

LIVING FOR ETERNITY: A PREDICTIVE ANALYSIS OF MANIFESTATIONS OF
BIBLICAL WORLDVIEW OF UNIVERSITY FRESHMEN

by

Sharon Edge Wilkie

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

This quantitative study includes a predictive analysis of factors contributing to worldview and acts of volition, a correlative analysis of a biblical worldview, a non-biblical worldview, and acts of volition, and a comparative analysis of the influence of gender on worldview. The research design used a non-randomized, convenience sample and a Likert-type scale, which included original questions. The instrument measured three components of worldview: biblical, non-biblical, and acts of volition. Analysis of the data included multiple linear regression, bivariate correlation (Pearson product-moment correlation coefficient) and a univariate analysis of variance (ANOVA). Participants were freshmen attending a liberal arts Christian university. Results of the study indicated the presence of predictor variables for worldview and acts of volition. Additionally, a statistically significant relationship was found between the three survey components, and further analysis revealed a statistically significant difference of mean scores based on gender for biblical worldview and key societal issues.

Keywords: biblical worldview, biblical worldview integration, Christian schools, university freshmen, behavior, acts of volition, Gilligan

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In any life situation the only one worthy of praise is the Lord Jesus Christ. I acknowledge Him and ascribe all glory to Him in this endeavor. I also want to thank Him for the people He put in my life to assist and encourage me along the way.

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List of Abbreviations

Acts of Volition (AoV)

American Association of Christian Schools (AACS)

Association of Christian Schools International (ACSI)

Biblical Worldview Outlook Scale (BWOS)

General Worldview (GWV)

Total Worldview (TWV)

CHAPTER ONE: INTRODUCTION

Research has shown that Christian young people are graduating from religious-based high schools with a cursory biblical worldview framework (Barna, 2009; Cox, Hameloth, & Talbot, 2007; Smithwick, 2008); however, their actions (acts of volition) and beliefs seem disconnected (Barna, 2009, 2012; Pearcey, 2004). This dichotomy between the secular and sacred has negatively influenced the young Christian's ability to turn Biblical truth into action. This study will test incoming freshmen at a Christian liberal arts university in the southeastern United States to ascertain if the students indeed internalized a biblical worldview during their high school years. This will be accomplished by determining if a relationship exists between the students' biblical worldview knowledge and their beliefs about key contemporary social issues. The results will offer the university, along with Christian school administrators and Christian textbook publishers, empirical data to understand underlying concerns and provide input for developing strategies to address inconsistencies between biblical worldview and practices.

Chapter One covers the historical background of the Christian school's rise and mission, problem and purpose statements, significance of the study, research questions, hypotheses, identification of variables, operational definitions, research summary, and assumptions and limitations.

Background

Following World War II, America enjoyed a seemingly quiet time when traditional family values and religion stabilized after the turmoil and erosion of religious thought and values of the 1920s. The American Dream was basking in a Norman Rockwell American ideal (Asher, 2012). Taking advantage of the GI Bill, many World War II veterans enrolled in colleges and universities throughout the country (Bannier, 2006; Poe, 2004; Reed, 2001). As a college

education was gaining popularity and as the baby boomers came of age, “going to college” became the career goal for many (Hunt & Tierney, 2006; Poe, 2004). This provided fertile ground to expose a new generation to the modernism that had seeped in at the turn of the century. Darwinism, humanism, behaviorism, and liberal relativism had infiltrated early thinking in the roaring twenties and remained in the American mind and culture. The Scopes Trial of 1925 introduced doubt and planted the seeds of a dichotomy between the Bible and scientific thinking (Giberson & Yerxa, 2000; Groce, Heafner, & O'Connor, 2011; Pearcey, 2004). These underpinning philosophies and tenets swayed impressionable minds and fueled the unbridled social unrest of the sixties (Bolt, 1993). Young people were encouraged to question and cast off the moral moorings of traditional virtues and family values. The onset of mass media brought turmoil into America’s living rooms and not only facilitated the mainstreaming of ideas, but also incited free thinking and unbridled living. In addition to societal ills, the federal government was becoming more entrenched in states’ policies and the face of American education was changing. Prayer and Bible-reading were removed from schools (*Engle v. Vitale*, 1962; *Abington School District v. Schempp*, 1963), and secular humanism filled the void (Kliebard, 1969 and Sikorksi, 1993 as cited by Jeynes, 2009; and Schindler, 1997). Evolution was affirmed and elevated in classrooms as intellectual scientific fact and reasoning. The traditional Judeo-Christian worldview was being challenged by relativism, pluralism, and secularism.

