools of any town or city in the ACSI Mid-America Region, with a population of at least 2,500 people, but not more than 50,000 (U.S. Census Bureau, 2010).

14. *Rural Schools* – schools not found within urban area or urban cluster in the ACSI Mid-America Region (U.S. Census Bureau, 2010).

15.   *Small ACSI School* – a school with an enrollment of under 200 students (ACSI, 2017).

16.   *Medium ACSI School* – a school with an enrollment of at least 200 students, but not more than 400 (ACSI, 2017).

17.   *Medium-Large ACSI School* – a school with an enrollment of at least 400 students, but not more than 700 (ACSI, 2017).

18.   *Large ACSI School* – a school with an enrollment of over 700 students (ACSI, 2017).

19.   *Average Tuition for ACSI Schools* – Based on the ACSI/Resolve Financial Health Survey for ACSI schools in the U.S., the average tuition for all grade levels was $5,850 annually (ACSI, 2015).

In Chapter One of this study, the researcher has provided the reader with the fundamental concerns with equity in education. Although it has been established that inequalities and inequities in education exist, the factors contributing to disparities in education have yet to be resolved, even by the highest leaders in education (Unterhalter, 2009; & Hauser, 2013). The researcher has also identified significant historical challenges connecting equity and education through early U.S. history. As public education in the U.S. has shifted from being primarily for religious values to global competition, the product of education has also shifted to basing success on standardized testing (Antush, 2014; & Smith, 2014). Student success in the classroom can be affected by several contributing factors, which were also presented in chapter one. In Chapter Two, the researcher delved deeply into the details of those contributing factors, and how those factors can either positively or negatively impact how a child progresses in their education, as well as achievement through standardized testing. This chapter also provides a Christian perspective to student achievement, but also describing a biblical worldview regarding the before mentioned factors contributing to equity in education.

CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose for this study was to investigate any significant connection between the issues surrounding equity in education in relation to conservative Evangelical Christian Schools. The issue of equity in education is not a new one in the U.S. Equity is defined as being equal and fair; in the context of education, it means that all children have an equal and fair opportunity to quality education (Unterhalter, 2009). In most cases, equal and fair educational opportunity means to help meet the basic needs of students, to provide them with the highest chances of success.

Theoretical Framework

The theoretical framework of this study is based on Maslow's Hierarchy of Needs Self-Actualization Theory (Maslow, 1943). According to Maslow, there are several tiers, or levels of development in a person's life. The progression through these tiers can be conceptualized as a pyramid. A student progresses through each tier only until the needs of the prior tier are met. Typically, needs are defined as those basic requirements, which an individual must attain in order to reach a sense of well-being. Also, it should be noted these basic requirements only become needs when the individual perceives a lack of something (Taormina & Gao, 2013). For example, when an individual is thirsty, water becomes a notable need.

According to Maslow's (1943) hierarchy of needs, the bottom tier is the physiological tier, which includes: (a) food, (b) water, (c) shelter, (d) clothing, (e) sleep, and so forth. Deprivation of any of these needs are frequently present for students, who live in impoverished communities. The authors of several studies (Tonetti et al., 2015; Eide & Showalter, 2012; Ravid et al., 2009; & Johnston et al., 2010), have found that sleep deprivation has a direct

correlation to not only achievement scores, but students' abilities to focus and perform well at school (Eide & Showalter, 2012).

Maslow's second tier (Maslow, 1943), consists of the factors of safety; that is, an individual must feel confident that the environment around them is safe. For many, just of having a home can satisfy these needs. However, from an educational standpoint, the safety of a student can include the physical environment of the school in which the student is enrolled. In other words, when students feel threatened for their own safety in order to attend school or perform well in school, they will not be able to move on to the next tier, or at least, they will struggle to do so (Maslow, 1943).

According to Maslow (1943), when a child feels a sense of safety both at home and at school, it is possible to progress to the third tier, which includes feelings of belonging and love. Typically, these feelings are found in a child's: (a) immediate family, (b) extended family, (c) friends, (d) support groups, and (e) even relationships at church. However, often, when children live in extreme poverty, such relationships cannot be formed, and they seek a sense of acceptance from gang membership. In turning to gangs, the goal for the children is to find ways to fill the missing voids of physiological needs, safety, protection, and even belonging and love. Although the hierarchy of needs being met are illusions, children turn in these directions when there is nowhere else to turn, since they feel schools cannot meet their needs either (Sharkey, Shekhtmeyster, Chavez-Lopez, Norris, & Sass, 2011).

The fourth tier (Maslow, 1943), which is esteem, cannot be attained by students if they cannot progress beyond Tier 3. Included in Tier 4 are the elements of: (a) confidence, (b) achievement, (c) respect from others, and (d) give respect to others. If a child's family is not there for support in the beginning stages of development through adolescence, there will be a

lack self-esteem, and it is more difficult for children to progress (Bolunda & Majumdar, 2009).

As a result, some youth may ally themselves with a gang, in order to attain confidence,

achievement, respect, and be respected (Sharkey, et al., 2011).

The highest level of Maslow's (1943) theory is the attainment of self-actualization, when

the individual is able to achieve their highest levels of potential in all aspects of life. People

have different interpretations for what achieving their highest potential could look like. Some

decades later, Maslow (1943) identified the characteristics of how self-actualized persons: (a)

perceive reality efficiently and can tolerate uncertainty, (b) accept themselves and others for

what they are; (c) are interested in solving problems, (d) are concerned with the overall welfare

of humanity, (e) establish deep relationships with a small group of people in their lives, and (f)

possess strong moral thread (McLeod, 2014).

Since this chapter is focused on the literature relevant to Christian education, Maslow's

theory (Maslow, 1943) is viewed through a biblical perspective. Although Maslow's goal was to

identify and describe the tiers through which an individual proceeds to become self-actualized,

he called for the separation of church and state. In addition, Morgan (2012) reported that

Maslow did not believe that the church should oppress individuals and limit their knowledge to

the Bible as the only means to explain the purposes of life. Maslow did not argue that

Christianity stood for positive moral characteristics, but rather that people are smart enough to

discover harmonious lives without the need for religion (Maslow, 1964). When the

interpretation of the very premise of Maslow's hierarchy is compared with Christianity, several

parallels can be drawn between the two. One example is how the model is built on a strong and

essential moral foundation.

Stated in Hebrews 12:2 (English Standard Version), Christianity is built on Jesus Christ, who is the "founder and perfecter of our faith." In the first tier of the model, the basic needs on an individual are met. There is not much debate here, except that Jesus said in Matthew 4:4 (English Standard Version) that "Man does not live on bread alone." Although discussing children is difficult to apply, since the maturation of one's faith takes time. However, it is also important to state how the Bible repeats how those who follow the Lord will be provided for.

As students progress up the tiers, those who are Christians can plainly see the connections to living a Christian life. In terms of tier 2, the Bible warns and guides Christians in dealing with conflict, threats, persecutions, false testimonies, and protection, which can be found in Matthew 5:3-12 (English Standard Version), also known as the Beatitudes, as well as Paul's epistles to the Romans, Corinthians, and Colossians. Tier 3, which is love and belonging, really epitomizes what Christianity is all about. The primary difference between Maslow's model and Christianity is how God is the head of the Christian family, who commands Christians to love Him with all their hearts, souls, and minds, as well as loving others as they love themselves (Matthew 22:36-39, English Standard Version). The two commandments were referenced by Christ as being the most important standards to live by as Christians. In terms of belonging, Christians who accept Christ on their own free will, become part of a sacred family, with other brothers and sisters who share their faith in Christ.

Although the Bible does warn believers in Romans 12:3 (English Standard Version) to think of themselves with sober judgment, as well as being extremely cautious of pride; it does state how fellow Christians are to lift other up according to their needs. In other words, those who are serving with their talents to serve the Lord do not need to receive the highest

recognitions or accolades. Rather, they know the Lord will reward them for their service, but that they should also be encouraged by those around them.

As a student or person progresses to the point of self-actualization, this can be loosely connected with the sense of achieving spiritual maturity or righteousness. However, the objective for either of those is to always strive toward God. From the perspective of a Biblical worldview, the hierarchy of needs would be inverted in order to demonstrate how God's kingdom inverts the values that drive our society (Pfeifer, 1998). In other words, rather than striving toward the actualization and fulfillment of self, a Christian strives toward being fully infused with the love and fulfillment of Jesus Christ.

Public education was established as a right for high school students in Massachusetts in 1821 (Somerville, 2001), and yet modern day students are not satisfied with learning the skills necessary for being successful at life, or even to become good citizens of the nation. Maslow's Hierarchy of Needs Theory (Maslow, 1943) is one of many proposed solutions to achieve higher levels of education and learning. It seems that as Maslow's and other theories are volleyed between being effective or ineffective, the teachings of God's Word remains constant. The large majority, if not all of the factors described in this literature review are addressed and answered for on a daily basis in the Christian education system. This is not to say these issues do not exist in Christian schools, but the approach of all decision making through all situations should be made through a steady diet of prayer, meditation, and the instructions found in the Bible.

Since the self-actualization theory is typically modeled for individuals rather than entire school population, a description of how this theory will be applied is required. One of the main foci of this study was to be able to recognize the factors which affect student achievement, as described earlier in this chapter. Although some of these factors, including low socioeconomic

status (SES), may be present in conservative Evangelical Christian schools, the vast majority of students' basic needs are being met in Christian schools (LeBlanc & Slaughter, 2012). Even at the school level, if the school culture is one that does not allow students to progress in their personal development and education, due to a lack of fundamental needs, student achievement will suffer. In other words, as with Maslow's theory, the socio-emotional well-being must be perceived as one of the most important factors in enabling and encouraging student success in academic achievement (Berger, et al., 2011).

This researcher speculated that the Biblical school culture, positive learning environment, and other positive contributions to students' education found in ACSI schools will lead to higher levels of achievement, regardless of location, size, or tuition. However, this study showed challenges to equity in Evangelical Christian schools, as seen among public schools. A thorough explanation of contributing factors to student achievement is presented in the literature review.

Related Literature

Once of the most notable events regarding equity occurred when the Civil Rights Act of 1964 was adopted, when Black and White students were required to attend school together, desegregation was banned, and integration became the law of the land. Similarly, members of the Organization for Economic Cooperation and Development (OECD; 2008) published a Policy Brief, titled, "Ten Steps to Equity in Education," in which they addressed this issue as an international one. Originally, the OECD was established in 1948 to administer the policies of the Marshall Plan after World War II. Over time, their efforts have broadened to include equity in education throughout the world, in order to prevent student failure, marginalization, and limited future opportunities. These 10 steps range from the provision of early childhood education to basic education to improved relationships between educators and the students' parents, in order to improve the economy and social well-being of individual nations.

However, regardless of the aspirations of students during the schooling age, the primary goal of educators, at all levels of education, is for their students to demonstrate high levels of mastery in whatever subject matter they are required to learn. Currently, in the U.S., student mastery is demonstrated by achievement on standardized testing. In the transition from the educational reform of the 1980s, *A Nation at Risk* (United States Department of Education, 1983), to the current form, *No Child Left Behind* (NCLB, 2002), there has been a strong emphasis on standardized testing. Officially, standardized testing became a governmental requirement in 1998, which was 13 years after the *Nation at Risk* legislation was passed, and 3 years prior to the enactment of the NCLB (Furrow, 2008). However, the concept of mastery, based on standardized testing scores, may have very different meanings to different people.

Students' achievement scores can be related directly to the factors of school culture (Gulsen & Gulenay, 2014; Young, 2014; & Scherblom, Marshall, & Scherblom, 2006). In areas containing low-income schools, teachers are often required to demonstrate their students' mastery through these tests. When students in these low-income schools do not meet the local expectations, it is difficult to find who is responsible. As described in Chapter One, multiple studies have been conducted to identify possible factors to explain why students achieve poorly or exceptionally. Although the primary responsibility is usually placed on teachers, it has been posited that the responsibility for quality of education is linked directly to the socioeconomic (SES) status of parents and the ability of families to support and encourage learning (Moswela, 2014).

Although the purpose of this study was not to determine the purpose or productivity of standardized testing, it is necessary to understand the importance of such testing as it relates to equity in education. The current educational policies, which have been developed at the

government level have been counterproductive and at best, inculcate more fear than motivation to attain academic achievement (Evans, Thornton, & Usinger, 2012). According to Noguera (2009), there has been an overall positive improvement as a result of the NCLB Act (2002, as cited in Noguera), yet the current educational leaders and policymakers have not been able to address the inherent social inequalities of schools. In more affluent areas, there are higher property taxes and, therefore, more funding is available for the school district and local schools.

Since standardized testing is still utilized as the primary method to measure students' attainment of knowledge and the demonstration of mastery, many educators work to help students to become highly proficient at test-taking (Riffert, 2005). The results from standardized testing, whether they demonstrate high or low levels of learning, have certainly raised concerns as to why there are such notable gaps in the levels of achievement between individual schools. However, often, this achievement gap refers to the broad differences in achievement between minority students and those of European descent; although Boykin and Noguera (2011) argued that race and cultural differences are not the only factors, which contribute to the achievement gap.

Numerous authors (Brown, Anfara, & Roney, 2004; Goodman & Burton, 2012; McKnown, 2013; Noguera, 2009; & Thompson, 2010) have tried to determine who is responsible for the achievement gap, and how to close it. The focus of this current study was on the comparison of student achievement in conservative Evangelical Christian schools according to location, enrollment size, and tuition. There are insufficient data available to measure the achievement gap in conservative Evangelical Christian schools, despite the differences among them. However, it is important to address several aspects of school culture, which can either directly or indirectly affect student achievement. This researcher provided the foundational

knowledge necessary to understand the different perspectives about the improvement of student achievement.

There are many factors which can affect student achievement. The factors to be discussed in this review include: (a) socioeconomic status (Borg, Borg, & Stranahan, 2009; Brown, Anfara, & Roney, 2004; Fitzpatrick, 2012; McKown, 2013; Poesen-Vandeputte, & Nicaise, 2015; & Reeves, 2012); (b) amount of sleep received by students (Tonetti et al., 2015; Ravid et al., 2009; & Eide & Showalter, 2012); (c) student motivation (Gage, Sugai, Lewis, & Brzozowy, 2015; & Newton & Sandoval, 2014); (d) dilapidated and neglected facilities (Bowers & Urick, 2011); (e) diet and nutrition (Basch, 2011); (f) students' expectations of themselves and their environment (Wilson, 2014; Taylor, 2014); (g) provisions of support for homework and tutoring (Nelson-Royes & Reglin, 2011; & Eren & Henderson, 2008); (h) racial disadvantage (Chapman, 2014; Jacobs, 2010; Lleras, 2008; & Thompson, 2010); (i) teacher quality & motivation (Mahmood et al., 2011; Lin, 201; Van Maele & Van Houtte, 2015; & Winters, 2014); (j) school leadership (Price, 2015; & Zeinbadi, 2014); (k) quality of physical surroundings and facility (Tayyabe, 2011; & Woolner et al., 2007); (l) parental involvement (Ivan & Cristei, 2011; Jeynes, 2012; & Strayhorn, 2010); and (m) school climate and culture (Sherblom, Marshall, & Sherblom, 2006).

These factors can impact student achievement either positively or negatively. Although there may be other factors which affect student achievement, many researchers, mentioned above, have identified these as being the most notable. Approximately one-half of these factors are linked to schools, whereas the other half are linked to the student or family. It is important to understand that schools and families need to work together in order to increase student achievement and guide students toward success.

The researcher for this study of the related literature review presents an investigation within certain aspects of equity in education and how they affect student achievement. This researcher introduced many equity factors affecting student achievement earlier in Chapter Two. Throughout the literature review, this researcher has investigated several of these factors which include school leadership, teachers' job satisfaction, school culture, the learning environment, school size, socioeconomic status, educational opportunity, discipline, motivation, and family involvement.

School leadership and student achievement

Whether public or private, the common factor of high achieving schools is the leadership of the school (Bloom & Owens, 2011). School culture and climate are critical factors in regard to the dynamic of the school community. Principals who wish to develop positive learning characteristics in students, must: (a) have a positive impact as a principal, (b) display a caring disposition, (c) be an effective initiator, and (d) be creative in the procurement of resources (Gulsen & Gulenay, 2014). In addition, there are common difficulties experienced by good principals in impoverished and crime-ridden neighborhoods. In these settings, a principal not only needs to be aware of, but also be able to develop strategies on how to overcome these obstacles (Zeinabadi, 2012).

However, in many public school districts in the U.S., members of the local school councils often lack the necessary leadership qualities in order to partner with school principals (Tschannen-Moran & Gareis, 2015). The most basic questions can be addressed when school leaders are able to initiate programs and improvement strategies to facilitate and maintain higher levels of achievement. Some of these initiatives could include: (a) staff development, (b) clear goals and high expectations, (e) an orderly school climate, (d) positive feedback and

reinforcement, (e) effective instructional time, and (f) carefully planned and purposeful curriculum (Bloom & Owens, 2011). As educational leaders look to improve student achievement, diligence, preparation, and caution should be exercised when principals look for faculty to carry out these initiatives.

Many principals are responsible for the hiring of teachers for their schools. However, often, teachers have their own preconceived notions of the climate and culture of the new school, when they are hired to work in a lower-achieving school (Barile, Donohue, Anthony, Baker, Weaver, & Henrich, 2012). According to Bloom and Owens (2011), students' achievement scores improve in schools when principals are able to hire and fire teachers. Although the school leader focuses on efforts for positive improvement, the workload of teachers can increase notably. Therefore, the principal must remain conscious of the labor and effort demonstrated by their teachers on a daily, weekly, and yearly basis. Teachers also need to be supported by intentional training and professional development which pertains to specific needs of teachers.

School leaders can become more effective when they provide productive professional development to the faculty (Tschammen-Moran, 2015). By doing this, school leaders can become proactive, rather than reactive to the challenges and struggles in their respective schools. Professional development has been measured as effective when: (a) it builds a sense of camaraderie, (b) the successes and achievements of the teachers are discussed, (c) strengths of the organization are identified, (d) teachers are taught how to solve issues, (e) goals are identified, and (f) teachers are able to determine which topics of professional development would be most beneficial (Evans, Thornton, & Usinger, 2012). According to the OECD members (2008), it is vital that the principal set concrete targets to improve equity, especially in regard to students' low school attainment and dropouts.

In order for the level of performance to continue long enough to establish overall school improvement, the principal must develop enhanced levels of trust with both their students and staff (Van Maele & Van Houtte (2015). It is important to ascertain the level of trust present among parents in the community. As teachers and principals develop relationships which include mutual respect and professionalism, or exchange relationships, students and parents are able to recognize this as a positive aspect of the school and improve trust (Zeinabadi, 2014). However, in schools where there is a distinct lack of achievement among students, it cannot be assumed that the perceptions of students and their families will be positive toward the school staff.