To combat these pervasive thoughts, private Christian schools, which had seen new growth in the fifties (Carper, 2001; Deuink, 1991; Fremont, n.d.; Schlapman, 1985), were gaining even more popularity. According to the Mid-Atlantic Christian School Association (MACS) (2012), these societal conflicts served “as red flags to Christian parents as to the true state of public education. Nationally, a burgeoning of new Christian schools resulted” (para. 2). The

National Center for Education Statistics reported 10,000 new Christian day schools opened between 1960 and 1990. In the seventies, an average of one school opened each day (Carper & Layman, 2002). By the mid-eighties, one Christian day school was starting every seven hours (Schlapman, 1985 as cited in Gangel, 1984). Religious leaders were declaring that the Christian school movement would be the hope of America (Carper & Layman, 2002; Reece, 1993; Salter, 1991; Kienel, 1978; Shultz, 1954). This massive growth was a direct reaction to the “disenchantment with the ongoing secularization of state schools” (Carper, 2001, p. 504).

Christian parents sacrificed financially to enroll their children in Christian day schools, Christian colleges geared teacher education programs toward preparing Christian teachers, and Christian publishing houses devoted their efforts to developing Christian-based textbooks. The premise was two-fold, isolate Christian young people from secular, humanistic philosophies and train a whole generation of Christian youth, who when equipped with a biblical worldview, would conquer the world for Christ and thus thwart the work of the enemy (Ford, 2011; Peshkin, 1986; Rose, 1988).

The Christian day school movement possessed many of the characteristics that marked successful schools: parental support and involvement, small teacher/pupil ratio, classical curriculum, and orderly, disciplined students (Mitchell, 2009; Walker, 2012). True to the research, academic goals were met as test scores and college entrance exams consistently remained high (Braun, Jenkins, & Grigg, 2006). In a meta-analysis, Jeynes (2004) evaluated 49 different studies (n=510,000) to perceive if the academic advantage of religious schools versus public schools remained static over the past 20 years. In the analyses of grade point average (GPA), achievement tests, behavior patterns, and teacher ratings, the overall effect sizes tended to be around two-tenths of a standard deviation. Based on this meta-analysis, religious schools appeared to have an academic advantage over public schools. Academic success alone, however,

should be minuscule in light of the overall goal of developing a generation that would convincingly and intellectually articulate a belief system that would combat modernism, secular humanism, and postmodernism. Possibly, the assumption was that in capturing the mind, the heart would follow. Research has indicated that this has not happened (Abels, 2013; Barna, 2009; Bryant, 2008; Brickhill, 2005; Ferre, 2008).

Christian day school students have an academic advantage over their public school counterparts, and the same should be true of their ability to think in terms of a biblical worldview. However, the outcomes of several studies of Christians schools have mirrored their public school peers, revealing no statistically significant divergence (Brickhill, 2010; Meyer, 2003; Smithwick, 2008). When analyzing the National Survey of Youth and Religion (NSYR), Smith and Denton (2005) and Uecker (2008) dissected factors impacting religious devotion in high school students from varying educational structures. No distinction between public and religious-based schools was found.

Bolt (1993) proposed that the Christian school be “the community of truth” (p. 138), “the holder of the grand story” (pp. 156-181), and “the bastion of the Christian mind” (p. 135, 141). However, evidence has suggested that Christian schools have faltered on their focus and overall mission. Students are not leaving Christian schools with “an ability to boldly witness to the truth” (Colson & Morse, 2004; Bolt, 1993; Deuink, 1991; Gaebelein, 1945), nor have they been directed toward “godliness of character and action” (Bell, 1961). Bolt (1993) argued that as schools sought to indoctrinate, their students were confronted with faith tenets with no avenue to question or evaluate them as truth. They were often asked to conform without being taught how to defend their beliefs. Rather than graduating students skilled in apologetics, Christian schools appear to graduate students unable to “rightly divide the Word of God” (1 Timothy 2:15) or to “give an

answer for the hope that is within” (1 Peter 3:15). Were educators falsely hoping that students would learn more than they were being taught? Was the Bible relegated to Bible class as just one more subject to pass? Are students not leaving with a biblical worldview because they have not been taught integrated faith-learning? A student who grasps and takes ownership of a biblical worldview concept begins to look at life and interpret it from God’s perspective. Every aspect of life will be evaluated through a biblical lens.

The question remains as to what degree students are embracing this system of truth—a truth that should impact “all of life and every realm of knowledge...where every fact in the universe finds their place and their answer within Christianity” (Gaebelein, 1945, p. 18). A truth which Gaebelein (1945) further described as one that “envelopes the entire world in its grasp” (p. 18). Holmes (1977) described it in terms of “all truth is God’s truth” (p.8). Both Bolt (1993) and Holmes (1977) asserted the antidote for the loss of truth should be the Christian school movement. Bolt (1993) purported that “the task of Christian education [is] teaching students to think in accord with a coherent, scripturally based, comprehensive worldview” (p. 140).