The first area of concern for how teachers and staff affect student achievement is how well they related to the goals of the principal (Price, 2015). When the principal builds trust throughout the school community and teachers develop trust in the principal, then the goal of higher achieving students can be addressed. If the trust between teachers and school leaders is not obvious to the students and their families, in turn, it will be more difficult for them to trust the principal and faculty (Tschannen-Moran & Gareis, 2015).

When principals have a deeper understanding of local demands for student performance, they can share their visions of success with their faculty (Price, 2015). Principals should be aware of the difference being able to manage their school and lead their school. It is vital that positive interpersonal relationships exist between teachers and the principal. Since these positive relationships are apparent on a daily basis to other school stakeholders, then the elements of trust, support, and higher performance are likely to follow (Price, 2015).

Placing value on subject areas such as mathematics can be extremely difficult in challenging situations of schools. In fact, many students develop anxieties in mathematics, and

feel they will not be successful in life if they cannot even perform well in mathematics (Wilson, 2014). This is not to say these teachers were unsuccessful in all subject areas in their efforts, but yet the concept of intrinsic rewards comes into play. However, placing the responsibility of teaching students how to value their education on the teachers themselves, is not reasonable. Teachers need to find ways to allow students to draw their own conclusions as to the importance of their education. In schools in which students are high-achieving, the overall school climate will decrease if these students have average or subpar teachers (Barile, et al., 2012).

Teachers' job satisfaction and student achievement

Teacher job satisfaction, including salaries, must also be discussed with respect to reasons for working in challenging teaching situations. Teacher job satisfaction in Christian schools is typically met due to the acceptance of working in a ministry setting. In other words, the financial sacrifice Christian school teachers accept is critical to their job satisfaction. Because salaries in public schools are generally much higher than Christian schools, teaching positions in public schools seems to be more attainable and attractive. However, the research has shown that high teacher salaries is not enough to keep highly qualified teachers in impoverished or low-achieving schools (Lin, 2010). Research has also been conducted regarding individuals who believe they have the desire to become teachers, but lack the qualifications. This research sheds a negative light on the evidence of many "average" teachers are being pushed through to employment in schools with little or no actual expertise (Buddin & Zamarro, 2009). Without strong skills and qualifications, instruction will often suffer in schools, snowballing to decreases in student achievement. Unless principals require thorough background information of potential teachers, including transcripts, portfolios, and certifications, they are leaving themselves open for possible future issues (Buddin & Zamarro, 2009).

There has also been a recent development in discussing teachers' job satisfaction for where they are teaching. Referring back to the research of teachers feeling unsupported by their school community for not being in synchronization with the school culture, many teachers lose their desire to maintain positive attitudes and motivation. As this process continues to fester, the attitudes and issues compound and become deflected onto the students (Mahmood, Nudrat, Asdaque, Nawaz, & Haider, 2011). In relation to male and female issues in the teaching profession, female teachers were found to be more negatively affected and dissatisfied with their position than males. As this trend continues in a school, parents and students begin to feel as if teacher turnover rate is directly related to their unhappiness (Mahmood et al, 2011). Furthermore, dissatisfaction of teachers can have an adverse effect on the learning environment. Male teachers did express dissatisfaction in relation to lack of parental support, but remained faithful to their position, as the job slowly shifts to a means to provide for their families. Shifting briefly back to school leadership, teacher dissatisfaction can not only lead to poorer performance overall, but also increases in absences (Winters, 2014).

Similar to the effects of teacher turnover on a school culture, teachers who are frequently absent send the message of not having a desire to teach their students. The research also has shown the impact on student achievement is greater for teachers who are absent regularly, rather than irregularly (Miller, Murnane, & Willett, 2008). The primary reason for frequent absenteeism is caused by a lack of job satisfaction (Winters, 2014). Although this cannot always be personally controlled by the school leader, the causality of this issue can be connected once again with the overall school culture and vision that has been developed by the school leader.

A final note regarding student achievement and teachers is in regards to the specific qualifications of those teachers in struggling public schools. As it is expected, leaders of schools

located in areas of higher affluence and prestige do not tend to encounter many issues with filling

positions with highly qualified teachers. On the contrary, as mentioned earlier, leaders of

schools in affluent areas can hire highly qualified teachers at higher salaries, due to the increase

in property taxes. Even still, as these teachers work tirelessly with the hopes of improving

student achievement, they find themselves taking responsibility and developing feelings of

incompetency as they struggle to help struggling students (Moreau, 2014). These perceptions,

based primarily on the social cognitive theory, can develop significant loss of self-efficacy, as

teachers begin to falter in their resolve to improve student achievement and other educational

goals (Skaalvik & Skaalvik, 2009).

School culture and student achievement

As the school leader works diligently in order to establish establishing a supportive staff

through trust and accountability, subsequently, efforts can be made to disseminate these concepts

throughout the school (Hofman, Hofman, & Guldemond). The establishment of school culture

depends greatly on the school leader's ability to be consistent in all circumstances (McGuigan &

Hoy, 2006). For example, when evidence is presented showing a principal's deviation from

school policies for "favorites", school culture will undoubtedly suffer.

Much the same can be said with regards to student achievement. The first question to

answer is the effect that school climate has on student achievement. Unfortunately, due to

specifically unrealistic expectations regarding student achievement (test scores), the school

culture becomes generated solely for standardized testing (Antush, 2014; & Bhattacharyya,

Junot, & Clark, 2013). Next, the school leader needs to clearly demonstrate an attitude of

academic optimism for their students. Under this concept, school leaders can develop a sense of

authenticity with all stakeholders, enabling and encouraging them to believe they can accomplish

their goals. As students continue to achieve their short term goals, as guided through their teachers, other students will be able to witness the changes in attitude. As these changes in attitudes begin to evolve toward a positive self-image, other students will desire to feel the same results (Hoy, Tarter, & Hoy, 2006).

For those experienced in the field of education, it would seem obvious that a positive school culture can have a positive effect of student achievement (Sherblom, Marshall, & Sherblom, 2006). However, if attaining high levels of achievement on testing is the primary goal for principals to establish a positive school culture, students may become tiresome if this is the only type of motivation presented by the school leader. School culture, with the exception of studies on whether a school climate is positive or negative, is extremely difficult to measure (Sherblom, Marshall, & Sherblom, 2006). In terms of understanding the condition of the school culture, the school leader should focus on the perceptions of the teachers first.

When the perceptions of teachers are documented and understood, adjustments and improvements can then be made (Balkar, 2015 & Terzi, 2016). As these decisions are made, parents need to feel engaged in the overall school progress and goals for their children. School leaders must build trust with teachers, parents, and community members; and it is in these types of communications which will foster the beginning developments of a positive school culture (Browning, 2013). School culture can also be enhanced positively toward student achievement through the implementation of sports, music, art, etc. achievement incentives, spelling bees, speech meets, and other extracurricular activities. These programs increase positive peer interactions, as well as positive teacher-student interactions (Stewart, 2008).

School culture, in regard to student achievement, can often have different perspectives from teachers or even students who are new to the school. Some students may transfer to a

different school during the academic year, yet the school culture can quickly be determined by new school community members. A positive school culture can become of the upmost importance for the future of these types of students who transfer mid-year (Weiner & Higgins, 2017). This is primarily due to how new students are treated by their peers, teachers, support staff, and even the principal. In an ideal setting, a positive school culture will speak for itself (Grigg, 2012). In a positive culture, students are most likely follow the lead of their peers in regard academic achievement.

One of the primary factors affecting student achievement can be the students' perceptions of the school culture. Since all aspects of a school inherently affect the school culture, it is important to investigate the effects of a negative school culture on student achievement. A negative school culture, according to Marrow and Marshall (2004), can be caused by a number of factors, including school leadership, teachers, facilities, parent involvement, etc., which have been mentioned in this review. The theoretical basis for this study is to understand how the presence or absence of these factors can affect student achievement. Based on Maslow's theories on motivation (1945), lack of safety, cleanliness, or even basic learning conditions can have negative effects on student motivation, as well as student achievement. Research based on Maslow's model of student motivation has been replicated in recent years, confirming a negative student outlook on school culture and lack of basic physiological needs can negatively impact student motivation and achievement (Badri, et al., 2014). If school staff cannot provide a positive culture, the negative factors can impede a student's developmental process (Burdick-Will, 2013). The next section will provide guidance as to how the learning environment can impact student achievement.

The learning environment and student achievement

Student perceptions of the physical buildings and grounds can also affect student achievement. The condition of the physical buildings and grounds typically include, but may not be limited to, paint, floors, lighting, exterior landscaping, structural integrity and appearance of walls, amount of graffiti, bathrooms, chalkboards/whiteboards, etc. (Marrow & Marhsall, 2004). Student perceptions based on the importance of having potable drinking water, healthy dining facilities, adequate bathroom facilities, and even medical facilities have also been connected to increased student achievement (Tayyaba, 2011). Even for adults, the appearance of classrooms, desks, facades, equipment, and even the school grounds can affect the highest levels of education. School leaders must be more decisive when it comes to keeping up with and updating the physical needs of the school. Particularly in urban schools, many of the existing buildings are subpar at best, and the cost to maintain them is beyond the income of poor communities and districts. The U.S. has spent billions of dollars attempting to rehabilitate the multiple dilapidated and aging schools throughout the nation (U.S. Department of Education, 2016). Evidence has shown that students have demonstrated significant improvements in motivation and achievement when coupled with a sense of their schools maintaining the upkeep of heating and air conditioning, desks, tables, chairs, lighting, and even movement (Woolner et al., 2007).

Furthermore, the condition and space of the school is directly correlated to class sizes. Class sizes, which directly affect student-teacher ratios, as well as abilities for remediation and tutoring on a smaller scale (Bowers & Urick, 2011). Schools must adhere to municipal codes regarding the maximum amount of students allowed in each classroom. However, in major cities, where overpopulation is present, schools are forced to accept numbers of students which are beyond the maximum allowed. Schools in more affluent school districts have the flexibility

to improve classrooms, or expand to allow for more classrooms, yet in schools with lower economic prowess, expansion is not a typical option (Bowers & Urick, 2011).

These classroom limitations may not be noticeable to students in early or elementary education, but as students mature, their perceptions of what they can and should expect from educational institutions will be greatly skewed (Maxwell & Schechtman, 2012). This sense of disregard for school facilities from school leadership becomes apparent if ever a student visits a more affluent area. Whether for sports tournaments or district spelling bees, children do notice the vast differences from their school to others. On one hand, students are being raised in a consumer environment, so educators should not be offended when students feel the grass is greener on the other side. However, this analogy cannot be soundly applied to situations of extreme poverty in schools.

Many feel the achievement gap and lack of proper facilities go hand in hand (Carter & Welner, 2013). In other words, families become desensitized as to what they can expect from their local schools, if the norm of poor facilities has been accepted as being subpar. This can be true in both public and private schools. Especially in large urban public school systems, many school-wide inspections are a farce, so long as the lead administration has a friendly connection with local inspection authorities. Although facilities is not typically the sole reason for low student achievement, poor facilities can affect student motivation, enrollment, as well as school climate (Carter & Welner, 2013). This issue is often due to the misappropriation of funds marked for education that get diverted to paying off local debt or building new casinos or malls.

School size and student achievement

Research on school and district sizes as related to student achievement is limited. However, it is important to note that in Texas, public schools of larger sizes struggled more so

than their smaller school and district counterparts. Smaller schools tend to have lower drop-out rates, better overall attendance, as well as better parent support (Stewart, 2009). In certain cases, the school district size cannot be controlled in densely populated areas. Risks to equity often exist in larger school districts, where lack of school choices and a wide range of socioeconomics is present among families (OECD, 2008). However, smaller schools also have less violence and crime, which can also contribute to significant improvement in achievement (Sandy & Duncan, 2010). In contrast, finding small functioning public elementary schools is rare, since overcrowding of schools is also a significantly increasing problem. Many schools placed on academic probation due to low test scores have placed on them specific timelines for improvements to be made. When these timelines are not met efficiently enough, schools are often transitioned to become charter schools instead.

Another increasingly common issue regarding the declination of student achievement is the consolidation of school districts. Consolidation of school districts would include the process of dividing large school districts into several smaller districts. For example, the public school system in Chicago, Illinois includes over 500 schools, kindergarten through high school. Reducing school sizes, as well as reducing average classroom sizes has proven to be a positive step toward increased student achievement (Jespin & Rivkin, 2009; & Shin & Chung, 2009). To divide a district of that size would be a tremendous task, given the issues of property taxes, culturally divided neighborhoods, as well as other inequities discussed in this review.

Some school districts have been able to embrace consolidation. Because of enrollment issues and restructuring of local budgets, certain school districts have been mandated to merge, cause even a greater disparity of student achievement (Patterson, 2006). As these mergers take hold, schools with overcrowded classrooms become even more difficult to navigate, with in-class

teacher support becoming less and less attainable. Teachers who are expected to take on such large classes, are pouring out unreasonable amounts of energy and effort just to maintain balance. These patterns are often the lead causes for teacher ineffectiveness and burn out.

Because of such vast differences in school and district sizes among rural, urban, and suburban settings, it is virtually impossible to cast overall generalizations in regard to a connection with student achievement. For example, there are many rural schools with modern, well supplied facilities, and yet the struggle for high achieving students continues. Staff of the Association of Christian Schools International (ACSI, 2014) wrote about the issue of school closures in Christian schools, even though some of these schools have brand new facilities. These comparisons were made in both school location and school size.

Socioeconomic status and student achievement

One of the most significant factors affecting student achievement is the socioeconomic status of both the neighborhoods of schools, as well as the families who live within those neighborhoods. Family income and socioeconomic status can be so powerful, that even as school staff work diligently at the other school factors, which affect achievement, they tend to vanish if there is a lack of satisfaction or acceptance in this area (Smith & Hoy, 2007). In this way, the term academic optimism needs to become a force. Not only for the school, as a cultural improvement, but also inherited by the students and their families.

According to Rowly and Wright (2011) and Sirin (2005), the socioeconomic status of parents is the most critical external factor in regard to student achievement. Miller, Vortuba-Drzal, and Setodji (2012) reported that family income directly affects the parents' abilities to: (a) provide resources; (b) spend quality time to assist their children with homework and projects, and (c) provide tutoring, after school help, or specialized services. As recommended by staff of

the OECD (2005), school staff should "strengthen the links between school and home to help disadvantaged parents help their children to learn" (p. 1). Also, it is important to provide early childhood education, as well as a good foundation in basic education. This requires stronger links between families and local and state governments. It is possible that there will be need to establish interventions for students to receive increased academic support, provided by additional funding from the school, district, state, and/or federal entities. This is especially necessary for migrant and minority students, who are within mainstream education.

This challenge means that educators must, not only provide basic education, but also must address the complex issues within U.S. society (Belcastro, 2015; & Zeichner, 2010), such as the cyclical process of areas of poverty, with little or no way to break these cycles. Stayhorn (2009) found that whether impoverished schools are urban, suburban, or rural, popularity, the success of students is not necessarily linked to achievement. These patterns of student perceptions do not change unless the school culture is design to promote and support student success.

Borg, Borg, and Stranahan (2010) reported that student achievement and success are more closely connected to support at home, rather than family income levels. Based on this study, overall student achievement will negatively impact evidence of effective student achievement. As seen throughout this review, this is often due to inequality of schools and resources in public schools.

According to the staff of the OECD (2005), secondary students should have access to appealing alternative (i.e., nontraditional courses). Lack of academic success should not represent a dead end; creative support should be provided to prevent dropout. Alternatives to

failure should include access to second chances, multiple ways to succeed, and provision of other opportunities for learning (i.e., hands on, apprenticeship, etc.).

Whether directly or indirectly, students who establish their educational track at a disadvantage, this pattern will continue, even if those students pursue higher education (Lleras, 2008). However, the argument of students having more opportunities in suburban schools, when compared to rural or urban settings has not been substantiated. On the contrary, the achievement gap between poor suburban schools and upper class suburban schools is just as significant. This concept confirms earlier mention of the illusion that this is only a problem for large cities, or poor urban areas.

In rural settings, family income can be even lower, plus resources and support programs are sparse at best. Rural schools typically are not as equipped to offer as many support programs, extracurricular activities, and other student programs (Hardre & Sullivan, 2008), which could help to increase motivation in rural students. It has been argued that although resources and funding are low in rural schools and school districts, it is more so the attitude toward education that is established as the primary issue. Families in poor rural communities are concerned with passing down family businesses in agriculture, construction, mining, and other trades. This is not to diminish the importance of these occupations, but rather to make known the reality that education is not the top priority in many of these areas (Hardre & Sullivan, 2008). In some cases, children are not encouraged to attend high school, since their primary focus will be to continue in their families' footsteps and remain in the local trades. Furthermore, the teachers in rural settings often encourage students to only pursue subjects the students excel in, rather than guiding them toward other possible career paths (Hardre & Sullivan, 2008).

The patterns can also be seen in urban settings. As parents, including single parent situations, struggle to keep families together, extra time for homework, studies, and collegiate aspirations are not relevant these situations (Lee, Kushner, & Cho, 2007; & Jeynes, 2012). High school students in these types of situations are often called upon to care for younger siblings in the house, since the parent or parents are scratching a living at work. As families' socioeconomic statuses become the reality, children begin to lose hope as to when and how they will be able to break the patterns that have been set before them, which are commonly beyond their control (Hoy, Tarter, & Hoy, 2006). It is because of this significant commonality between rural and urban schools that the dropout rates are very similar. With daily pressures of living check to check and the hopes of advancing to higher education becoming a pipe dream, it seems more practical to leave high school and get to work.

When comparing the dropout rates of urban and rural schools, a very interesting study was produced explaining how these dropout rates are very similar in frequency, but were not always similar in the reasons for students dropping out (Jordan, Kostandini, & Mykerezi, 2012). Also, the findings in this study showed that females were more likely to finish high school in both urban and rural settings. This is due primarily to the lack of jobs available to females in rural areas, establishing high school graduation as a positive first step toward future employment for females in rural settings. Females were also more likely to finish high school than males because of the males' issues with crime (Jordan, Kostandini, & Mykerezi, 2012). Although in rural settings, young men tended to drop out because of the need to work on the family farm.

In addition, rural students may be challenged by the distance to schools. Therefore, parents' desire for students to learn skill-based occupations on the family property, it may seem irrelevant for students to attend school (Irvin, Meece, Byun, Farmer, & Hutchins, 2011). In both

and urban situations, academic achievement may be under-valued. Grades and high test scores may be second to family and economic responsibilities. It may be that rural educators are unable to provide appropriate intrinsic motivation for these students.

In a recent study, rural schools in Kentucky were compared in a multivariate study with urban schools in Kentucky. One issue with this study is that the metropolitan areas in Kentucky would be far different in those schools in Detroit for example. However, simply for the information gained from this study, it was found that the urban schools scored slightly higher in most of the variables when compared to their rural counterparts (Reeves & Bylund, 2005).