Over the past few decades, literature on worldview has swelled. Christian organizations and institutions have attempted to make biblical worldview training a priority. Christian textbooks have integrated biblical worldview into the academic content. With an emphasis on combating the “-isms” of the day and refocusing on God’s truth, the question remains whether the Bible has not only formed the mind, but also transformed students’ actions and thoughts? Has behavior, affections, and thought been affected?

Studying this concept was supported by the literature on biblical worldview (as reviewed in Chapter 2) and was warranted in comparing biblical knowledge with both worldview and practice (Abels, 2013; Brickhill, 2010; Bryant, 2008; Edgell, 2007; Jeynes, 2009). Therefore, this

study focused on the relationship between biblical worldview and practice or acts of volition. Jeynes (2009) noted that behavior is a valid consideration since the Bible exhorts believers to “abstain from behaviors that are often regarded as undisciplined and harmful” (p. 39). van der Kooij, de Ruyter, & Miedema (2013) studied the impact of organized worldview on personal worldview. They explained that organized worldview is the formal dogma—how the grand story of Creation, the Fall, and Redemption have unfolded; however, personal worldview is how these truths are translated into one’s practice or daily behavior. Only by exploring both the components of biblical worldview and their relationship to volition will we truly know if the head knowledge has reached the heart, “for out of it are the issues of life” (Proverbs 4:23, King James Version).

Problem Statement

Research conducted both in small regional sections of the United States (Abels, 2013; Bryant, 2008; Brickhill, 2010; Meyer, 2003) and national research (Barna, 2009; Smithwick, 2008) revealed that students attending Christian day schools are graduating with a biblical worldview knowledge; however, the question remains if the degree to which students have cognitively embraced a biblical worldview is borne out in their acts of volition (beliefs, actions, and affections).

A survey instrument will assess the general nature and knowledge of biblical worldview and the acts of volition (beliefs, actions, and affections) associated with it. The research will focus on incoming freshmen (N = 604) at a Christian liberal arts college in the southeastern United States. The university draws its student body from predominately Christian and home schools in all 50 states and 41 countries. Students will be surveyed for overall Christian worldview as it pertains to their high school core content. This information will be correlated with additional questions addressing volitional issues, presuppositions, persuasions, and beliefs.

Results may serve a three-fold purpose: First, as an assessment tool for Christian schools in keeping with their mission to instill biblical worldview into the lives of their students; second, to guide the development of strategies to address heart issues and disconnects between biblical worldview and acts of volition; and third, for Christian textbook publishers to glean information for the continued integration of biblical worldview.

Purpose Statement

The purpose of this quantitative predictor analysis was to provide empirical data from a broader base to evaluate manifestations of behavior (acts of volition) as compared to students' biblical worldview. The study compared the biblical worldview of incoming freshmen at a Christian liberal arts university to the following predictor variables: gender, home environment, frequency of church attendance, use of BJU Press textbooks, international status, personal and parental professions of faith, and Bible reading. A careful examination of these factors will guide strategies for engaging Christian youth in connecting their biblical worldview with every aspect of their lives.

Significance of the Study

The significance of the study was four-fold. First, it will add information that is drawn from a broader population than previous studies, which focused on one school, population, or small regional area (Abels, 2013; Bertram-Troost, de Roos, & Miedema, 2007; Brickhill, 2010; Taylor, 2009; Welch, 2008). The population in this study included students from a variety of locations and regions, allowing for broader application of the results.

Second, this study examined recent high school graduates/first semester freshmen before college could impact their values and behaviors. By choosing this population, the information gained may be used to develop curriculum and practices for Christian schools and to develop

curriculum needed for students' tenure in a four-year institution. In addition, the study also provided Christian universities baseline data of the status of the freshmen class and evaluative data for possible longitudinal research to measure a specific group's growth in biblical worldview and its applications to their lives.

Third, the results of this study may begin to fill a gap that exists surrounding biblical worldview development and behavioral application and practices. It will serve to guide the development of strategies used to address the disconnect between biblical worldview and acts of volition (Abels, 2013; Edgell, 2007; Morales, 2013).

Finally, the study's findings may provide Christian textbook publishers with information for evaluating their integration of biblical worldview into the curricula (Badley, 2009; Batdorf, Kohler, and Smith, personal communication, November 14, 2012; Campo, 2010; Welch, 2008), and the means for Christian institutions to evaluate their biblical worldview mission and vision (Boerema, 2011, 2012; Cox, Hameloth, & Talbot, 2007; Schutlz, 2008).