Educational opportunity and student achievement

Another notable factor related to the achievement gap is opportunity (Boykin & Noguera, 2011). Are the Federal requirements in regard to academic achievement unreasonable when they are applied to all schools and settings? Other issues with this thought process is the foci of where state and local governments should intervene at the highest levels. Currently, many of the school improvement initiatives are focused on specific job skills and training programs so that students can be successful in jobs or entry to higher education (Gottfreid & Johnson, 2014).

Perhaps, instead of an immediate change to a complex contextual problem, the staff of the OECD suggested that priority must be given to early childhood and the provision of sound, basic schooling. This approach might be considered "turning points" (Brown, Anfara, & Roney, 2004, p. 431) over time. Brown et al. noted that, within 5 years of increased support, a Grade 3 student in a struggling school may become much more skilled in academics and better equipped to be successful to enter high school. Second, to date, there has been a notable effort to the provision of aid and support to low-achieving students in suburban schools, rather than students in low-achieving urban schools. However, these efforts do not result in equal opportunity for the

majority of students in these challenging situations. In fact, Cross (2007) reported that, this effort to reduce the achievement gap, is more like *apartheid education.* This term, though somewhat unduly harsh, is rooted in the history of U.S. slavery, some aspects still prevail today in regard to racial and geographical segregation.

However, the anger and frustration noted in this study was apparent, although Cross (2007) was aware of the need for sensitivity. On the other hand, this anger may be justified in the discussion of the financial aspects of equity in education. Cross was not alone in this line of thought, as other research (Camp, 2009) is being done to determine how closely the achievement gap correlates with racism. Camp argued the premise for closing the achievement gap must begin at the school level, rather than focusing solely on individual cases. Similarly, Thompson (2013) focused his attention on the racism found in social constructs. The social constructs regarding racism in schools are described by Camp as being embedded within a school culture, and that professional development and diversity classes may not effectively remove such constructs. Neither author blamed the leaders and staff of the educational institutions themselves.

In regard to the financial issues, Flono (2015) reported that it is not an easy task to address the negative factors, which are present in neighborhoods, such as drugs, gangs, poverty, racism, and violence. In addition, there may be reluctance to allocate resources into a project that may years to correct. Some (Vaught & Castagno, 2008) believe that the majority of racial opportunity and tension is mostly concentrated in the urban school setting. This was concluded based on how even extremely diverse urban settings, where white students were actually the minority, African-American students scored lower on standardized testing. The argument by

Vaught and Castagno was similar to that of Camp, inferring that racism is embedded at the structural level in urban schools.

However, due to the urban sprawl, which started in the 1990s, suburban schools have become highly integrated. In these patterns of suburban migration, often minority families were limited to only those suburbs which were affordable. Thus, some of the racial inequalities in urban schools were relocated rather than solved (Chapman, 2014). Minority students, who have been bused to highly affluent suburbs, are not necessarily any better off than those minority families who live in the same suburb.

Ispa-Landa (2013) observed that these minority students are extremely disadvantaged, primarily, because of their race and because they have not been equipped with the training or foundations to compete at high levels; thus, the achievement gap is broadened. In addition, many students are disadvantaged in regard to assigned homework. Although research has yet to determine the usefulness and practicality of homework, many teachers in high-achieving schools require extensive homework. In stable school settings, students often have a variety of abilities in completing homework; whereas students enrolled in unstable schools settings may experience time constraints to complete homework due to family situations (care for others in the family), or lack of motivation to complete homework because they are simply not able to keep pace with the high-achieving students (Eren & Henderson, 2008). Because of such intractable challenges, African-American students in these situations are much more likely to drop out of high school, though Caucasian students are seven times more likely to finish their bachelor's degree (Newton & Sandoval, 2015).

As stereotypical patterns such as these are being fought against by minority groups, it schools are forced to offer extensive homework help after school, through tutoring programs.

The main issue with these programs is funding. Many urban schools do not allow students on school property after hours, because of the high rates of crime in certain areas. However, schools which were able to establish solid tutoring programs, with hiring strongly qualified teachers and having appropriate settings, have demonstrated high levels of success (Nelson-Royes & Reglin, 2011). These issues of indirect racism and negative stereotyped expectations often lead to the erosion of student achievement, as students feel they are following the trends of their environments (McKown, 2013).

Tax levies for funding local schools in impoverished districts cannot keep up with increased demands for provided quality teachers and education when compared to wealthier school districts. Even though education is the highest cost for many state budgets, the challenges of proper appropriation of funds still remain. When these instances occur, the wealthy, more prestigious districts are not hindered by these cuts, but rather the low-income areas; which causes the achievement gap to widen (Lockridge & Maiden, 2014). The cycle of students stuck in the gap will continue as they enter the job market with less career driving goals and skills than their affluent counterparts. Due primarily to financial inequalities, the opportunities for students and adults will continue to suffer, in terms of low achievement, poor schools, low wages, and high unemployment (Stanley and Peevely, 2009).

Other supporters of the opportunity movement in education argue that every student is not given their own choices for advancement in coursework. As this argument primarily pertains to high school students, perceptions are set on the belief that since students are not given the choice for more challenging courses, it must be related to the white educational leaders in charge (Reeves, 2012). This tense movement leads minority groups of becoming high achievers, regardless of social constraints and challenges raised against them. In other words, seeing the

lack of opportunities can be reversed into a proving ground for success in many cases. Unfortunately, the negative side of this equation presents negative influences from family and friends as being a major contributor to the lack of success for many minority students (Reeves, 2012).

One of the strongest pushes for increased opportunity in all schools is in regards to technology integration in the classroom. Although funding is challenging, governmental programs exist to aid in the support of the distribution of more technology equipment and programs. The use of inquiry-based learning and problem-based learning through specialized programming has become increasingly popular, as it aides to connect teachers with current trends and best practices in increasing student motivation (Warren, Lee, & Najmi, 2014). Research has also initiated a need for the use of data programs to help make decisions, as well as using data for measuring test scores. Using the framework of data-driven decision making (DDDM) can help in displaying objective support in decisions regarding student class tracks, programs, specialized services, remedial tutoring, and even high school and college placement (Kaufman, Graham, Picciano, Popham, & Wiley, 2014).

The implementation and equal distribution of technology is also connected with equal opportunity and student achievement. So much can be said as to how much culture has already influenced education, it would be foolish not to embrace the expansion into this area of learning (Young, 2014). If technology integrations are to be effective, educational systems must be used in a way to broaden the users' experiences, knowledge, and competencies in understanding cultural differences among humanity (Morgan, 2014). In terms of equal opportunity, there are already extreme failures and disparities when comparing technology between affluent schools and impoverished schools. In response to these failures, the U.S. government has strived to

increase access to educational technology through one-to-one computing initiatives and increased student resources (Davies & West, 2014).

Discipline and student achievement

Although many studies concerning school discipline have been conducted, not many have been conducted correlating discipline and student achievement. Educators often face the challenges of occupying the majority of their time establishing classroom ground rules, dealing with multiple classroom disruptions, and then battling unsupportive parents in response to school disciplines (Fan, 2010; & Arum, 2011). In these cases, does the question remain focused on student achievement?

As similarly connected with the achievement gap as it relates to race and socioeconomic status, many feel as if students under these strains should be given enormous amounts of latitude and understanding with discipline as well. The biggest struggles in school discipline are mostly due to the lack of moral foundation in schools clearly defining what acceptable and unacceptable behavior is (Fan, 2010). In other words, if the achievement gap is due to unfair societal constrains, does that justify reasons for why students do not feel it is important to behave appropriately in school (Arum, 2011). However, it is important for educators to find out the root of poor behavior, as it pertains to poverty and low achievement (Gregory, Skiba, & Noguera, 2010).

The earliest foundations for public education was for students to become good citizens of their nation. Unfortunately, with the constant moral decay (Schultz, 2003; Etherington, 2013, Gage et al., 2015; & Maslow, 1964) occurring throughout all aspects of adulthood, there are no clear answers on what approaches should be taken to correct this issue. Because of the lack of research done to explain why solutions to the achievement gap are not successful, much of the

same can be said with respect to improving student discipline to improve student achievement. Should issues with discipline be approached first, in order to allow for effective classroom instruction to take place and help close the achievement gap?

In fact, behavior in public urban schools is becoming so bad, there has been an exponential increase in the opening of charter schools in most large cities. The answer to this problem quickly became the development of the charter school systems, particularly in large cities (Brinig & Garnet, 2012). Parents who have been supporting the charter movement have become significantly dissatisfied with the disciplinary policies in public schools. Charter school systems have become a quick remedy to the major disciplinary issues found in public schools, which is also a direct result of less affordable private education in urban settings (Brinig & Garnett, 2012). This review is not intended to compare charter and public school systems, but it is important to report how public schools are being offering financial incentives to discourage parents for enrolling their children in charter schools (Imberman, 2010). School discipline in the charter system is rigid, to say the least. Since these programs have such high demands with limited space, the waiting lists for such programs allows for charter school deans and disciplinarians to literally use threats of dismissal from school for poor behavior. Obviously, the reason for this is due primarily to the fact that charter schools demand the respect and commitment from their students and families.

Much of the same can be said of the Christian school system, which was the focus of this study. Even school-wide efforts to integrate positive character education and responsible behavior in public school settings has resulted in increases of student achievement scores (Gage, Sugai, Lewis, & Brzozowy, 2015). The problem is not understanding that positive behavior increases self-efficacy, which in turn increases positive self-outlook, which will increase student

belief in the education system. The problem is that there are no clear foundations established for

schools as a guide for objective support and decision making regarding discipline. Reverting

back to the Supreme Court decision (Brown V Board of Education, 1954; & Ramos, 2004) to

remove prayer from public school in the 1950s, there has been no real connection discussed as to

whether or not the acquired truths and moral foundations learned from the Bible has positive

influences on student behavior (Jeyes, 2009). The controversy, seemingly foolish to those of

Christian faith, is that although forcing all students in public schools to learn about the Bible,

historians are convinced that removing the Bible completely from public schools has led to a

tremendous moral decay in our nation (Jeyes, 2009).

Motivation and student achievement

Student motivation still remains to be considered as one of the most critical topic of

discussion with regards to improving teaching and learning in the classroom. However, the most

significant problem with understanding this topic is not that it is critical, but rather which

motivational strategy to implement for the purposes of improving academic achievement. For

the purposes of this study, it was important to remember the motivational perspectives differ for

students in each rural, urban, and suburban settings. For example, it was mentioned earlier the

motivations for rural students are mostly based on family roots and their respective occupations.

However, it should also be noted that teachers do hold some level of influencing students in rural

schools, either positively or negatively, desires to learn, achievement, and intrinsic motivation

(Hardre & Sullivan, 2007).

Motivation can come in many other forms, even solely for the purposes of specific

subjects. For example, in reading, teachers often may use recent current events in areas of

interest of the students, in order to spark their desire to become independent readers. Other

forms of motivation in reading can be done with the use of peer support groups, differentiated

learning, and even using strong readers to assist in the progression of struggling readers

(Wolters, Denton, York, & Francis, 2013). Probably the most difficult challenge in motivating

students is establishing purpose and practicality; which is why students tend to work hard only in

subjects they feel are useful for their futures. To suggest that students do not feel acquiring

strong reading skills are not useful in life is ludicrous, and yet it remains a challenge.

Though it continues to be obvious that gifted or high achieving students possess high

levels of self-motivation for intrinsic rewards, average students need to work harder to develop

these skills on their own; though struggling students do not even possess the mental confidence

to understand self-motivation (Taylor, 2014). This example of self-motivation for intrinsic

rewards can also be seen within the study conducted comparing the perceptions of music

teachers of rural, urban, and suburban settings. Although a low percentage of urban school

music teachers possess an inner passion to provide a culture of music appreciation to all students,

over 80% of music teachers look to suburban employment as their first viable choice

(Fitzpatrick, 2011). Relating to other studies, this is due mostly to the knowledge of lack of

resources for music education, as well as an overwhelming fear of having peripheral educational

programs eliminated (Major, 2013). These current trends in education, primarily in urban

settings, is resulting in the continued disbandment of the liberal arts from schools. Once again,

these trends further demonstrate the opportunity gap in struggling schools. As budgeting

challenges continue to become difficult in U.S. education, funding is concentrated toward core

subjects and instruction, rather the performing arts. Although some argue student academic

achievement is not critically based on the presence or absence of performing arts, several studies

have been done to investigate positive correlations between fine arts subjects and student

achievement (Kinney, 2008; Denault, Poulin, & Pedersen 2009; Covay & Carbonaro, 2010; & Brezovnik, 2015).

A recent study showed an increase in student achievement in mathematics, along with student participation in music (Boyd, 2013). This pattern can be seen in other extracurricular and peripheral components of schools, to include athletics and physical education. Significant increases in student achievement cannot be linked to athletics and physical education (Zach, Shoval, & Lidor, 2016), and there is enough evidence to also conclude athletics and physical education help to increase student motivation, positive school outlook, and positive psychological image (Dorfman, 2015). Unfortunately, the elimination of performing arts and athletic programs has become increasingly common in low-socioeconomic schools, due to budget and funding challenges.

As mentioned earlier, students who feel they cannot perform well at mathematics, do not feel they will be successful at anything. Particularly in elementary students, future purposes for high levels of achievement are not always practical, due to the time in their lives. Motivation regarding education should begin at home and be reinforced at school. Even if parents are unsure as to the extent and importance they hold with regards to motivating their children, they must understand that these patterns can be altered for their children's best interests.

Family involvement and student achievement

As seen throughout this review, family involvement and support consistently rose to the top as the primary reason for both high and low achievement in students. There will always be anomalies on either side, and yet the vast majority of students have reported their dependence on family support throughout their education. Parents who have open discussions with their children regarding course choices, daily occurrences, and which school activities are important to

them builds high levels of desire to perform well at school (Stewart, 2008). Furthermore, students also work harder to achieve when they know their families will be in attendance for school events or even volunteering for their child's special days (Stewart, 2008).

Conversely, some parents actually use threats of punitive responses if their children do not perform at a high enough level. Unfortunately, these responses are often found not only in situations of impoverished neighborhoods, but also in homes where parental support is not present (Robinson & Harris, 2013). The analysis of this response is directly related to factors of parents not knowing, or not having the background in education, to support their children. Parents who possess backgrounds in higher education do not typically use punitive measure to correct low performance, but rather at home tutoring, hired tutoring, or even verbal encouragement and understanding.

Some school staff develop parent involvement programs, such as parent teacher associations, in order to assist parents with establishing a high comfort level with the school, in order to become more involved (Fontera, 2012; & Ross-Asseme, 2012). Just as school leaders need to work tremendously hard at each of the mentioned areas contributing to student achievement, they must also work hard at selling the importance of parents to become more involved in their children's lives.

Aside from formal parent organizations, schools often establish the following programs to enhance involvement by offering: (a) shared reading programs; (b) equal partnerships with other parents; (c) checking homework programs; (d) online grading programs; and (e) English as a Second Language (ESL) programs for parents (Jeynes, 2012). Any level of involvement with these entities are paramount during the early years of education. To emphasize this, studies have shown how the inclusion of breakfast in a child's day paves the way for being prepared to learn.

In a way, it teaches them to understand that education should not be viewed as a necessarily evil, but rather developmental necessity for their futures. Patterns of skipping breakfast is more often found in urban settings, due to the busy schedules and likelihood that both parents are working. Similarly, parents begin to assume children are capable of preparing their own breakfast (Basch, 2011). What parents are missing, is the potential to touch base with their children, which shows them the importance they have in their parents' lives. In a similar study, Basch (2011) concluded that healthier students, along with supportive school health classes and initiatives can positively affect student achievement.

Even as children age, parental involvement should not slow down. On the contrary, the most difficult years of development are primarily associated with the years of adolescence; and when children need their parents the most. To foster long-term parent involvement with their children to encourage high levels of self-efficacy could include but not be limited to: (a) talk to other parents to stay connected; (b) visit the children's school often; (c) study the school population; (e) get a copy of the school action plan for bullying; and (e) conduct a survey of local businesses of the school (Ross-Aseme, 2012). Parent involvement, however, may not necessarily improve student achievement at the collegiate level, but it is still imperative for children of all ages to know they have a support system (Strayhorn, 2010).

Sadly, since the family unit has become severely compromised over the last few decades, it is difficult now to identify categories for students who struggle from the lack of family support. In other words, research was able to connect low student achievement with single family homes, divorce, separations, or even incarcerations (Anthony, DiPerna, & Amato, 2014). However, in the present day, there is no proven data connecting non-traditional families and low student achievement (Fonteboa, 2012). Unfortunately, the struggles of marriage throughout the

nation has resulted in many children enduring instability at home, whether their parents remain married or not.

Christian education and student achievement

Student achievement is perceived somewhat differently from a Christian based perspective, in comparison to public school settings (ACSI, 2011). From a Christian school's perspective, education for children must be completed through a Biblical worldview. According to ACSI, student education through a Christian worldview is measured by a lifestyle of stewardship, Christian leadership, service, and Christian character (Schultz & Sweezy, 2013). This does not mean that Christian education is not concerned with the academic achievement of students. In fact, research has shown (LeBlanc & Slaughter, 2012), that high school students of Christian schools outperform public school students in every category of the Scholastic Aptitude Test (SAT). Other research has also presented how students with high levels of Biblical knowledge performed highest in GPA's and percentile rankings, in comparison to public schools (Jeynes, 2009).

Other perspectives (Van der Walt, 2012), view education as means for Christian stewardship. In others words, the focus of Christian education is to teach children to be concerned for their fellow man, rather than focus on achievement scores. Van der Walt (2012), also discussed the importance of student achievement primarily for the purpose of students learning how to lead value-based lives, centered on finding their calling or purpose for adulthood. This is contrary in the public school setting. For example, family involvement, which may be absent in the public setting is a critical component of a Christian family. Although the dynamics in Christian families may also contribute negatively to student achievement but, typically, the majority of Christian families are more involved in their children's education. The

validity of this statement is apparent in the two primary educational choices for many Christian families: homeschooling or schooling in a Christian private school. In both of these settings, often, the families make substantial sacrifices in order educate their children.

History of homeschooling

The early beginnings of homeschooling from a legal perspective began in Indiana 1904, where an appealate court ruled that the home counted as a place for educating children (Stoller, 2015). The argument for homeschooling became official during the Meyer v. Nebraska case of 1923, when parents argued it was their right to control the upbringing and education of their children if that is what they feel is best for them (Hess & Okun, 2017). Homeschooling was legalized in several states after the Wisconsin v. Yoder case in 1972, in which the Amish community argued it was a part of their religious belief to homeschool their own children (Drenovsky & Cohen, 2012). The Supreme Court ruled in their favor, opening up the concept of children being allowed to be taught within the confines of the family culture, so long as the programs being used are adequate for citizenship and productivity in the U.S. However, it took another 21 years before all 50 states accepted homeschooling as a qualified means of education in the U.S. (Somerville, 2001).