Research Questions

The research questions for this study are as follows:

RQ 1: Is there a correlational difference between biblical worldview, general or non-biblical worldview, and acts of volition of incoming freshmen as measured by the Biblical Worldview Outcome Scale (BWOS)?

RQ 2: Is there predictive strength of the variables of gender, church attendance, home environment, and Bible reading relative to university freshmen's biblical worldview, general worldview, and acts of volition as measured by the Biblical Worldview Outcome Scale (BWOS)?

a. What is the measure of strength of the prediction?

b. Which variables are necessary to find a measurable prediction?

RQ 3: Based on Gilligan's Theory (1977) of Moral Development, is there a difference in the mean scores on the BWOS as related to biblical worldview and culturally related societal issues as measured by the Biblical Worldview Outcome Scale (BWOS)?

Hypotheses

There were eight hypotheses related to the research questions in this study.

H₁: A significant correlation will exist between university freshmen's biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26), general (non-biblical) worldview (survey items 2, 5, 8, 11, 14, 16, 20, 24), and acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₂: There will be predictability of worldview (survey items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14-16, 18, 20, 21, 24, 26) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), and parents in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₃: There will be predictability of acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), parents in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₄: There will be a statistically significant difference between men and women (survey item 28) in their views for the right to an abortion as measured by survey item 11 on the BWOS.

H₅: There will be a statistically significant difference between men and women (survey item 28) in their views for sexual relations before marriage as measured by survey item 21 on the BWOS.

H₆: There will be a statistically significant difference between men and women (survey item 28) in their views on same-sex marriage as measured by survey item 24 on the BWOS.

H₇: There will be a statistically significant difference between men and women (survey item 28) in their views on the Harm Principle as measured by survey item 20 on the BWOS.

H₈: There will be a statistically significant difference between men and women (survey item 28) in their total biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26) as measured by the BWOS.

Null Hypotheses

H₀₁: There is no statistically significant difference between university freshmen's biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26), general (non-biblical) worldview (survey items 2, 5, 8, 11, 14, 16, 20, 24), and acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₀₂: There will be no predictability of worldview (survey items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14-16, 18, 20, 21, 24, 26) between the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), parents in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item

36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₀₃: There will be no predictability of acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) between the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), parents in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₀₄: There will be no statistically significant difference between men and women (survey item 28) in their views for the right to an abortion as measured by survey item 11 on the BWOS.

H₀₅: There will be no statistically significant difference between men and women (survey item 28) in their views for sexual relations before marriage as measured by survey item 21 on the BWOS.

H₀₆: There will be no statistically significant difference between men and women (survey item 28) in their views on same-sex marriage as measured by survey item 24 on the BWOS.

H₀₇: There will be no statistically significant difference between men and women (survey item 28) in their views on the Harm Principle as measured by survey item 20 on the BWOS.

H₀₈: There will be no statistically significant difference between men and women (survey item 28) in their total biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26) as measured by the BWOS.

Participants and Setting

This study was conducted on the campus of a non-denominational, Christian liberal arts university located in the southeastern United States. The participants in the study were a purposeful, sampling of a conveniently located population of approximately 600 incoming freshmen. No attempt was made to make a probability sample or guarantee a regional or national representation, though students represented a broad spectrum of independent, fundamental Christian youth who chose to attend a religious institution.

Identification of Variables

The covariable in this study was the worldview of the incoming freshmen at a Christian liberal arts university. The predicator variables were gender, home environment, social issues, acts of volition, frequency of church attendance, and Bible reading.

Operational Definitions

Worldview: “Worldview as a semiotic structure consists primarily of a network of narrative signs that offers an interpretation of reality and establishes an overarching framework for life” (Naugle, 2002, p. 291). “The set of beliefs about fundamental aspects of reality that ground and influence all of one's perceiving, thinking, knowing, and doing” (Abdullah & Nadvi, 2011, p. 270). “The underlying belief system held by an individual that determines his/her attitudes and actions for life” (Kienel, 1978, p. 7).

Biblical worldview: The overall perspective on the world derived from the Bible as the Word of God. In particular, it orients a person in interpreting reality and in discerning what is good and right by confronting him with the Bible’s overarching storyline of Creation, the Fall, and Redemption (Colson, n.d.; Pearcey, 2004; Sires, 2004a, 2004b; Tackett, 2012; Wolters,

2005). Biblical worldview acknowledges “the Bible as the foundation of knowledge and as the most reliable path to truth” (B. Smith, personal communication, July 16, 2014).

Non-biblical worldview: “Any worldview that asserts that something other than the Bible is the foundation for knowledge and that something other than the Bible is the most reliable path to truth” (B. Smith, personal communication, July 16, 2014). It encompasses all non-biblical worldviews to include popular culture.

Acts of volition: Generally, practices people choose in their daily lives (Colson, n.d.). Specifically, for this study acts of volition consist of behaviors, beliefs, affections, and devotion toward God (Sires, 2004a) as demonstrated in response to statements that questioned desires and attitudes about God’s will, clothing, entertainment, friends, the Great Commission, authority, and money.

Beliefs: Cognitive elements for which students have some commitment (knowledge with affective commitment).

Incoming freshmen: All students matriculating for the first time in a non-denominational Christian liberal arts university with fewer than twenty-eight credit hours (Undergraduate Catalog 2012-13, 2012).

Research Summary

A quantitative predictive research study was used to investigate the relationship between predictor variables and the biblical worldview of incoming freshmen attending a nondenominational Christian liberal arts university in the southeastern United States. The predictor variables were gender, home environment, frequency of church attendance, use of BJU Press textbooks, international status, personal and parental professions of faith, and Bible reading. A survey was administered to those enrolled in Freshman Seminar, a required course for all

incoming freshmen, to determine the relationship between biblical worldview, secular worldview, acts of volition, gender, home environment, frequency of Bible reading, and church attendance, after which data analysis commenced. After assumptions were tested, inferential statistics were calculated based on several statistical procedures. A bivariate correlation was examined to verify the degree of association between variables with the significance threshold set at .05, which set the basis of a rejection of H_{01} . Data was reported using a Bivariate Scatter plot of each variable to determine relationship (Gall, Gall, & Borg, 2007). MGLH was used to reject H_{02} and H_{03} . Regression and ANOVA were first utilized, followed by a parsimony study to reveal any significant predictability. ANOVA was used to reject H_{04-08} .

Assumptions and Limitations

Researcher Bias

A major assumption was my own assessment and observation of young people who have graduated from Christian schools who seemingly lack biblical practices. I came to the study predisposed that students are not absorbing and applying the biblical truths they have been taught. I also am partial to the curriculum I will be using to glean content for the instrument because of the confidence I have in the Biblical Integration Team.

Limitations

One limitation for this study was instrumentation and selection. Instrumentation was a concern because of the challenge presented in finding a reliable and cost-effective instrument that assessed biblical worldview and acts of volition. Another limitation was students trying to guess the appropriate answer for a student enrolled in a Christian university versus answering true to their beliefs or persuasion. Students also had the right to decline participation due to concerns regarding anonymity, under the assumption that their answers may be held against them. An

additional limitation was the generalizability of the research results to other freshmen classes. When dealing with spiritual issues such as worldview, variables that cannot be controlled may also impact choices/acts of volition. A limitation would be the inability to measure the sinful flesh and the power of temptation in a life—two areas which may contribute to acts of volition though a student possesses a cognitive knowledge of biblical worldview. This study was a predictor study and not longitudinal, therefore, although the results of this study may suggest likely causal relationships, conclusions cannot be made regarding causality.

Chapter Summary

Chapter One covered the historical background and purpose of the Christian school movement and the need for a study of this nature. Also discussed were the problem and purpose statements, significance of the study, research questions, hypotheses, identification of variables, operational definitions, research summary, and assumptions and limitations.

CHAPTER TWO: REVIEW OF THE LITERATURE

A lack of research exists on the impact of biblical worldview integration in the lives of Christian school students. Research has, however, indicated that behavior is an appropriate indicator of biblical worldview assimilation. Although some scholarly research has been conducted that has correlated behaviors to the realm of values and religiosity and spirituality, empirical research correlating biblical worldview and behaviors is lacking. In order to best understand the connection, theories of behavior need to be examined, along with the historical and biblical mandate for biblical worldview, threats to biblical worldview, gaps in the body of literature, contemporary issues affecting worldview and behavior, biblical worldview textbook integration, and the theories of moral stages. These areas will form a basis of research to understand the effectiveness of Christian schools in teaching biblical worldview. The test for a true understanding of biblical worldview will be if students have allowed that knowledge to impact their behavioral choices.