For the option of homeschooling, the parents must mutually agree to live on one income, and the other parent becomes the primary educator for their child[ren]. Education in a Christian school means an annual tuition, which may be burdensome. In some cases, one parent will not work, so as to be available to support the student and school. Neither of these options is superior to the other; each contributes to a student's educational achievement.

From a Biblical perspective, parents are to be the source of their children's education (Schultz, 2003). If Christian parents believe they have been charged by God to ensure that only

Biblical teachings are disseminated throughout their lives, they are mandated by God to choose either Christian schools or Christian home school programs to educate their children (Schultz, 2003). To many Christians, the importance of education to the family means that children should be educated in the home, rather than school at all. Therefore, in terms of parental involvement and student achievement, the homeschooling option for students obviously represents the largest commitment. Although the focus of this current study is not a comparison of student achievement public traditional schools and homeschool settings, it is valuable to note the difference in student achievement when parental involvement it at its peak. In other words, families who decide to home school their children are intentionally and completely vested in the educational interests of their children.

Although there could be many factors leading to the decision to homeschool children, the focus of parents has been placed on being able to control the learning environment for their children. Homeschooled children often use the standardized tests provided by either their local public or Christian school. Therefore, this study did not differentiate whether or not students are in a homeschool setting, since the composite scores (per school) were used, and not individual scores.

The concept of homeschooling has been in existence since the 1970s, although unofficial home schooling has gone on well before formal schools were even solidified in civilized culture (Kochenderfer, 2015). What is called the "classical" form of homeschooling uses reason, record, research, relate, and rhetoric as the five tools of learning. Although this method is the oldest, the most popular, and most successful method of homeschooling is known as the "eclectic" or "relaxed" approach (Kochenderfer, 2015). The "eclectic" form of homeschooling also utilizes the Internet, as well as DVDs in order to supplement subject matter that is too difficult for

parents to teach alone. Children are given the appropriate curricula, often purchased from an

approved homeschool program, and are also given opportunities to observe lessons and

instruction from actual educators in their respective fields. This approach is becoming more

popular to parents as a viable and Biblical educational option for their children.

Since there are so many different forms, programs, and methods for homeschooling,

several states have no official requirements for parents to initiate homeschooling, with the

exception of standardized testing, which determines college placement (Davis, 2011). In recent

years, the African American community has also increased its interest in homeschooling for the

purposes of instilling religious beliefs, as well as maintaining a positive outlook on education for

their children (Mazama & Lundy, 2015). Even with community programs, poor working

conditions for teachers, gang activity, and fewer opportunities for students in impoverished

create a negative school culture and outlook on education (Pritchard, Morrow, & Marshall,

2005).

In a more recent study, a community of Christian fathers claimed their support of

homeschooling was due to the understanding that the desired outcomes and values could simply

not be appropriately disseminated through the public school system of the modern day (Vigilant,

Trefethren, & Anderson, 2013). The fathers of this study described their feelings as being

founded as the Spiritual leader in the household, and therefore owed it to their children to protect

them from unnecessary social ills, as well as knowing exactly what was being taught to their

children (Vigilant et al., 2013). These results are magnified by the demands described

specifically for teachers found in throughout the Bible, even to the point of explaining that, "Not

many should become teachers, since they will be judged with greater strictness" (James 3:1,

ESV). Therefore, if such an awesome responsibility lies with parents to correctly instruct their

children, homeschool families feel they must do so in a manner which is in line with God's Word.

Support for homeschooling

Supporters (Schjelderup, 2013; & Kunzman, 2010) of home school programs argue that home school environments eliminate constant brick and mortar school distractions to learning, such as student: (1) peer pressure; (2) social acceptance; (3) fashion; (4) bullying; (5) gang involvement; (6) violence; (7) sexual promiscuity; and (8) learning environment (Bosche & Bosche, 2011). Though the listed distractions are consistently considered when parents choose to homeschool, more general reasons for parents to choose the route of homeschooling are primarily due to dissatisfaction in the local public school systems, overcrowding in public schools, and poor or insufficient curriculum (Martin-Chang, Gould, and Meuse, 2011). Some could even argue the amount of time wasted in the daily commute to and from school wastes valuable educational time. This lost time could more effectively be spent being educated at home. When ESL enrichment is essential, home school partnerships have proven to increase student achievement when families have utilized this approach (Sanchez, 2010). In this model, parents connect with their homeschool program leadership, and have tutors and other specialized services brought to their homes.

However, not all of the reasons for homeschooling are founded on negativity toward public schools. Parents who wish to claim obedience to God's Word are excited to home school because parents are able to bond with their children, the home is a safer learning environment, student motivation is typically higher, and parents know exactly what is being taught to their children (Martin-Chang, Gould, & Meuse, 2011). The homeschooling movement was developed by two educational reformers, John Holt (Holt & Patrick, 2003), and Raymond Moore (Moore &

Moore, 1975). John Holt, who was a liberal, attacked public schools from a humanistic approach, arguing that people should have the right to learn whatever they feel is important and applicable in their own lives (Murphy, 2013). Raymond Moore, on the other hand, who was a conservative, felt homeschooling was necessary due to the development of public education which had steadily been dismissing the beliefs of Christian families, and also dismissing the importance of the family itself in a child's development (Murphy, 2013). Moore also contested that public education does not provide a learning environment that is safe and nurturing to children (Moore & Moore, 1986).

Since the Book of James describes how not many should become teachers, it does raise the argument that Christian schools are appropriate for children to learn in a Godly manner. At a minimum, teachers in Christian schools have been appropriately trained and certified to become teachers, whereas, homeschool parents may or may not possess any formal training in education. However, the emphasis here should not be placed on whether Christian schools are superior to homeschool environments, but rather that either choice provides Christian children with the highest opportunities to live a life that honors God. Deuteronomy 6 reviews the importance of the law given to God' people. The specific instructions given by God in Deuteronomy 6:7 are to, "Teach the commandments diligently to your children, and talk about them when you sit in your house, and when you walk with them, and when you get up, and when you lie down".

Opposition to homeschooling

People who oppose homeschooling argue that homeschool students are too sheltered from the outside world and are missing key components of social growth. In order to bridge the gap to ensure that children are given opportunities for social growth, homeschool co-op groups have been formed. However, the research discussed by Moore found that children would still

become well-socialized even in homeschool settings (Moore & Moore, 1986). These groups typically meet on a weekly basis, and allow for parents to compare and discuss any curricular issues. During these meeting, parents are typically providing support to one another in prayer. Similarly, students also meet in these groups in order to socialize with other homeschool children. Certain co-ops offer extracurricular opportunities to include team sports, individual sports, band, music, physical education, among others. Local Christian schools and churches often provide these programs as a means to partner with homeschool families, rather than scrutinizing them for not choosing the traditional form of education. Opposition to homeschooling go deeper than merely that homeschool children are sheltered from outside experiences, but that they are also dismissing their right to free appropriate education for their public school system.

Other people who oppose homeschooling include the notion that students will acquire lower levels of self-esteem and higher levels of depression if they are not granted the freedoms given to traditional students to socialize, build relationships, and experience independence. However, no data has been found to support this notion, but rather that homeschool children have higher self-esteem, and are less likely to develop any level of depression than children in the public school system (Drenovsky & Cohen, 2012).

Another criticism of homeschooling is the quality of materials chosen has been in question over the last decade. However, a longitudinal study of homeschool programs provided evidence of homeschooling curriculum being selected by parents as being highly competitive and often superior to public school curriculum (Hanna, 2012). Since more families are choosing to homeschool their children, publishers of homeschool curricula have responded with developing materials that are extremely current and thorough. Children who are homeschooled are likely to

score 3 to 4 grade levels higher on standardized testing, than public school students in the same

demographic areas (Martin-Chang, Gould, and Meuse, 2011). Studies of this nature provide

very compelling data to demonstrate the obvious success rate of homeschooling, and yet it must

be understood that homeschooling is not always the best option for families. Although the cost

of homeschooling is much cheaper than enrolling children in private education, the financial

demands and pressures have placed families in such financial constraints that both parents have

to work outside the home.

The foundations of Christian education

The beginnings of education in the U.S. occurred before the Colonies declared their

independence from England (Cremin, 1970). In 1647, the legislative act known as the Old

Deluder Satan Law was implemented in order to instill the same religious beliefs of the parents

in their children. The primary text in Colonial schools was the Bible, which was still used in

U.S. public education**,** until 1962. Early opposition did arise in Colonial America, since

immigrants from other nations did not fully support the Puritan instruction given to their children

(Hazlett, 2011). However, the Bible remained a mainstay in American public education as it

provided a basic moral foundation for the children. Of the 108 colleges universities founded in

the Colonies, 106 were based on Christian values (Education Dynamics, 2015).

Historically, the term, Christian education, did not exist until use of the Bible and prayer

were removed from the public school curriculum. When the rulings by the Supreme Court

(Brown v Board of Education, 1954) were enacted, Christian parents and churches began to

devise alternatives to public education. Many parents decided that, since they could not fully

control the instructional content taught to their children, religious schools were established, so

the curriculum could be based on the Bible. When Christian schools began to be established in

the 1950s and 1960s, it was difficult for them to obtain credibility in comparison to public schools. As a result, a number of schools, with the same curricular goal, began to collaborate and form associations in order to promote continuity and standards in Christian education.

Currently, the Association of Christian Schools International (ACSI) is the largest governing organization for Christian schools in the U.S. In 1978, ACSI was founded through a merger of three associations: (a) The National Christian School Education Association, (b) the Ohio Association of Christian Schools, and (c) the Western Association of Christian Schools. Soon after ACSI was formed, several other Christian school associations joined ACSI. Currently, the ACSI schools include Christian schools, of similar Christian theology (ACSI, 2015), and are not affiliated with the Catholic or Lutheran school systems in the U.S. At a global level, the purpose of ASCI is to oversee schools in more than 100 countries; 5.5 million students are served worldwide. In the U.S., over 3,300 ACSI schools bring Christian education to children, plus over 24,000 exist across the globe (ACSI, 2015). Schools must participate in a rigorous process of inspections and policies in order to be considered for accreditation from ACSI. The use of this process provides a standard for ACSI member schools to follow, that is, if the member schools are to be considered a credible and effective form of education. Many ACSI, as well as other Evangelical Christian schools allow home school students to participate in the standardized testing administered at each school. However, for the purpose of this study, home school students who take standardized tests at the Evangelical Christian schools were included as a part of the schools' general population.

Curriculum chosen by ACSI schools is primarily Biblically-based. Specifically, member and accredited ACSI are strongly encouraged to use curriculum published by Purposeful Design, which is the official textbook publisher for ACSI (ACSI, 2015). There are many other textbook

and curricula choices produced by Christian publishers. Specifically, Christian schools typically choose curricula from Positive Action for Christ, Christian Schools International, A Beka Book, Zaner-Bloser, Lifeway, Apologia, Alpha Omega Publications, and many more. Each of these curricula provide schools with the opportunity to not only teach efficient educational content, but to do so through a Biblical worldview.

The purpose of accredited ACSI schools is to provide high levels of opportunities to students, since the practices and policies are specifically designed to partner with families in a holistic approach to the education of students. Therefore, this researcher investigated the effectiveness of Christian education, in terms of student achievement.

Summary

Throughout this literature review, the discussion of factors affecting student achievement is complex to say the least. With all factors described, the solutions to these issues would indeed require a complete shift in culture, which many doubt can take place in this society. Based on the literature, family involvement, support, and overall care and concern for students' well-being are among the most critical factors affecting student achievement today. The Biblical standards and principles as prescribed by ACSI schools require families to be involved, and are focused on a holistic approach to a child's development. Since research has shown increases in student achievement when high family involvement, support, and genuine care for students is present, ACSI schools should have higher achievement scores regardless of location, size, and enrollment.   In other words, since the rejection of God's Word and prayer was removed from public schools in America, there has been a steady decline of moral values, and a lack of student accountability for their responsibilities as students (Etherington, 2013). The goal of this study was not to simplify the solutions to the deep issues underlying beneath the achievement test

scores, but rather it compared the data within Christian education. Chapter Three of this study

provides a detailed explanation of how the study will be conducted.

CHAPTER THREE: METHODOLOGY

Overview

There are many questions regarding the equity of Christian schools. Just as issues of equity plague public schools, Christian schools may also possess similar struggles in terms of school setting, school size, and cost of tuition. However, only a small presentation of how these factors affect achievement in the Christian schools was provided, due to the lack of research done from this perspective. The research design of this study allowed comparisons to be made between different categories of conservative Evangelical Christian schools, in order to determine whether there were any significant differences in equity between the groups in regard to specific characteristics.

Design

Due to the use of retroactive data for this study, this meant that the study was an ex post facto causal comparative study (Gall, Gall, & Borg, 2007). Causal comparative studies are most commonly used when a study involves two or more independent variables (Gall et al., 2007). The purpose for this research was to determine whether there were any cause and effect relationships present between the independent variables and student achievement. The independent variables used for this research were not manipulated in any way by the researcher. The observations made by the researcher were based on the most recent standardized achievement test scores, making this study an ex post facto causal comparative study. This was not an experimental study, therefore, no treatment was used for this study.

There were several independent variables for this study, which required specific identification in order to provide clarity. Although there were several independent variables that were used in this study, the single overarching dependent variable for the study was student achievement. However, the focus of this study was not on any one particular academic area, but

rather an analysis of the cumulative results from the standardized assessments as a whole. Therefore, the students' core composite scores were used throughout the study and compared appropriately.

The independent variables of the study were categorized, according to school setting, school size, and cost per student. Each independent variable category was further broken down into subcategories for each, respectively. The independent variable school setting included schools which are either in a rural, urban, or suburban (urban cluster) environment. According the U.S. Census Bureau (2010), urban areas are classified as cities with a population of at least 50,000 people. Urban clusters, which can include suburban areas, includes populated areas of at least 2,500 people, but not more than 50,000. Rural areas are defined as areas that are not within either urban areas or urban clusters (U.S. Census Bureau, 2010).

The next independent variable was focused on school size. Once again, specific categories were used to differentiate between small, medium, medium-large, and large schools, in regard to the total student enrollment of each school in the study. According to ACSI (2015), these categories are defined as related directly to enrollment. Small ACSI schools include schools of less than 200 students enrolled. Medium schools are schools with at least 200 students enrolled, but not more than 400 students enrolled. Medium-large schools are schools with at least 400 students enrolled, but not more than 700 students enrolled. Large schools are schools with over 700 students enrolled (ACSI, 2015).

The third independent variable was based on the cost per student for education at each sample school. In the case of the Christian schools, this cost was based specifically on the cost of tuition for the participant schools in the study. According to ACSI, the average tuition throughout all ACSI school in the U.S. averaged $5,800 (ACSI, 2015). Therefore, the schools

used for this study will be divided into two categories. Schools with an annual tuition of less than $5,800 per student were considered schools of low tuition. ACSI schools with an annual tuition over $5,800 per student were considered schools of high tuition.

Research Questions

The following research questions guided this study. Each research question was directly correlated to the three parts of the study.

RQ1: Is there a statistically significant difference between achievement test scores in rural, urban, and suburban conservative Evangelical Christian schools, as measured by Terra Nova (3rd ed.; ACSI)?

RQ2: Is there a statistically significant difference between achievement test scores of small, medium, medium-large, and large conservative Evangelical Christian schools as measured by Terra Nova (3rd ed.; ACSI)?

RQ3: Is there a statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high tuition and low tuition as measured by Terra Nova (3rd ed.; ACSI)?

Hypotheses

$H_0 1$: There is no statistically significant difference between achievement test scores in rural, urban, and suburban Evangelical Christian schools.

$H_0 2$: There is no statistically significant difference between achievement test scores of small, medium, medium-large, and large conservative Evangelical Christian schools.

$H_0 3$: There is no statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high and low tuition costs.

Participants and Setting

The collected data for this study was drawn from school records, rather than individual students. The schools chosen for the study were conservative Evangelical Christian schools. The conservative Evangelical Christian schools were schools which are members of the Association of Christian Schools International (ACSI). ACSI is the largest Evangelical Christian schools organization in the world (ACSI, 2016). There are over 3,000 member schools in the Association of Christian Schools International (ACSI) throughout the U.S., and over 21,000 member schools in over 100 other countries. Furthermore, the ACSI schools were used for this study are non-denominational Evangelical Christian schools, which means there were not any Catholic or Lutheran schools among the participant schools.

As mentioned in Chapter One, there are many different Christian school organizations based in the U.S. Each of these organizations include specific requirements for membership, as well as heavy guidelines for accreditation. Since each of these organizations has its own uniqueness, the overarching similarities are clear in terms of providing quality Christian education. However, it is important for the basic information of other Christian organizations to be presented in this literature review. The information in Table 1 provides a comparison of various Christian school organizations founded in the United States.

Table 1

Christian Schools Organizations Comparison Chart

Christian School Organization	Date of Founding	Number of Member Schools	Number of States Organization Includes	International Programs	Accreditation Grade Levels
Association of Christian Schools International	1978	24,000	50	Yes	PK-12
Christian Schools International	1920	404	50	Yes	PK-12
American Association of Christian Schools	1972	1000	38	Yes	PK-12
Association of Classical Christian Schools	1994	240	44	No	PK-12
National Association of Private Catholic and Independent Schools	1995	84	34	No	PK-12
National Lutheran School Accreditation	1847	2200	50	Yes	PK-12
National Christian School Association	1980	98	26	No	6-12

Typically, conservative Evangelical Christian schools, who are members and accredited by ACSI undergo extensive reviews, as well as being held to the highest Biblical standards. Specifically, each member school is required by ACSI to respond to all issues through a Biblical lens; in addition, the school leader(s) are solely responsible for the development of teachers and staff of the school to respond in the same way. The ACSI Board Members expect school leaders and administrators to create learning environments that demonstrate the principles of Jesus Christ. Through this perspective, staff and faculty are to develop positive learning environments which encourage student success.

The participant schools for this study were to be selected from the participant ACSI schools located in the Mid-America/Ohio River Valley of ACSI schools. The states located within this region are: (a) North Dakota, (b) South Dakota, (c) Iowa, (d) Minnesota, (e) Nebraska, (f) Wisconsin, (g) Illinois, (h) Indiana, (i) Michigan, (j) Ohio, (k) Kentucky, and (l) West Virginia. There are over 400 ACSI schools within this region, although they are not evenly distributed throughout the 12 states. For example, there are only five ACSI schools in North Dakota, but 135 ACSI schools in Ohio.

The population of each state within this region is the primary reason for such a large disparity, in regard to the number of schools in each state. Other considerations for the selections of schools was based on location, size, and annual cost per student. Demographics such as age, grade level, gender, or ethnicity were not used for this study.