Conceptual Framework of Biblical Worldview

Historical Mandate

The call to a biblical worldview is not new. Each century has followed the call to reject the worldly influences of culture and rekindle biblical thinking. The Reformation was a call to reject the cultural differences of traditional religion and the effects of a Renaissance worldview (Schaeffer, 1976). The Great Awakening in both the 1700s and 1800s was a revival reaction to Enlightenment. The Puritans proclaimed the need to follow Christ and Christ alone, to practice simple worship, and to refuse to allow culture to influence their thinking and lifestyle. At the beginning of the twentieth century, Fundamentalists voiced a return to the basics of faith and to reject the modernistic response to Darwinism, Marxism, and other prominent thinkers such as

Kierkegaard, the father of Existentialism (Geisler, 1981; Strathern, 1997), Nietzsche, “the philosopher of Nihilism” (Van Riessen, 1975, p. 34), and Mill, the proponent of Utilitarianism and Individualism (Ten, 2008). These philosophies exalt an individual’s absolute moral authority to control one’s own life in a world without God (Insole, 2008; Nietzsche, 1996, 1998; Scruton, 2012). Kierkegaard (1942, 1944) posited that man is responsible for his own existence through his own subjectivity and the choices he makes. Strathern (1996, 1997) proposed that these philosophies were “the forerunner[s] of behaviorism, structuralism, and post-structuralism” (p. 9). Pragmatism and neo-pragmatism followed, unlocking doors to hedonistic lifestyles. Under the influence of Nietzsche, Berger (1963) formed his own debunking motifs in which he purported that man creates his own worldview within his own biography. Mill (2011) believed that individuality is of supreme value, with a person “not accountable to society for his actions, in so far as these concern the interests of no person but himself” (p. 114). Each individual has the right to act “as seems good to his own judgment and inclinations” (Mill, 1873, as cited by Ten, 2008, p. 20). The twenty-first century post-modern mindset has proliferated rapidly and has infiltrated the thoughts and minds of professing believers—even graduates of the modern Christian school movement. As the early part of the twenty-first century progresses, many apologists and theologians are emphasizing the call for a biblical worldview. Balzer (2012) contended, “Christianity is A COUNTER CULTURE. Whether the culture is twenty-first century Australia or first century Crete” (para. 14). If the current generation is to perpetuate a Christian mindset, then Christian believers need to think like Jesus (Barna, 2003). However, is Christian culture enough? Is a biblical worldview sufficient? The question remains whether or not biblical worldview instruction and integration have impacted this generation of Christian youth. Furthermore, if knowledge-based biblical worldview integration is present, is biblical worldview

progressing beyond the cognitive level to biblical-principled application as evidenced in lifestyle choices and beliefs on societal issues? Is knowledge impacting behavior?

Kant scripted the concept of worldview (*weltanschauung*) as a system of reality that gives one his “intuition of the world” (2007, p. 112). By examining Kant’s ideas, Orr (1947) conceived how a Christian worldview would provide “an ordered whole” (p. 3). Naugle (2004) attested that a biblical worldview validates “its entirety as a coherent system” (para. 12). Echoing Kant, Sire (2004b) proposed a similar worldview as one’s reality or perception of how and why things exist as they do. Sire later expanded this definition to include the behavioral aspects of a worldview (worldview is lived out) and a worldview based on the commitment of what one loves (worldview is a dimension of the heart). Sire stated:

A worldview is a commitment, a fundamental orientation of the heart, that can be expressed as a story ... about the basic constitution of reality, and that provides the foundation on which we live and move and have our being. (2004a, p. 221)

Goheen and Bartholomew (2008) affirmed the narrative concept when they defined worldview as, “an articulation of the basic beliefs embedded in a shared grand story...an expression of the basic beliefs embedded in the narrative of Scripture that are rooted in faith in the God of Scripture, revealed most completely in the person of Jesus Christ...” (p. 38). The grand story adds unity to the Biblical worldview in direct contrast to postmodernity, which has no grand story, and therefore no adhesion, to hold it tight (Poe, 2004). The grand story—Creation, the Fall, and Redemption—provides a basis for beliefs, heart orientation, and acts of volition; it not only provides unity, but also offers an anchor-like foundation, “an ancient landmark” (Proverbs 22:8).

Biblical Mandate

Biblical worldview is anchored in eternity past and comes to life for man in the statement, “In the beginning, God” (Genesis 1:1, New American Standard Bible). This reverberates throughout the canon of Scripture into church history, and to the present twenty-first century culture. Biblical worldview finds its roots in the teachings of Jesus regarding His Kingdom and continues with the Apostle Paul’s exhortations to the Philippians, “Let this mind be in you which was also in Christ Jesus” (Philippians 2:5). The teachings of Scripture reinforce the core of a biblical worldview, which unifies all the truths of Scripture within a triad of thought—Creation, the Fall, and Redemption (Blamires, 1988; Pearcey, 2004; Wolters, 2005; Klaussen & Zimmeran, 2008). This grand triad provides the story of the Christian faith and answers ubiquitous, theoretical questions, “Who am I?”, “What’s wrong?”, “Where am I going?”, and “What is the remedy?” (Franklin, 2009; Naugle, 2002; Sire, 2004a). Naugle (2002) stated:

Theoretically, the human mind is not satisfied with piecemeal knowledge, but seeks integrity in its understanding of reality. Worldviews are generated by the mind’s aspiration to a unified comprehension of the universe, drawing together facts, laws, generalizations, and answers to ultimate questions. (p. 9)

Sire (2004a, 2004b) later grouped these questions into seven major presuppositions as seen in Table 2.1.