Early in the design of this study, it was thought that the same numbers of ACSI schools could be found for all states within the region. However, this was not possible based the various population of each state included in the sample. Representation from each state was necessary, even if the numbers of ACSI schools are lower in certain states. Careful attention to detail was given to ensure representation of each combination of independent variables was to be met. However, due to the sporadic and uneven distribution of ACSI schools in the Mid-America Region, the researcher chose to use data from at least 10 ACSI schools for each independent variable, as well as each category throughout the region. Random sampling was not used for this study. Since the target population for the study could be found in one reasonably sized geographic area, the researcher attempted to keep the amount of schools in the region consistent for each category as part of the study. Fundamentally, quantitative studies require as large a sample as possible, in order to obtain stronger statistical power (Gall et al., 2007). Due to the

size of target population, the findings of this study provided a strong basis of information for other ACSI regions. Certain ACSI schools within the Mid-America region were used in more than one category.

Since the primary focus of this study was to determine the level of significance of student achievement, according to school setting, participant schools were chosen according to those categories first, with the other categories following for each.

All combinations of independent variables were utilized for this study. Table 2 provides an explanation of the participant schools with regard to location. Table 3 provides an explanation of the participant schools with regard to size/enrollment. Table 4 provides an explanation of the participant schools with regard to annual tuition cost per student.

Table 2

School Sampling Chart for location of ACSI School Samples

	Location	
Urban[a]	Suburban[b]	Rural[c]
Sample 1	Sample 2	Sample 3

[a]Urban, areas containing a population of at least 50,000 people.
[b]Suburban (Urban Clusters), areas containing a population of at least 2,500, but not more than 50,000 people.
[c]Rural, areas not found in either urban areas or urban cluster areas.

Table 3

School Sampling Chart for School Size/Enrollment

School Size/Enrollment

Small[a]	Medium[b]	Medium-Large[c]	Large[d]
Sample 1	Sample 2	Sample 3	Sample 4

[a]Small school – enrollment less than 200 students
[b]Medium schools – enrollment of at least 200 students, but not more 400
[c]Medium-Large schools – enrollment of at least 400 students, but not more than 700
[d]Large schools – enrollment of at over 700 students

Table 4

School Sampling Chart for Tuition – Greater or less than $5,800

Class 1 <$5,800	Class 2 >$5,800
Sample 1	Sample 2

Instrumentation

The instrumentation used for this study was the Terra Nova Standardized Test, 3rd Edition. The results from standardized tests can provide educators with a base of knowledge to gauge student learning and achievement. Arguments against standardized testing have become more acknowledged by educators (Antush, 2014; Steele, 2014; Bhattacharya, Junot, & Clarrk, 2013; Phelps, 2011; Martin, 2012; & Brunn-Bevel, Byrd, & Carson, 2015), but since the goal of the researcher was to observe overall patterns of achievement over a large sample area, the use of standardized test scores is adequate and can be beneficial (Almager, 2014). For the majority of ACSI schools, the standardized achievement test used to measure student achievement is the TerraNova (3rd ed., 2015).

The TerraNova (3rd ed., 2011) is based on norms from research done within the Data Recognition Corporation, in order to make this test one of the leaders in standardized testing. This third edition is based on the most current and accurate norms (DRC/CTB, 2011), which allow educators to compare achievement results between groups of students. With items aligned to state standards, educators can review student results in the context of common school and district criteria, plus key enhancements that help educators improve achievement and learning. The TerraNova test program has been officially endorsed as the achievement test of choice for ACSI schools. ACSI member schools are not mandated to use this test, but they are encouraged to use it since it provides a source of provide uniformity throughout the organization.

Due to the variety measurements used in standardized, this researcher chose the National Percentage Equivalent (NPE) scores as the means to measure student achievement. The NPE scores were compared for all participant schools, which helped to maintain uniformity of the data. For the consistency of testing norms, all data was collected for achievement tests taken in the spring of 2017. In addition, the researcher collected the composite test scores for each participant school, rather than for any specific grades or students.

According to Bhattacharyya, Junot, and Clark (2013), each of the standardized testing programs used throughout the U.S. are reported to be heavily scrutinized during development and research, in order to increase the validity and reliability for the testing. Reliable and valid tests must be consistent with all questions, styles, and production for all test participants. In other words, any adjustments, improvements, or alterations to these tests must be pre-approved, analyzed, and later approved before any such changes can take place. The rigorousness of this process does result in high testing reliability and validity for a study such as this. In order to confirm the reliability of Terra Nova, research conducted in 2010 was based on a study with over

200,000 Terra Nova (3rd ed., 2011) tests taken by students across the U.S.; the test reliability

coefficient was over .90 (Hays, 2013). Subsequently, the norms for the current Terra Nova

testing system is based on the norms produced from this research, which was produced in 2011.

The test reliability coefficient of over established it as being adequately reliable (Gall et al.,

2007).

Since the data for all tests was collected from only one testing period and there was no

experimental aspect of this study, the scores collected from the spring of 2017 were acceptable.

It was necessary for the researcher to acknowledge potential differences in several factors

concerning the administration of standardized tests in all states. First, as hypothesized in this

study, the school environment may directly affect how well a student performs on a test. School

environment could include any number of factors including: (a) local support of education, (b)

parental involvement, (c) student motivation, and so forth. Second, the school size may be a

factor if students feel as if they do not receive sufficient direct attention and/or support from their

respective teachers. Third, students may not be provided with the appropriate testing support and

resources from the school, if the school lacks funding. The latter of the three can be directly

correlated to how much tuition is charged per student (for ACSI schools).

Procedures

Although the data appropriate for this study was ex post facto, this research was required

to obtain approval for the conduct of this study through the Institutional Review Board (IRB) of

Liberty University (see Appendix A for copy) prior to data collection. This researcher

completed and submitted the Liberty University IRB application in order to proceed in the

dissertation program. All steps in this process were under the approval of the researcher's

Dissertation Chair and Dissertation Committee members.

Upon receipt of approval from the IRB, the researcher began to identify schools that meet the criteria for each independent variable category. The ACSI schools chosen for the study were found by looking at the schools' demographic information available through the ACSI Mid-America Regional Office. Prior support for the study was attained from Jeff Mattner, President of the ACSI Mid-America Regional Office. In addition, the Mid-America Director of Urban School Services, Vernard Gant, provided his support of this study. Although assistance from the MA Regional Office was provided, the researcher had no prior knowledge of student achievement test scores of any of the schools chosen for the study. No names or exact locations were presented in the study, in order to protect and respect school privacy.

The participant schools in this study did not know the study is being conducted, since the testing has already been completed. In other words, no permissions were required, since the data did not contain and names of students, or any personal information of any student. Once again, there was no treatment for any of the schools in the study, so the achievement test scores were not analyzed as post-tests as in an experimental research design. The researcher of this study collected all data from the target population. The data was collected through email or phone call to the schools included in the study, and documented according to each participant school's respective independent variable.

Data Analysis

The researcher used an ex post facto causal-comparative research design to determine whether there was a statistical significance between student achievement and school setting, school size, and cost per student. Overall core composite scores were collected for all participant schools, which met the criteria for each independent variable category in the study. It had been hypothesized by the researcher that school setting, size, and annual tuition cost per student may

or may not affect the achievement test scores of students. Since this study was broken into parts, the analysis of the data was conducted in parts as well.

The researcher conducted a data screening technique for each independent variable. The method used for the data screening was the use of boxplots. Extreme outliers were defined as composite achievement test scores which have a value significantly away from the median (Howell, 2011). Since the sample size was large, the elimination of the extreme outliers did not greatly affect the statistical analysis. A boxplot has been presented for each data set in the results section. Histograms were also created to analyze each data set and present normality of distribution within the data.

Data analyzed for each research of the study includes the effect of the independent variable categories among Evangelical Christian schools that belong to the ACSI. The most appropriate and effective means to measure the data was through the conduct of an Analysis of Variance (ANOVA) test. The purpose of this test was to specifically identify whether there is statistical significance among the independent variables (Gall, et al., 2007). The first independent variable, location, was compared among Mid-America ACSI schools located in either urban settings (population of at least 50,000), suburban/urban clusters (population of at least 2,500, but not more than 50,000), or rural (area not included in an urban area or urban cluster) (U.S. Census Bureau, 2010). The second independent variable, enrollment, was compared among Mid-America ACSI schools categorized as either small (less than 200 students), medium (at least 200 students, but not more than 400 students), medium-large (at least 400 students, but not more than 700 students), or large (700 students or more) (ACSI, 2015). The third independent variable, tuition, was compared among Mid-America ACSI schools

categorized as either low tuition (tuition less than $5,800) or high tuition (tuition greater than $5,800) (ACSI, 2015).

The findings from the ANOVA tests answered each Research Question of the study. The analysis of the data supported the findings of the study. The alpha level for each of the ANOVA tests was .05 during the statistical analysis. Choosing an alpha level of ($\alpha = .05$), which limits the occurrence of having either Type I or Type II errors during the analysis (Gall, et al., 2007). The use of the ANOVA tests allowed the researcher to identify if there was a statistically significant difference for the independent variables, but the ANOVA tests alone did not tell the researcher which categories within the variables are different. In cases such as these, when two or more ANOVA tests are used during data analysis, a Tukey post hoc test would be used (Gall et al., 2007). A Tukey post hoc test was only to be used if the ANOVA test for each independent variable presented a statistically significant difference made in the comparisons.

For each comparison that showed statistical significance, an Eta squared analysis was used for each combination to measure the effect size of the independent variable categories (Howell, 2011). Specifically for location, an effect size test was conducted for rural versus urban, rural versus suburban, and urban versus suburban. For enrollment size, an effect size test was conducted between small and medium schools, small and medium-large schools, small and large schools, medium and medium-large schools, medium and large schools, and medium-large and large schools. For tuition costs, the effect size was conducted comparing "low tuition" and "high tuition" schools.

The assumption test used for this study was a histogram for testing of normal distribution. The purpose for a histogram is to measure the frequency in which data repeated within a certain range (Howell, 2011). A histogram was used for each data set in this study. Therefore, based on

the number of independent variables, and categories for each, there is a total of three histograms presented in the results. A scatterplot was also used as an assumption test to display the linearity of the independent variables, along with each of their respective categories. The purpose of a scatterplot is to measure the relationship between the means of variables (Howell, 2011). A scatterplot for each linear correlation was used for each independent variables and their corresponding categories (Howell, 2011). Specifically for location, an effect size test was conducted for rural versus urban, rural versus suburban, and urban versus suburban. For enrollment size, an effect size test was conducted between small and medium schools, small and medium-large schools, small and large schools, medium and medium-large schools, medium and large schools, and medium-large and large schools. For annual tuition costs, the effect size was conducted comparing "low tuition" and "high tuition" schools.

The sample size for the study was established to be at least 10 schools for each category, bringing increased stability to the data analysis of the study. Ideally, the amount of sample schools from each state was divided as evenly as possible in order to have a balanced number of each category in the study.

Chapter Three included a detailed description of how the study was executed, as well as who the study will include. Within the description, instrumentation, data analysis, and measurement tools were explained. The sample size of this study produced opportunity for an adequate analysis of the data. Chapter Four of this study presents and explains the details of the results of the study.

CHAPTER FOUR: FINDINGS

Overview

The purpose for this ex post facto, causal comparative study was to use a three-tiered investigation; each tier was related to the investigation of equity and student achievement. This chapter will comprise of the key components of the findings of the study including the research questions, the null hypotheses investigated, the descriptive statistics utilized for analysis, and the results of the analysis. The assumption data will be presented in the form of histograms, box plots, and graphs of linearity. The results of the analysis will be organized according the restatement of each hypothesis.

Research Questions

The following research questions will guide this study. Each research question is directly correlated to the three parts of the study.

RQ1: Is there a statistically significant difference between achievement test scores in rural, urban, and suburban conservative Evangelical Christian schools, as measured by Terra Nova (3rd ed.; ACSI)?

RQ2: Is there a statistically significant difference between achievement test scores of small, medium, medium-large, and large conservative Evangelical Christian schools as measured by Terra Nova (3rd ed.; ACSI)?

RQ3: Is there a statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high tuition and low tuition as measured by Terra Nova (3rd ed.; ACSI)?

Null Hypotheses

H_01: There is no statistically significant difference between achievement test scores in rural, urban, and suburban Evangelical Christian schools.

H_02: There is no statistically significant difference between achievement test scores of small, medium, medium-large and large conservative Evangelical Christian schools.

H_03: There is no statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high and low tuition costs.

Description of the Samples

Although the research questions and null hypotheses remained the same, changes were made for the data collection portion of the study. As described in the prior chapters, the original samples of the study were established as being ACSI schools found only in the Mid-America region. The Mid-America Region would have included ACSI schools in North Dakota, South Dakota, Nebraska, Minnesota, Iowa, Wisconsin, Illinois, Michigan, Indiana, Ohio, Kentucky, and West Virginia. However, there were two unforeseen challenges during the collection of data, which warranted some specific changes to the population of the study, as well as the actual collection of data.

The first major challenge to the collection of data was that there was a major delay in the Terra Nova testing program. This delay meant that ACSI schools which took the Terra Nova test in the spring of 2017 throughout the U.S. did not receive their Terra Nova results until September of 2017. Schools were not able to report data for the study because they did not have the scores available for their review.

The second major challenge to the collection of data was regarding the actual data collection methods used by the researcher. Originally, the data collection was through the methods of phone calls and emails to ACSI member school in Mid-America. This method was

being used during the summer of 2017, leading into the beginning of the 2017-2018 school year for many schools. The researcher sought the assistance of the Mid-America Regional Director (J. Mattner, personal communication, September 5, 2017) for suggestions. It was suggested by the Director that the study should go through the Headquarters of ACSI, located in Colorado Springs, Colorado. The Regional Director arranged for communication from the researcher and the Department of Research for ACSI to discuss possible options. It was then recommended by the ACSI Vice President of Programs and Research (J. L. Mecham, personal communication, September 10, 2017) to expand the study to all ACSI member schools in the United States.

As it was explained to the researcher, the benefits of this change would increase the size of the population from 400 schools to over 1600, and allow the researcher to have a survey sent to all ACSI member schools in the population via email from ACSI headquarters. This method was important because schools are typically more open to responding to a survey endorsed by ACSI headquarters. Furthermore, ACSI schools are not required to use the Terra Nova achievement testing program in their schools. Although there are approximately 400 ACSI schools in the Mid-America Region, not all of these schools participate in the Terra Nova program. Expanding the study to all U.S. ACSI schools increased the number of potential schools that can be used for the study to over 1600.

The survey questions (see Appendix C) simply asked schools to report their student enrollment, the location of their school (with regard to population), the annual tuition cost (above or below $5,800), and their school composite NPE (National Percentage Equivalent). Approval from ACSI to conduct the study and the survey was granted on September 30th, 2017 (see Appendix B).

Descriptive Statistics

When making the comparison between the independent variables of ACSI schools and

Terra Nova test scores, each variable produced its own set of descriptive statistics, as represented

in Table 5. Specifically, the amount of samples for each category, the means, standard deviation,

minimums, and maximums will be presented for each independent variable in this section. Each

independent variable presented its own set of descriptive statistics. Each school in the sample

provided responses to each of the survey questions used in the study. Schools responded

according to the location of the community the school is serving, their current school enrollment,

highest annual tuition of all grades offered, and school composite Terra Nova NPE score. The

researcher used SPSS Premium Version 28 for all descriptive statistics and data analysis.

Table 5

Descriptive Statistics for the Independent Variables and Terra Nova NPE scores

Variable	n	*M*	*SD*
School Location			
Rural	5	76.80	10.08
Suburban	50	76.68	7.15
Urban	49	80.16	9.75
School Enrollment			
Small	48	77.50	9.86
Medium	40	77.17	7.27
Medium-large	11	83.09	6.93
Large	5	85.00	5.57
Tuition			
Low Tuition	50	77.70	8.20
High Tuition	54	78.91	9.17

School Location

There were a total of 104 (*N*=104) schools that responded throughout ACSI (U.S. only).

For the independent variable of school location, 5% (*N*=5) reported as being located in rural

communities, 48% (*N*=50) schools reported as being located in suburban communities, and 47%

(*N*=49) schools reported as being located in urban communities (see Table 5). For the rural

schools in the study, the mean Terra Nova NPE score was (*M*=76.8), the standard deviation was

SD=10.08, the lowest NPE score was 65%, and the highest NPE score was 92%. For the

suburban schools in the study, the mean NPE score was (*M*=76.7), the standard deviation was

SD=7.15, the lowest NPE score was 62%, and the maximum NPE score was 90%. For the urban

schools in the study, the mean NPE score was (*M*=80.2), the standard deviation was (*SD*=9.75),

the minimum NPE score was 55%, and the maximum NPE score was 97%.

The total descriptive statistics for all three location categories showed a mean NPE of

(*M*=78.3), the standard deviation was (*SD*=8.7), the minimum NPE score was 55%, and the

maximum NPE score was 97%.

School Enrollment

For the independent variable of school enrollment, 46% (*N*=48) of the schools were

small, 38% (N=40) were medium, 11% (*N*=11) were medium-large, and 5% (*N*=5) were large

schools (see Table 5). For the small schools in the study, the mean Terra Nova NPE score was

(*M*=77.5), the standard deviation was (*SD*=9.86), the minimum NPE score was 55%, and the

maximum NPE score was 95%. For the medium schools in the study, the mean Terra Nova NPE

score was (M=77.17), the standard deviation was (*SD*=7.27), the minimum NPE score was 61%,

and the maximum NPE score was 92%. For the medium-large schools in the study, the mean

Terra Nova NPE score was 83.1%, the standard deviation was (*SD*=6.93), the minimum NPE

score was 70%, and the maximum NPE was 97%. For the large schools in the study, the mean Terra Nova NPE score was (*M*=85), the standard deviation was (*SD*=5.57), the minimum NPE score was 78%, and the maximum NPE score was 90%.

The total descriptive statistics for all four school enrollment categories showed a mean NPE score of (M=78.33), a standard deviation of (*SD*=8.7), a minimum NPE score of 55%, and a maximum NPE score of 97%. The boxplot (Figure 4.7) represents all NPE scores for each category for the school enrollment size independent variable.

Annual Tuition Cost

For the category of annual tuition cost, 48% (*N*=50) schools reported low tuition, and 52% (*N*=54) schools reported high tuition (see Table 5). For the schools that reported low annual tuition, the mean Terra Nova NPE score was (*M*=77.7), the standard deviation was (*SD*=8.2), the minimum NPE score was 61%, and the maximum NPE score was 92%. For the schools that reported high annual tuition, the mean Terra Nova NPE score was (*M*=78.9), the standard deviation was (*SD*=9.17), the minimum NPE score was 55%, and the maximum NPE score was 97%.

The total descriptive statistics for low and high tuition schools showed a mean Terra Nova NPE score of (*M*=78.3), a standard deviation of (*SD*=8.69), a minimum NPE score of 55%, and a maximum NPE score of 97%.

Results

Three research questions were developed to investigate if statistical significances exist between ACSI schools according to student enrollment, annual tuition cost, and location. The researcher used three separate ANOVA tests to answer the questions. Each research question, null hypothesis, and the analysis of each research question and null hypothesis is presented in this section.