Table 2.1

Seven major universal questions

Presuppositions	Universal Questions	Biblical Worldview Triad
“What is the prime reality? –the really real?”	What is Truth?	Creation, Redemption
“What is the nature of external reality, that is, the world around us?”	Where am I?	Creation, Fall, Redemption
	Who am I?	Creation, Fall, Redemption
“What is a human being?”	Where am I going?	Fall, Redemption
“What happens to a person at death?”	What is truth?	
Why is it possible to know anything at all?	What is wrong with me?	Creation, Redemption
“How do we know what is right and wrong?”	What is the remedy for what is wrong?	Fall, Redemption
	Where do I fit in?	
“What is the meaning of human history?”	What is my purpose?	Creation, Fall, Redemption

Samples (2007) built off of this framework but grouped the questions into ten categories:

Ultimate Reality: What kind of God if any actually exists?; External Reality: Is there anything beyond the material cosmos?; Knowledge: What can be known and how can anyone know it?; Origin: Where did I come from?; Identity: Who am I?; Location: Where am I?; Ethics: How should I live?; Values: What should I consider of great worth?; Predicament: What is humanity’s fundamental problem?; Resolution: How can humanity’s problem be solved? (p. 36)

Worldview Triad

The answers to these questions will help formulate a person's view of life and the universe. They may even provide a purposeful meaning to life; but the key is developing a worldview that is compatible with each question. Even the Bible, with its 66 books spanning thousands of years, vast in its own scope, encapsulating a myriad of running threads (light, holiness, blood, love, forgiveness, faith, kingdom, reign, etc.), the grand story of God's work in the universe is best summarized as a three-act drama—Creation, The Fall, and Redemption (Platinga, 2002). Other studies, however, have incorporated more than three encompassing themes. Plummer's (2010) examination of biblical family relationships added "consummation" (p. 18). In a study of Attachment Theory, Knabb & Emerson (2010) added "a new creation" (p. 840). Ryken's (2006) system added grace and glory (p. 11). Barber (2011), who argued for RCFR— Redemption, Creation, Fall, Restoration, stated that the original CFR falls short of the "pre-creation activity" of redemption (p. 8) and concluded that redemption overarches the Creation, Fall, and Restoration. To examine the major categories, this study used the historical themes of Creation, the Fall, and Redemption as God's grand story as related to the building of Christ's Kingdom. The conclusion of the matter is that the Word of God is the only basis for a biblical worldview founded in 2 Timothy 3:10-17, which proclaims that the Word is given for doctrine, reproof, correction, providing training to grow men and women, mature men and women, and equip men and women for life. Through this process, humanity is restored to what God intended for His people.

Figure 1. The Grand Meta-narrative



Creation. The grand narrative commences with God’s creative act, a literal 24-hour, seven-day event in which the worlds were spoken into existence and man was formed from the dust of the earth (Genesis 1-2). Man was created in God’s image and God breathed into him the breath of life. These two acts established man’s relationship both to God and mankind. Conceptually, Wakeman (2012) described man as an image bearer of God, which means “human beings are sentient, rational, volitional and creative beings, made for relationships, dependent on community” (p. 181). Simply, the bearing of God’s image enables man to learn and reason, to discern right from wrong, to create and connect, to love and give, and to bear and reflect the glory of God. Conclusively, creation reveals God as the authority, the sovereign, the originator of all things, and the sustainer, which gives Him the power and rule over all life.

Cascading through Scripture in a continuous theme, creation is an exposition of its omnipotent act and effects. According to Pratt (2000) the Bible includes over 250 references to the event. Accepting God’s revelation of the origin of man and the earth provides answers to the all-searching questions of when and how the world began and how people got here. The origin of the earth and of man is fundamental to any worldview and stipulates the dispositions and

presuppositions with which man must wrestle. Furthermore, creation includes God's decree to populate and cultivate the earth—the creation/cultural mandate (Genesis 1:28)—which according to Pearcey (2004), Smith (n.d.), and Wakeman (2012) has provided the footing of education when all academia has submitted itself to the authority of the Creator God, bringing all knowledge, reason, skills, and talents within God's intended purposes. According to Plantinga (2002), man's dominion over the earth transfers to man the responsibility of creatively keeping the earth (replenishing, subduing, developing).