Null Hypothesis 1

The first null hypothesis was that there is no statistically significant difference between achievement test scores in rural, urban, and suburban Evangelical Christian schools.

An analysis of variance test (ANOVA) was used to compare the achievement test scores of ACSI schools located in either rural, urban, or suburban communities. The independent variables were rural, urban, and suburban locations, and the dependent variable was the National Percentage Equivalent (NPE) recorded by each sample school. Schools were designated as to a specific location according to the current population of the community in which the school operates. Schools were designated as either urban (community population of 50,000 people and higher), suburban (community population between 2,500 and 50,000 people), or rural (community population below 2,500 people) (U.S. Census Bureau, 2010). Since the sample sizes of each category of school location were not equal, it was necessary to conduct a Levene test of homogeneity. The Levene's test was not significant, indicating the variance on the dependent variable between groups was approximately similar.

For the data screening of this category, a histogram (Appendix D) and a graph for linearity of means (Appendix D) have been produced in order to visually demonstrate the relationships of the mean scores of each school location. The boxplot (Appendix D) represents all NPE scores for each category for the school location independent variable. The boxplot also shows a clear representation of where the majority of mean scores were, the high and low scores for each category, and that there were no extreme outliers to cause errors within the data. A summary point scatterplot (Appendix G) represents the NPE scores for all sample schools used for this study.

The results of the ANOVA (Table 6) test comparing the NPE scores of ACSI schools with regard to school location showed no statistical significance in NPE between rural, suburban, and urban schools ($F = 2.11$, $p = 0.127$). Therefore, the data from the ANOVA failed to reject the first null hypothesis (N_01).

Table 6

One way ANOVA for comparison between NPE means and school location

	Sum of Squares	Mean Square	F	Sig.
Between Groups	312.511	156.255	2.110	.127
Within Groups	7480.374	74.063		
Total	7792.885			

Null Hypothesis 2

The second null hypothesis was that there is no statistically significant difference between achievement test scores of small, medium, medium-large and large conservative Evangelical Christian schools.

An analysis of variance test (ANOVA) was used to compare the achievement test scores of ACSI schools depending on the enrollment size of the sample schools. The independent variables were small, medium, medium-large, and large schools, and the dependent variable was the National Percentage Equivalent (NPE) recorded by each sample school. Schools were designated to a specific enrollment category based on the number of students enrolled in each school. Schools were designated as small (schools with an enrollment of less than 200 students), medium (schools with an enrollment of 201-400 students), medium-large (schools with an enrollment of 401-700 students), or large (schools with an enrollment over 700 students (ACSI, 2015). Since the sample sizes of each category of school size were not equal, it was necessary to

conduct a Levene test of homogeneity. The Levene's test was not significant, indicating the variance on the dependent variable between groups was approximately similar.

For the data screening of this category, a histogram (Appendix E) and a graph for linearity of means (Appendix E) have been produced in order to visually demonstrate the relationships of the mean scores of each school enrollment size. The boxplot (Appendix E) represents all NPE scores for each category for the school enrollment size independent variable. The boxplot also shows a clear representation of where the majority of mean scores were, the high and low scores for each category, and that there were no extreme outliers to cause errors within the data. A summary point scatterplot (Appendix G) represents the NPE scores for all sample schools used for this study.

Table 7

One way ANOVA for comparison between NPE means and school enrollment size

	Sum of Squares	Mean Square	F	Sig.
Between Groups	558.201	186.067	2.572	.058
Within Groups	7234.684	72.347		
Total	7792.885			

The results of the ANOVA test comparing the NPE scores of ACSI schools with regards to school enrollment size showed no statistical significance between the 4 groups ($F = 2.572$, $p = 0.58$) for small, medium, medium-large, and large schools (Table 7). The comparisons of the means included comparisons of urban schools versus suburban schools, urban schools versus rural schools, and suburban versus rural schools. Therefore, based on the data, the ANOVA failed to reject the second null hypothesis (N_02).

Although the ANOVA test comparing student achievement and school enrollment size showed no statistical significance, the results did produce an interesting finding. The results of the ANOVA for school enrollment and student achievement ($p = 0.58$), since the result was close to the alpha factor of ($\alpha=.05$), the researcher chose to find the effect size of this portion of the study. The effect size in an ANOVA was measured by a partial eta squared test, which was ($\eta_p=.072$). Based on the size range for a partial eta test, a result of ($\eta_p=.072$) demonstrates an extremely small effect size. This further demonstrated that although the ANOVA failed to reject the null hypothesis by a narrow margin, the effect size of this result also showed small significance between student achievement and school enrollment size.

Null Hypothesis 3

The third null hypothesis was that there is no statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high and low tuition costs.

An analysis of variance test (ANOVA) was used to compare the achievement test scores of ACSI schools and the annual tuition cost of the schools. The independent variables were schools with low tuition, and schools with high tuition, and the dependent variable was the National Percentage Equivalent (NPE) recorded by each sample school. Schools were designated as either high or low tuition, depending on the highest annual tuition cost required by each school. Schools were designated as schools of low tuition (schools with the highest annual tuition cost below $5,800), or schools of high tuition (schools with their highest annual tuition costs above $5,800) (ACSI, 2015). Since the sample sizes of each category of annual school tuition cost were not equal, it was necessary to conduct a Levene test of homogeneity. The alpha

factor for this test was set at ($\alpha = .05$). The Levene's test was not significant, indicating the variance on the dependent variable between groups was similar.

For the data screening of this study, a histogram (Appendix F) and a graph for linearity of means (Appendix F) have been produced in order to visually demonstrate the relationships of the mean scores of schools with high and low tuition. The boxplot (Appendix F) represents all NPE scores for each category for the annual tuition cost independent variable. The boxplot also shows a clear representation of where the majority of mean scores were, the high and low scores for each category, and that there were no extreme outliers to cause errors within the data. A summary point scatterplot (Appendix G) represents the NPE scores for all sample schools used for this study.

Table 8

One way ANOVA for comparison between NPE means and annual tuition

	Sum of Squares	Mean Square	F	Sig.
Between Groups	37.848	37.848	.498	.482
Within Groups	7755.037	76.030		
Total	7792.885			

The results of the ANOVA test comparing the NPE scores of ACSI schools with regards to annual tuition showed no statistical significance between the two groups ($F = .498$, $p = 0.482$) for rural, suburban, and urban schools (Table 8). The comparisons of the means included comparisons of schools with low tuition ($< \$5,800$) and schools with high annual tuition ($> \$5,800$). Therefore, based on the data, the ANOVA failed to reject the third null hypothesis (N_03).

CHAPTER FIVE: CONCLUSIONS

Overview

Chapter Five will present the discussion of this study as it compares to the research reported in Chapter Two. In this chapter, the researcher will also discuss the implications in conjunction with the theoretical framework used for this study, and the possibilities and conclusions based on the data that was analyzed for each null hypothesis. In this chapter, the researcher will also discuss the limitations of the study, which will include factors concerning the target population, data collection, and numbers of samples used for this study. Finally, in the last section of this chapter, the researcher has listed possible recommendations for future research.

Discussion

The purpose of this ex post facto study was to compare the achievement test scores of conservative Evangelical Christian schools with respect to location, enrollment, and annual tuition cost. Each comparison between the independent variables and achievement test scores will be presented according to each null hypothesis.

Null Hypothesis 1

The first null hypothesis was that there is no statistically significant difference between achievement test scores in rural, urban, and suburban Evangelical Christian schools. An analysis of variance test (ANOVA) was used to compare the achievement test scores of ACSI schools located in either rural, urban, or suburban communities. The results of the ANOVA for this comparison was that there is no statistically significant difference shown between rural, urban and suburban ACSI schools. Although there has been very little research done regarding location, student achievement and Christian schools, there have been studies discussing the effect school location and environment has on student achievement in public schools.

Beginning with rural schools settings, it has been shown there are challenges to the distance and transportation to and from school (Irvin, Meece, Byun, Farmer, & Hutchins, 2011). Families in rural settings often don't connect a direct need for education for their children, due to their family occupations or maintenance on family property (Irvin, et al., 2011). According to these researchers (Irvin, et al., 2011), academic achievement is not highly valued by rural families which make motivating students difficult for educators. It has also been found that the dropout rates between rural and urban public schools are very similar, both due to environmental challenges, as well as family dynamics (Jordan, Kostandini, & Mykerezi, 2012). The results of this study did not show the same environmental challenges in terms of student achievement, although many ACSI schools are located in the same or similar environments.

There is often a connection made between academically disadvantaged students from rural and urban settings versus racial disadvantaged and isolated students. For example, many educators have felt racial segregation in education is predominantly felt by the African American community in urban settings (Jones, Irvin, & Kibe, 2012). However, a recent study at the national level of the U.S. produced data demonstrating some of the highest levels of poverty, isolation, and segregation can be found in predominantly white rural school districts (Logan & Burdick-Will, 2017). This study found that even children in impoverished metropolitan areas have greater chance of academic success than rural schools, but still fall far from competing with wealthier suburban areas (Logan & Burdick-Will, 2017). This is largely due to fact that urban public schools are constantly being assessed and publicized in comparison to rural schools which are not as heavily publicized. Although this may be the case for public schools, the data found in this study showed very little difference in student achievement for ACSI schools faced with similar challenges to location and environment.

There are also misconceptions regarding the racial compositions, class compositions, and test performances of suburban schools. Just as this researcher has presented in Chapter Three, the boundaries of urban, suburban, and urban area can also be challenging. The researcher used the definitions of these areas to be population-based, according to the U.S. Census Bureau (2010). However, Burdick-Will and Logan (2017) conducted an additional study redefining these boundaries to better reflect the definitions of rural, urban, and suburban areas. Not only did this study find similar disparities in academic achievement between rural, urban, and suburban public schools, but also had much more developed location categories (Burdick-Will & Logan, 2017). Despite the differences in student achievement and location found by Burdick-Will & Logan (2017), the data reported for this study did not find significant differences in student achievement and these subcategories.

Research also suggests the primary reasons for these disparities are centered on student motivation, self-concept, and perceptions of peers toward academics (Jones, Irvin, & Kibe, 2012). In rural settings, family income can be even lower, plus resources and support programs are sparse at best. School districts located in rural urban settings do not have the same amounts of access to computer usage, laptops, school computer labs, and other technology resources when compared to suburban school districts (Wood & Howley, 2012). Rural schools typically are not as equipped to offer as many support programs, extracurricular activities, and other student programs (Hardre & Sullivan, 2008), which could help to increase motivation in rural students. Some factors contributing to these perceptions of student include high levels of threats to safety, school violence, and the surrounding community (Gastic, 2011). Gastic (2011) also found that urban school students' do not feel significantly safer if their school uses metal detectors to increase a sense of safety for the school. Smaller schools in urban areas have also been found to

have less violence and crime (Sandy & Duncan, 2010), but small urban schools can be difficult to find. Each of the factors found above, although present in many ACSI schools, negatively affect student achievement in public schools and contribute to the achievement gap found in public schools.

This research has suggested many different possibilities for why such drastic achievement gaps exist between schools based on location, yet this study shows the opposite for ACSI schools. Safety, basic needs, belonging, and esteem are each possible reasons for academic disparities in public schools, in accordance with Maslow's Hierarchy of Needs for high academic achievement (Maslow, 1943). Therefore, the data found in this study leads to the conclusion that the many challenges facing rural and urban schools in the public setting are not significant enough to affect students' achievement in ACSI schools. Furthermore, the racial inequalities regarding student achievement in public schools, also seems to be a non-factor, since ACSI schools are particularly diverse in urban school settings. There may be many reasons for these findings, although discovering these reasons is not a part of this study. However, the overarching Biblical and academic standards required by ACSI for member schools, the school environment, and the support given by teachers and parents, among other reasons are at the core of these findings.

Null Hypothesis 2

The second null hypothesis was that there is no statistically significant difference between achievement test scores of small, medium, medium-large and large conservative Evangelical Christian schools. An analysis of variance test (ANOVA) was used to compare the achievement test scores of ACSI schools depending on the enrollment size of the sample schools. No significant statistical difference was found in the results of the ANOVA.

As discussed in chapter two, there has been extensive research done on the effects of school sizes, class sizes, and student-teacher ratios on student achievement. The current research has conflicting results for public schools with regards to school size and student achievement. Since school district and school sizes cannot be controlled in densely populated areas, larger schools are typically located in urban or large suburban areas. According to Stewart (2009), larger public schools in Texas struggled with attendance, drop-out rates, and parent involvement. There are risks to educational equity for smaller public school districts due to the vast differences in socioeconomic situations for families (OECD, 2015).

As presented in chapter 4, the ANOVA test comparing school enrollment size showed no statistical significance, but did warrant deeper investigation by the researcher. The investigation of the effect size of the ANOVA was considered to be extremely small. According to the conflicting research available regarding school size and student achievement, the results of this study challenges the perception that larger school are superior to smaller schools. This conflict exists in both public and private schools, to include private Evangelical Christian schools. When smaller schools are compared the large schools in terms of programs, facilities, and technology, these factors heavily favor larger schools. However, the results of this study present an argument that these factors are not significantly affecting student achievement. This research also supports other studies that have been conducted which support the notion that smaller schools may not be as inferior to larger schools as previously perceived.

Smaller classroom sizes often allow for teachers to apply methods of remediation and tutoring for their students (Bowers & Urick, 2011; Gottfredson & DiPietro, 2011). Since overpopulation is an ongoing problem for urban and sometimes suburban school districts, it is challenging to implement these approaches in larger schools. However, a recent study also

argued that smaller schools do not necessarily achieve at higher levels, and yet the small-school movement continues to gain momentum (Wainer & Zwerling, 2006). For the purpose of school size reform, Egalite & Kisida (2016) found that larger school settings negatively affect student achievement in both reading and math. This study suggests that students in smaller schools have stronger ties to their peers and teachers, while also feeling a sense of belonging at the school (Egalite & Kisida, 2016). Furthermore, research in public schools also shows that students of larger schools are more susceptible to both personal and property victimization (Gottfredson & DiPietro, 2011). This conception is contrary to Maslow (1943), who suggested that students cannot progress in their education if they do not have a sense of safety, both emotionally and physically.

Since ACSI schools are in constant competition between public schools, charter schools, and other private schools, overpopulation is not typically an issue affecting ACSI schools. The correlation between the Egalite and Kisida study (2016), school size reform, and the absence of this issue in ACSI schools is supported by Maslow (1943) and how a sense of belonging is required for a child's educational growth.

On the contrary, larger ACSI schools typically have access to increased numbers of teacher aides, improved facilities, athletic programs, and multiple extracurricular programs. Yet, large ACSI schools are considered to be small in comparison with much larger public schools. Still, in the public school setting, more affluent school districts are able to afford such programs, while economically challenged and overpopulated areas struggle to maintain these programs. Funding for ACSI schools is limited to tuition and fees, yet ACSI schools commonly often offer far more options for students than in public schools, regardless of the size of the school. This is

directly correlated to the organization's mission to educate children from a holistic approach, embracing all aspects of a child's growth (ACSI, 2015).

Although ACSI schools have been found to have some of the same challenges as public schools involving school size, academic opportunities, and student achievement, it is difficult to cast overall generalizations when comparing student achievement and school sizes. According to this study, no statistical difference was found when comparing small, medium, medium-large, and large ACSI schools.

Null Hypothesis 3

The third null hypothesis was that there is no statistically significant difference between achievement test scores of conservative Evangelical Christian schools with high and low tuition costs. An analysis of variance test (ANOVA) was used to compare the achievement test scores of ACSI schools and the annual tuition cost of the schools. Once again, the results of the ANOVA showed that there was no statistically significant difference between ACSI schools with high tuition versus ACSI schools with low tuition with regards to student achievement.

The research done regarding economics and student achievement is far more extensive than the other two research questions for this study. Educational equity and finances is a frequently discussed topic in the U.S. public school system at the district, state, and federal levels. Family income and socioeconomic factors can be so powerful, school efforts to provide an equitable education is overshadowed by the financial constraints found in less affluent schools and school districts (Smith & Hoy, 2007). For example, attempts have even been made by school districts to increase student achievement through performance pay programs for teachers. These programs did not significantly increase student achievement, but did positively affect teachers retention (Shifrer, Turley, & Heard, 2017). On the contrary, the average salary for an

ACSI classroom teacher with a Master's Degree was $32,000 in 2013 (ACSI, 2015). In fact,

many families who enroll their children in ACSI schools are awarded certain scholarships,

tuition discounts, or even church membership discounts (ACSI, 2015).

As discussed in chapter two, the socioeconomic status of parents is the most critical

external factor in regard to student achievement (Rowly & Wright, 2011; & Sirin, 2005).

Miller, Vortuba-Drzal, and Setodji (2012) reported that family income directly affects the

parents' abilities to: (a) provide resources; (b) spend quality time to assist their children with

homework and projects, and (c) provide tutoring, after school help, or specialized services. Once

again, in ACSI schools, these types of supports are not so heavily lacking. Specific programs

and federal funding exists to increase academic support for migrant and minority students in

public schools (OECD, 2005). The purpose for these programs are to address the complex issues

within the U.S. society as a whole, focusing on the recurring issues of poverty (Belcastro, 2015;

& Zeichner, 2010).

Linking back to location, the effects of impoverished schools have on student

achievement whether the schools were urban suburban, or rural (Stayhorn, 2009). According to

Stayorn (2009), students are more likely to succeed based on a school culture that is designed to

support them. Borg, Borg, and Stranahan (2010) reported that student achievement and success

are more closely connected to support at home, rather than family income levels. The above

mentioned studies support the findings of this study, which clearly showed that the cost per

student did not significantly affect student achievement in ACSI schools. ACSI schools do exist

in less affluent areas and even financially challenged communities, and yet did not demonstrate a

large achievement gap as commonly seen in public school districts.

Unfortunately, if students feel their educational track is located in an area of financial disadvantages, most students feel these patterns will continue in the future (Lleras, 2008). As mentioned in chapter two, students are also heavily influenced by their families' perspectives on education. In areas where financial concerns deeply affect families in poor school districts, the priority of obtaining an education that costs money is quickly overshadowed by the importance of working (Harde & Sullivan, 2008). In many cases, students are not encouraged to attend high school in these areas, with the belief that these children will remain in these areas as adults and obtain the skills for a local trade (Harde & Sullivan, 2008). Making the connection back to ACSI schools, parents in Christian families do understand the importance of finances, but the support for their children to succeed in education is a much higher priority.

One possible shift in favor of Christian education for poorer families is the use of school choice vouchers. Several states in the U.S. have already adopted this program with the hopes to provide children from less affluent homes the means to afford private education, including Christian schools. While the average cost of tuition for ACSI schools in the U.S. is $5,800 (ACSI, 2015), the average cost per student throughout the public schools in the U.S. is almost $12,000 (U.S. Census Bureau, 2015). Although this would save money in terms of per student expenditures, opponents to school vouchers suggest that top performing students would not attend their local public schools. This would negatively affect the public schools' achievement test scores, as well as a reduction in annual budgets due to lower enrollment (Yeh, 2010).

One of the purposes for this study was to discover if there was a difference in student achievement based on cost per student. The results of the study have shown that students in ACSI schools achieve at high levels, regardless of the cost per student. In public schools, school districts look to generate funding for educational spending through property taxes, levies,

government aid, and even income from casinos. Based on these methods, impoverished school districts cannot keep pace with wealthier districts, and the achievement gap continues to widen (Lockridge & Maiden, 2014). Due primarily to these financial inequalities, the opportunities for students and adults in impoverished areas will continue to suffer, in terms of low achievement, poor schools, low wages, and high unemployment (Stanley and Peevely, 2009).

Some school districts have considered consolidation with the hopes of lowering costs per student in public schools, but there is a fear that student achievement will drop (Steiner, 2011). Increasing numbers of school reform strategies have been implemented in public school districts through increased amounts of spending, with still little evidence showing increased student achievement (Ross, Scott, & Sibbald, 2012).

A robust study done in China presented data that schools and families spending generous amounts of money on private tutoring actually had an adverse effect on student achievement (Zhao, 2015). Possible reasons for this Zhao argued (2015), could be due to the lack of willingness for students to participate in private tutoring, as well as building a resentment toward being educated differently from their peers.

On the other hand, very few ACSI schools receive government funding or support, and still seem to attain high levels of achievement from their students. While the U.S. Supreme Court has stated in several cases regarding education spending and equity among school districts, the arguments have repeatedly been that increased spending results in increased student achievement (Rebell, 2017). Over the many decades of this debate, poorer school districts demand funding increases, and politicians has responded with the argument that it is unconstitutional for the failure of students to have equitable education (Rebell, 2017). The evidence presented by Rebell does demonstrate the consensus that equality in educational

spending has been experienced by many school districts in the U.S. However, there remains to be a lack of conclusive evidence that these efforts have resulted in higher student achievement.

Opponents to this perspective state that student achievement is most effectively increased by tactics such as: (1) smaller class sizes; (2) more qualified teachers; (3) improved facilities; (4) a positive school climate and culture; (5) early childhood programs; and (6) increased teacher salaries (Rebell, 2017). Each of these components has been discussed by this researcher in chapter two, which has been supported by the research. As with the other two research questions for this study, the components necessary for leading students to high levels of achievement are considered to basic components and fundamental requirements for ACSI schools. The results of this study support the lack of empirical evidence supporting that increased funding will increase student achievement.

Although there are extreme cases in which schools are in severe need of resource support, many ACSI schools operate in converted buildings, with minimal staff and spending abilities. The findings of this study regarding cost per student can be extremely beneficial to programs such as the voucher system and other programs encouraging families to support Christian education.

Implications

The implications of this study can help to strengthen the need for Christian education in society. With the many factors affecting student achievement (Chapter Two), the results of this study challenge the assumed causes of achievement gaps in schools. Students enrolled in Christian schools are subject to many of the factors affecting student achievement in public schools, and yet they somehow are able to overcome those factors. One of the more frequently mentioned factor regarding student achievement in public schools is financial disadvantages. The vast differences in financial opportunities and affluence often seen in public schools are also

seen commonly in Christian education. However, according to the data, students still demonstrated academic success, regardless if they attended a Christian school with high annual tuition or a Christian school with low annual tuition.

The same can be said about the location of Christian schools. Many studies have been done emphasizing the location of a public school to be the primary factor affecting student achievement, yet Christian schools seem not be affected by this factor. Specifically, students who attend schools in suburban areas are believed to have more opportunities, better facilities, more qualified teachers, parental support, and more curricular supports and resources. According the research presented in Chapter Two, there are glaring differences between suburban schools compared to rural and urban schools, and these factors are seen in both public and Christian schools. However, according to the data found in this study, these differences in opportunities and resources are not significant enough to affect student achievement in ACSI schools.

No significance was found between schools of different sizes, but large ACSI schools did seem to score higher; although the sample size may have been too small to assume this is the case for all ACSI schools with more than 700 students enrolled. What is the importance of this study to ACSI schools, as well as other Evangelical Christian schools? The results of this study could considerably strengthen the necessity and legitimacy for Christian education. As mentioned earlier in this chapter, the overall school environment, teachers, parent involvement, and Biblical principles found in ACSI member schools must therefore be significant contributing factors to the academic success in ACSI schools.

Theoretical framework

After the analysis of the data had been concluded, it was important for the researcher to look for connections to the theoretical framework used for this study, which was Maslow's Hierarchy of Needs Theory (Maslow, 1943). Since the purpose of this study was to find any significance between student achievement scores through standardized testing in Evangelical Christian schools, it was also important to compare the three independent variables to Maslow's theory, particularly if there was no statistical significance found. In other words, why would Evangelical Christian schools with the same or similar characteristics of public schools not show such a large achievement gap?

There are many reasons of why parents may choose to send their children to Christian schools. One reason parents choose Christian schools is because of their religious background and desire for their children to learn religious foundations. As mentioned in chapter two, the primary goal of Evangelical schools is to provide high quality education without compromising their identities in Christ (Pike, 2011). Since education is now considered mandatory globally (OECD, 2015), parents often look for the best product or academic outcome from a school, rather than character development or good citizenship. It is those intrinsic reasons found in conservative Evangelical schools which enable students to outperform students from public schools, often with extremely limited resources (Pike, 2011).

There are other reasons parents choose ACSI schools, which include academic, social, and environmental factors. It is because of the intrinsic factors of Christian schools typically outperform public schools on the average, yet many people still choose public education. An extensive study was done by the Barna Research Group to learn the specific reasons current and prospective families would choose an ACSI school over other schools. Out the many reasons

listed by the participants in the study, the top four reasons included: (1) school and cultural

safety; (2) quality teachers; (3) academic excellence; and (4) character development and

spirituality (Barna Group, 2017). According to the research done by Barna Group (2017), the

most selected reasons for choosing a Christian school is for the school to instill strong values and

character. This study was done specifically for ACSI, so the participants in the study were either

current parents of ACSI schools, or prospective parents of ACSI schools. This research is

significant to this study because it identifies the qualities found in ACSI schools.

In comparison to Maslow's Hierarchy of Needs, the reasons identified by Barna Group

for parents choosing ACSI schools would satisfy the physiological (Tier 1), safety and security

(Tier 2), love and belonging (Tier 3), esteem needs (Tier 4), and self-actualization (Tier 5) levels

needed for students to become independent learners (Maslow, 1943). For the first tier, parents

who wish to send their children to Christian schools are more financially stable to do so;

meaning the physiological needs of the children have been met. Even in areas of great

socioeconomic challenges, parents who desire for their children to attend private schools often

make great financial sacrifices, or may also be the benefactor of some form of financial aid from

the school. For the second tier, specifically in the school setting, the research shows the

importance of school safety, similar beliefs in school community, small class sizes, caring

teachers, and location all being reasons this tier is supported by ACSI schools.

In comparison to the third tier, parents of ACSI schools view caring teachers, a

supportive community, spiritual formation, and positive peer influences as being extremely

important. The next tier, esteem, can be correlated to ACSI schools through building of good

character, spiritual formation, and academic excellence as being extremely important attributes

of ACSI schools. Although extracurricular activities and athletics were not of the highest

priorities for parents of ACSI schools, they were identified as being somewhat important, which would also support the third tier of needs (feelings of prestige and accomplishment) (Maslow, 1943).

Public school districts have gone to great length to implement social emotional learning curriculum and character education curriculum as a way to improve students' perception of their school, peers, and education (Bavarian, et al., 2013). These attempts are specifically aimed at Maslow's Hierarchy of Needs (1943) by attempting to improve student growth in the areas of belonging, esteem, safety, and prestige. The final tier, self-actualization, can be identified as how parents view the spiritual formation of their children, the building of good character, academic excellence, and being college-bound.

<div align="center">**Limitations**</div>

Although the results this study will be valuable to Christian education and specifically ACSI, there were limitations during the study that need to be identified. One identified limitation is the amount of samples collected for certain categories of schools in the study. Although the total amount of sample schools was enough to conduct the analysis, there were two specific categories in which more samples would have strengthened the results. For the independent variable of school location, an increased number of rural schools would have helped to balance the analysis. Also, for the independent variable of school enrollment size, and increased number of large schools would have strengthened the results. This issue did not seem to have an adverse effect on the study, but it may have strengthened the external validity of the study.

Another limitation to the study was that ACSI schools must pay an additional fee if the administration would like to be given an overall school composite score from Terra Nova. This is an option given as administrators decide which testing data is beneficial to their schools, when

the testing program is ordered. Not all ACSI schools opt for this piece of data included in their

school report from Terra Nova. Since this is the case, it is possible that many school

administrators did not have this data readily available to provide for the study.

A final limitation to this study was the how suburban or urban clusters were defined. The

researcher was required to use the definition as described from the U.S. Census Bureau as

suburban areas being based on having a population between 2,500 and 50,000 people (U.S.

Census Bureau, 2010). However, many towns or areas near large metropolitan areas are often

called suburbs within a certain distance. The U.S. Census Bureau labels many towns and cities

near metropolitan areas as "urban", since they have populations above 50,000 people, but could

be considered to be suburban, due to their close proximity of much larger cities. Although this

may have not seriously affected the data, an analysis of achievement test scores according to

distance from large cities may have identified more suburban schools than what were represented

in the data.

Recommendations for Future Research

There are many considerations for future research. After discussing this study in detail

with the research department of ACSI, it was explained to this researcher that there has not been

a study such as this conducted for ACSI schools in the past (J. Mecham, personal

communication, September 25, 2017). As permission was being granted by the research

department of ACSI, the study seemed to spur on conversation among ACSI schools.

Administrators from several ACSI schools have openly expressed their interest in the study,

primarily because of what the results of this study could mean for ACSI schools and other

Christian schools in the future. It would be exciting to see other results from studies similar to

this study. For example, not all schools pay the fee for having Terra Nova produce school or

class composite scores, and many schools had difficulty producing a school composite score on

their own. If this study were to be repeated, it would be beneficial to attain school data directly from Terra Nova. The researcher could then work through the data of each school and the school composite scores could be produced for a much higher number of schools.

There are many factors that can affect student achievement, as presented in Chapter Two. This study could be repeated for ACSI schools that included factors such as: (a) school leadership; (b) teacher job satisfaction and motivation; (c) teacher qualifications; (d) student motivation; (e) socioeconomic status; and (f) racial disadvantage. Since the literature in this study identified many factors affecting student achievement in public schools, further analysis of these factors for ACSI schools is necessary to identify any similarities found between public schools and ACSI schools. There are also many ACSI schools outside of the United States. This study can be reproduced for ACSI schools not located within the United States. If there are international ACSI schools that use the Terra Nova testing program, this data would be valuable to analyze from both a marketing standpoint, as well as supporting the validity of Christian schools at a global level.

This study can also be repeated for the other Christian school organizations listed in Chapter Three. Although other Christian school organizations may use other standardized testing programs, the format of the study would be very similar. A study such as this for other Christian organizations with similar results could further strengthen the need for Christian education.

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APPENDIX A: IRB Approval Letter

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

June 28, 2017

Joseph Scifo

IRB Application 2919: An Investigation of Assessment, Equal Opportunity, and Educational Equity in Conservative Evangelical Schools

Dear Joseph Scifo,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Your study does not classify as human subjects research because it will not involve the collection of identifiable, private information.

Please note that this decision only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued non-human subjects research status. You may report these changes by submitting a new application to the IRB and referencing the above IRB Application number.

If you have any questions about this determination or need assistance in identifying whether possible changes to your protocol would change your application's status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP *Administrative Chair of Institutional Research* **The Graduate School**

Liberty University | Training Champions for Christ since 1971

APPENDIX B: ACSI Headquarters Approval

ACSI
STRONGER TOGETHER
Association of Christian Schools International

Headquarters
Phone 719.528.6906 | Fax 719.531.0631 | www.acsi.org
731 Chapel Hills Drive, Colorado Springs CO, 80920

September 28, 2017

Joe Scifo
EdD Candidate, Liberty University

Dear Joe:

The Research Department of ACSI has received all of the required paperwork regarding your proposed doctoral research project. We have completed the review process and have approved going forward with this project.

Your survey launch date is currently set for October 3rd, with a reminder e-mail to be sent out the following week.

We look forward to hearing the results of your work once your dissertation is complete.

Best regards,

JULEE MECHAM, PhD
Vice President of Programs and Research | ACSI

Association of Christian Schools International
731 Chapel Hills Dr., Colorado Springs, CO 80920
Office: 719.867.0208 | Fax: 719.531.0716
ACSI.org

APPENDIX C: Survey Questions

*1. What is the current enrollment of your school?

○ Less than 200 students

○ 201-400 students

○ 401-700 students

○ Over 700 students

*2. What is the highest tuition cost for 1 student to be enrolled at your school?

○ Below $5,800

○ Above $5,800

*3. What is the population of the community, town, city, or suburb your school operates in?

○ Less than 2,500 people

○ Between 2,500 people and 50,000

○ More than 50,000 people

*4. What was your school's overall composite Terra Nova National Percentage Equivalent

(NPE)? (For example, 77%) Please place your score in the space below.

Terra Nova School Composite NPE [_____]

*Required that each question must be answered in order to complete the survey.

**Survey powered by Survey Monkey

APPENDIX D: School Location Data Screening

Simple Histogram Mean of Scores taken as over all NPE (National Percentage Equivelant) by Location either urban, suburban, or rural
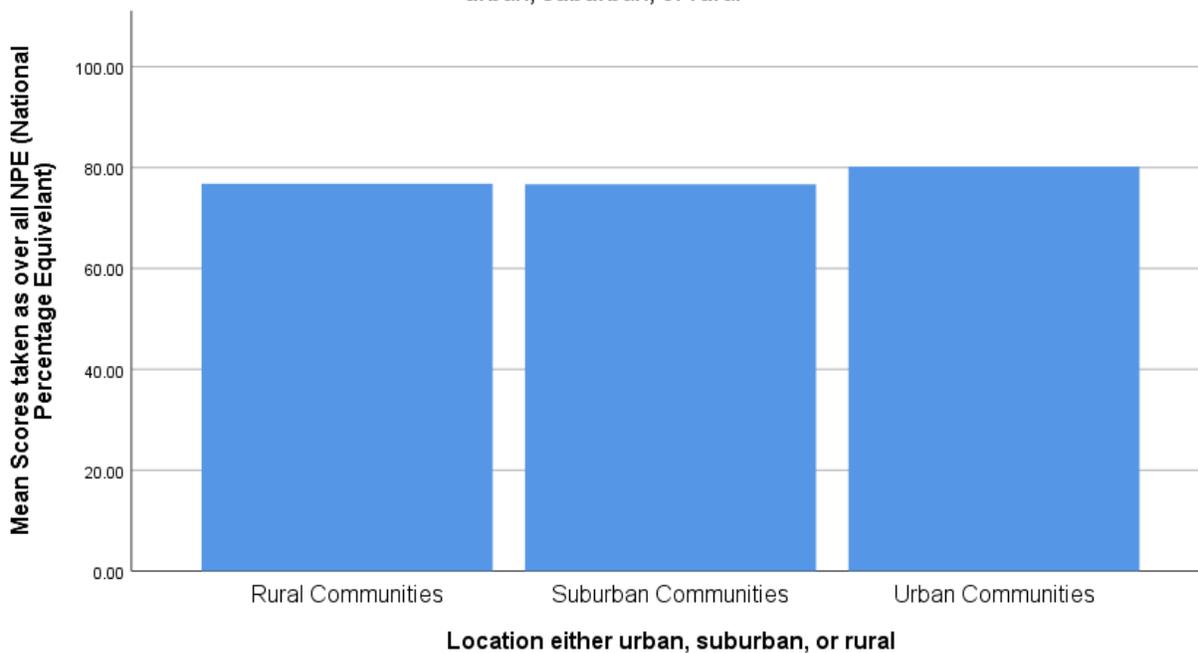

Simple Line Mean of Scores taken as over all NPE (National Percentage Equivelant) by Location either urban, suburban, or rural
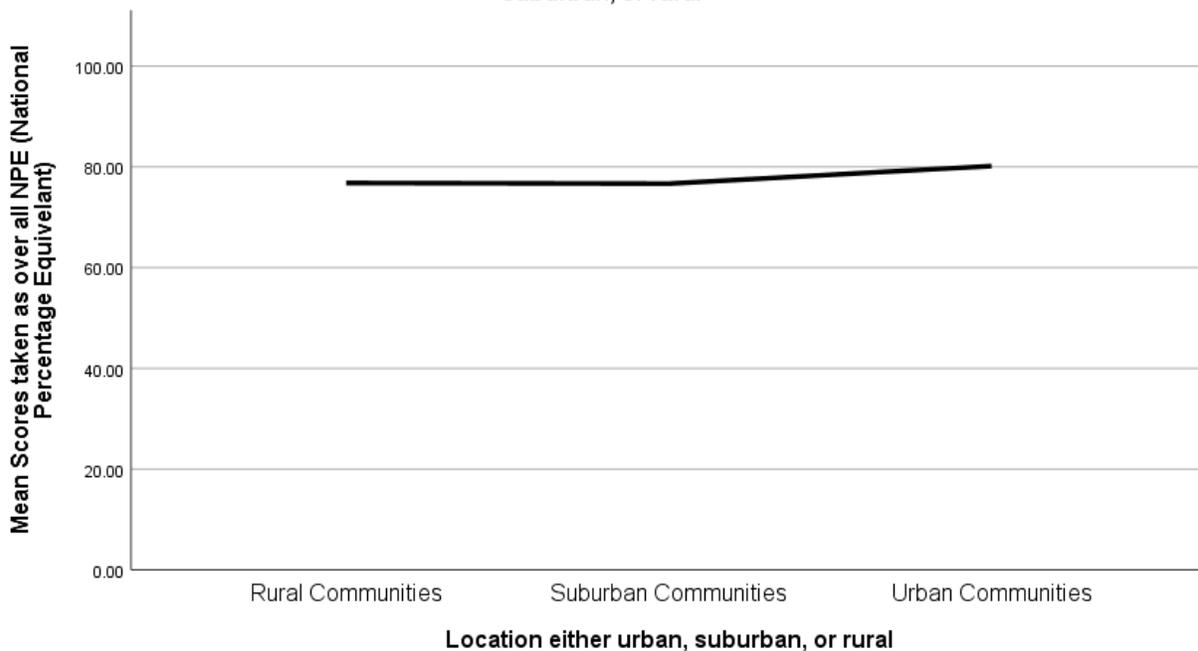
**APPENDIX D: School Location Data Screening cont.**

Simple Boxplot of Scores taken as over all NPE (National Percentage Equivelant) by Location either urban, suburban, or rural
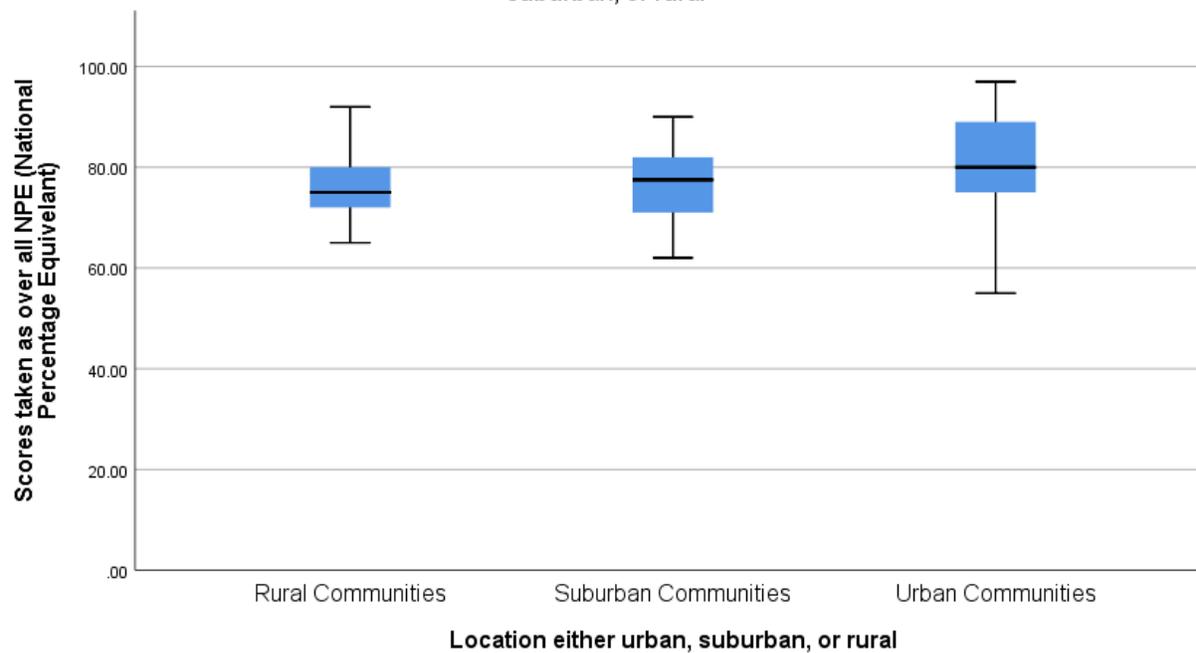
APPENDIX E: School Size Data Screening

Simple Histogram Mean of Scores taken as over all NPE (National Percentage Equivelant) by Enrollment Size of Schools
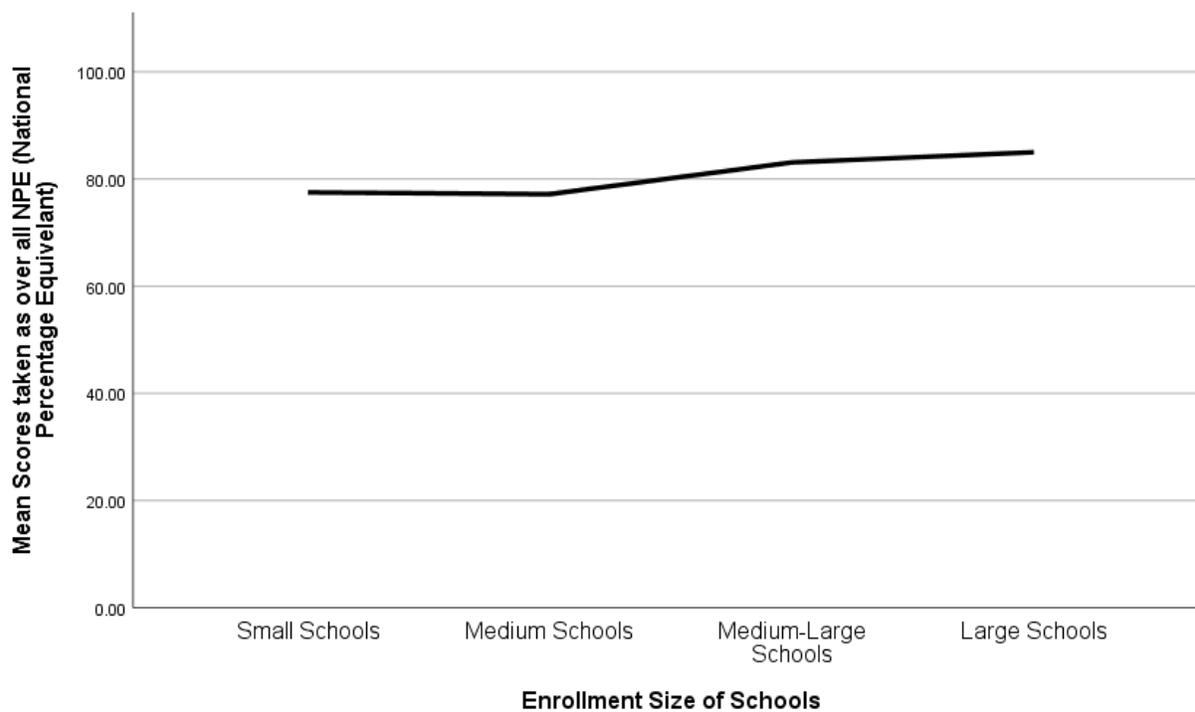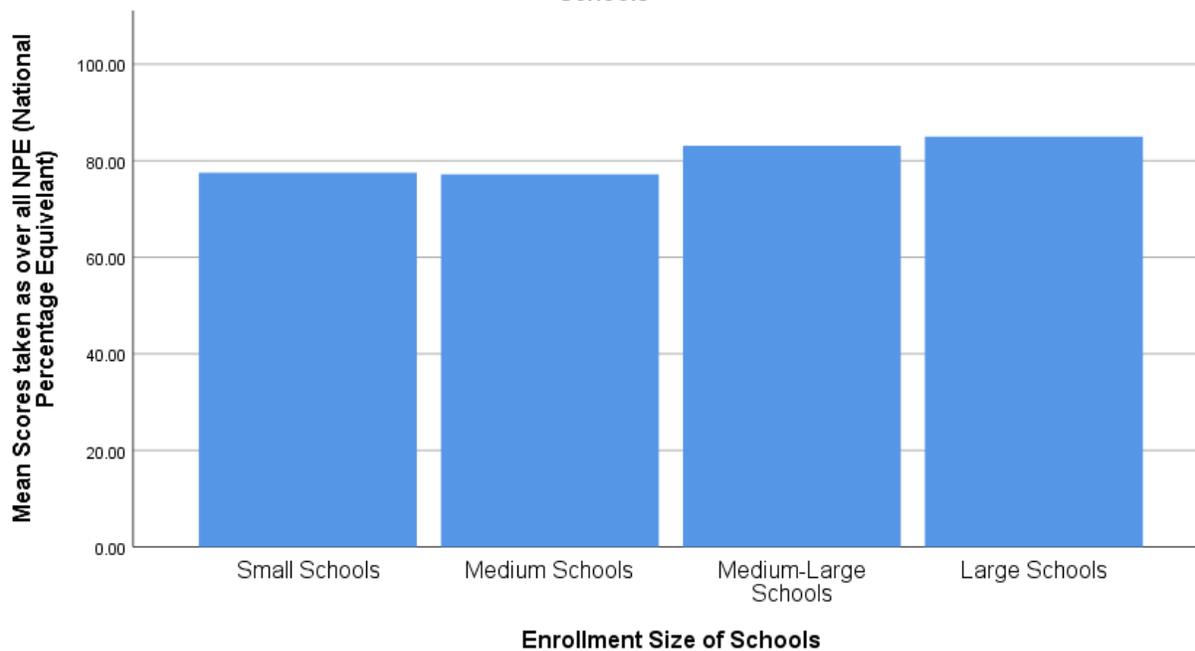
APPENDIX E: School Size Data Screening cont.
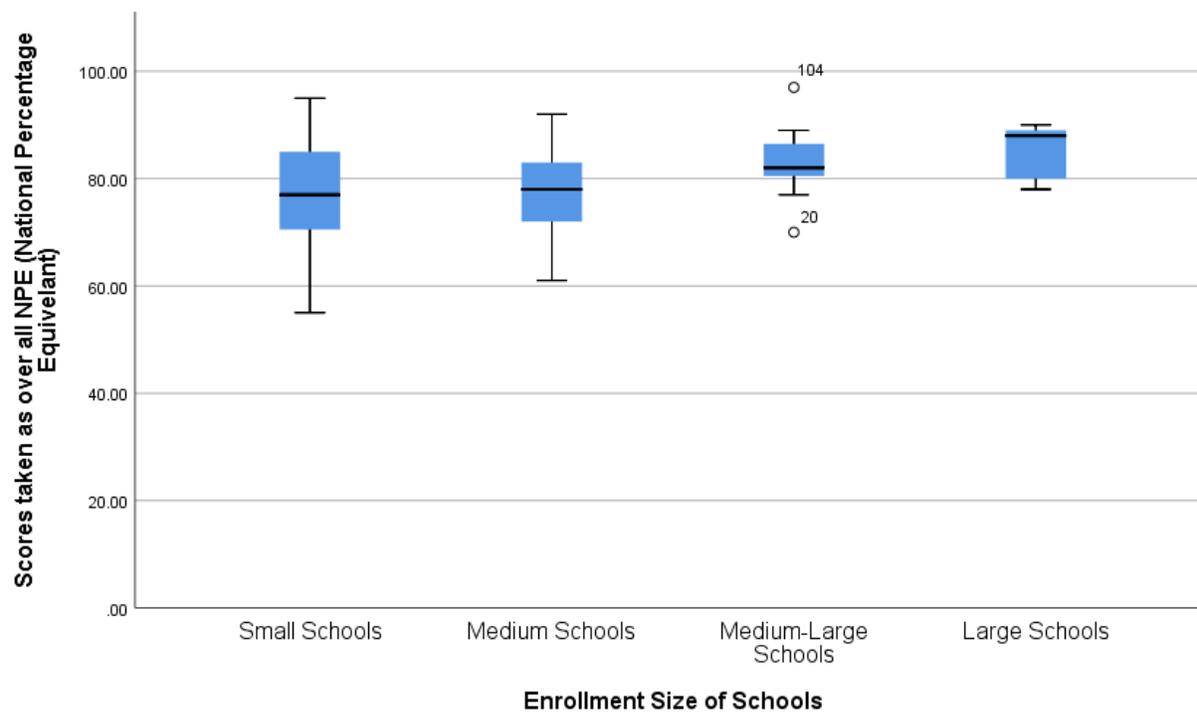
APPENDIX F: Annual Tuition Cost Data Screening

Simple Histogram Mean of Scores taken as over all NPE (National Percentage Equivelant) by Tuition either above or below $5,800 annually
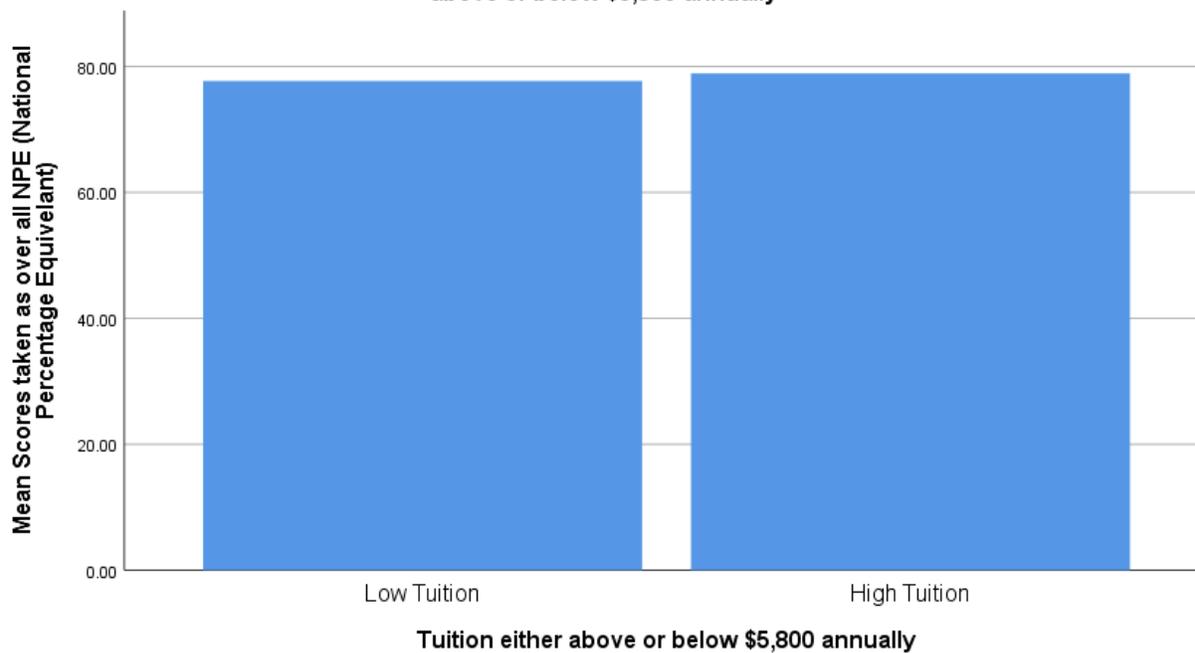

Simple Line Mean of Scores taken as over all NPE (National Percentage Equivelant) by Tuition either above or below $5,800 annually
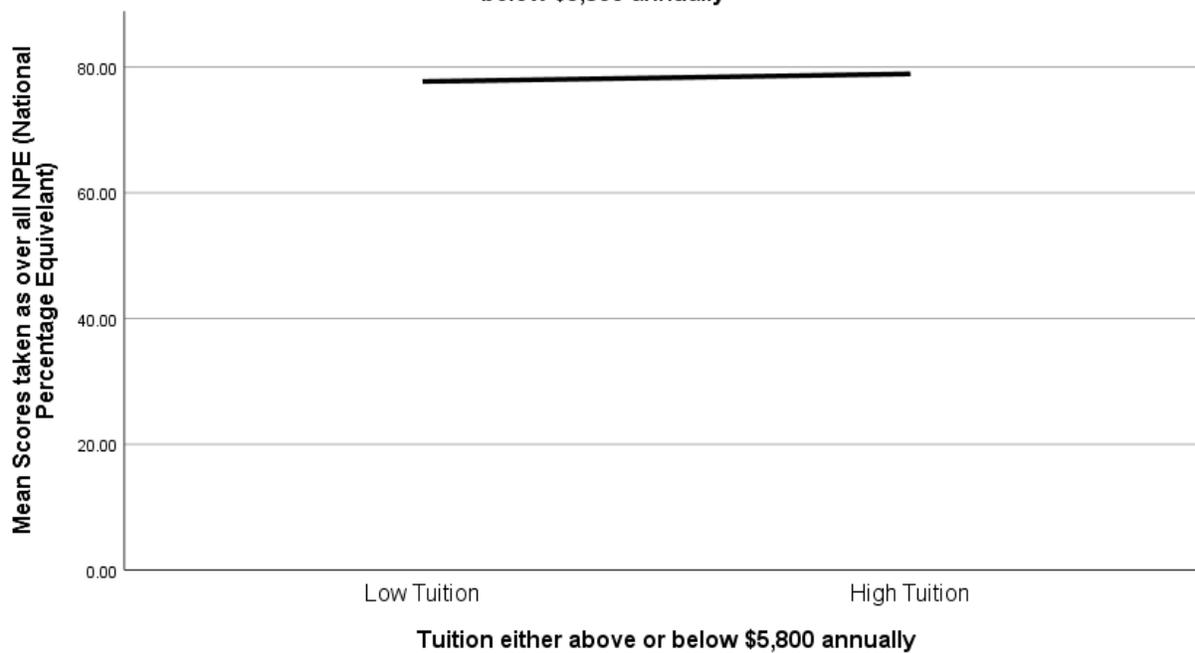
APPENDIX F: Annual Tuition Cost Data Screening cont.

Simple Boxplot of Scores taken as over all NPE (National Percentage Equivelant) by Tuition either above or below $5,800 annually
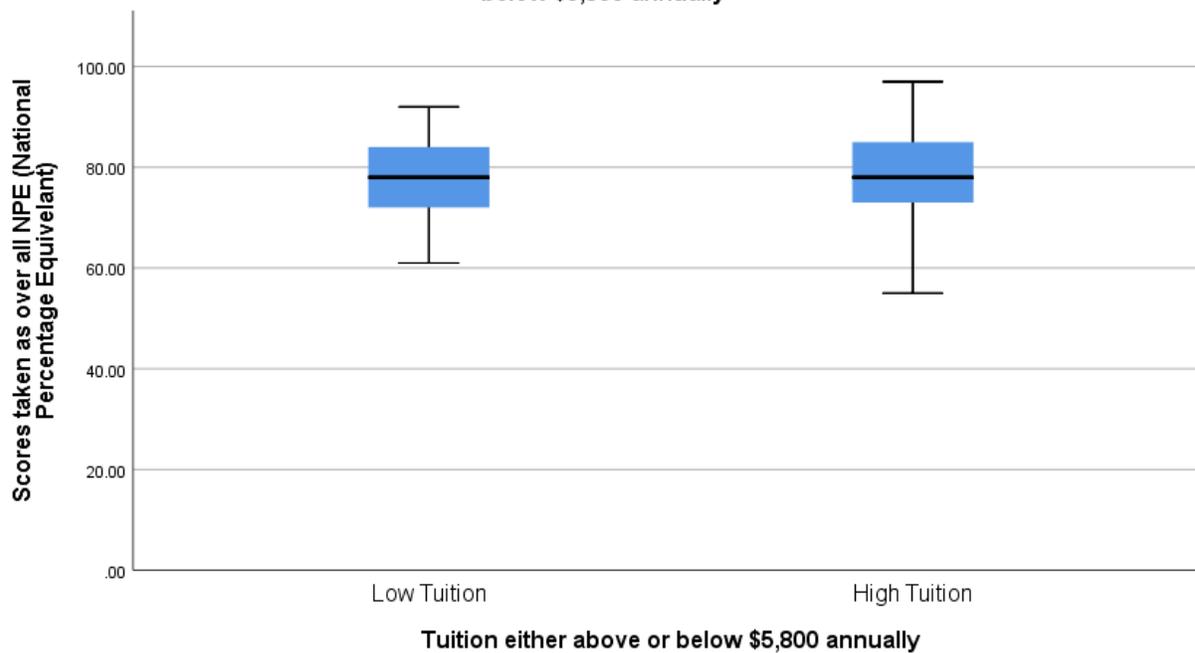
APPENDIX G: Scatterplot for All Collected Achievement Scores

Summary Point Plot Mean of Scores taken as over all NPE (National Percentage Equivelant) by ID