The Fall. Genesis 3 describes the devastating and catastrophic execution of Satan's plan to mar God's perfect and good creation. His spurious, deceptive tactics convince Eve to doubt God's directives, and thus she believes Satan's lies, partakes of the forbidden fruit, and offers it to Adam, who, in turn, willingly rebels against the Creator's authority. His one act of disobedience plunges all of mankind into sin (Romans 5:12), thus beginning the process of death (Genesis 2:17). The curse then fell on all of creation. Stiekes (2013) noted that though the Fall is rarely mentioned in Scripture, its corruption and evil effects are depicted on every page. Throughout Scripture, a veil of darkness clouds the light of God's perfect creation. God's icon is now defaced, distorted by sin, and bent toward evil; man, who once had fellowship and communion with God, is exiled and separated from God while waiting for a pending judgment. The events of the Fall and the curse not only introduced sin into the world, but define the world as the “spirit of darkness; the spirit of the age” (Plantinga, 2002, p. 63). The Fall provides the only answers to the questions “What is wrong with man?”, “Why does evil exist?”, and “What is wrong with the world?”

Redemption. The third revelation of the triad gives hope from the devastation of the Fall. Immediately after addressing man's sin and the resulting curse, God unveils a promise to provide

a redeemer who will defeat the great deceiver (Genesis 3:15). As Scripture unfolds, a multifaceted story emerges: One of reconciliation—God reconciling man back to Himself through the death, burial and resurrection of the Lord Jesus Christ; one of restoration—God progressively reuniting people to the life that He had meant for them to have from the beginning (through the call of Abraham, the giving of the law, the coming of the Christ and the kingdom of God); and one of consummation—the final advent of the kingdom of God through judgment and the regeneration of heaven and earth (Isaiah 65:17, Revelation 21:1, 5); and one of exaltation—the eternal reign of Christ forever and ever (Psalm 110:1, 1Corinthians 15:28).

The three-fold foundation of the biblical worldview provides a means of understanding God's eternal plan to build a kingdom for His Son. By applying Creation, the Fall, and Redemption to all aspects of life both inside and outside of school, students can begin to understand the structural elements of biblical worldview and become better equipped to articulate those beliefs. The goal is for all of life (thinking and doing) to be viewed through the reality of Creation, the Fall, and Redemption as they relate to the glorification of Christ as the ultimate authority in the Kingdom of God.

Worldview development

Everyone operates from a worldview (whether active or dormant) that impacts the basis of their decisions and behaviors (Naugle, 2002, 2004; Phillips, Brown, & Stonestreet, 2008; Sires, 2004a). This worldview is acquired through questioning assumptions and presumptions (Koltko-Rivera, 2000; Sires, 2004a, 2004b). One's culture, family, and formal and informal education shapes his or her worldview (Hughes, 2008; Maddix, 2011). In addition, Strom (2009) categorized three supplementary sources for worldview development: peers, other adult authorities, and distant media contacts. Bland's (2010) linear review of the Enneagram (a

historical personality indicator) posited that worldview is developed through one's personality, realm of human experiences, and the adaption of one's own beliefs. Worldview is a "coming to view the world from others' perspectives, and integrating them as his or her own" (p. 24). Berger (1963) and Ochs (2009) described worldview as one co-creating his or her own story within his or her own reality. These arguments contradict biblical worldview development, which encapsulates a conscious rejection of human world thought for an internalization of God's reality. In addition and starkly absent in these equations is the influence of the Bible, the church, and the Christian school.

Worldview is communicated through individuals' reactions to the reality of the world around them as evidenced in their conversations, their writings, their responses, their affections, and their behavioral choices. While Valk (2012) understood worldview as "visions of life as well as ways of life" (p. 160), Cobern (1996, 2000) maintained that people must first understand before they "apprehend" or make it their own. Basing their presuppositions on Cobern's findings, Hansson and Lindahl (2010) studied high school students' (N =47) attitudes toward science and found that students who took higher-level science classes (n=23) were more likely to have a scientific worldview ($r=0.52$). Students with a religious worldview tended to avoid higher levels of science. Hansson and Lindahl's (2010) research findings affirmed Demeter's (2012) assertion, "Expressions and rationalizations of a worldview have an influence on our relationship to the world primarily given in feelings and affections" (p. 50). Edgell (2007) ascertained that the body of available literature supported the cognitive development of religious devotion, but the emphasis is on emotions. Chickering and Reisser (1993 as cited by Edgell, 2007), "consider[ed] student development to be a dynamic process involving non-cognitive as well as cognitive aspects. Their theory posits that 'emotional, interpersonal, and ethical development deserve equal

billing with intellectual development" (p. 50). In addition, Smith (2009) suggested that worldview foundations are "precognitive" (p. 221) and that humans are more loving creatures than thinking creatures. In other words, one's worldview will be evidenced by what one loves rather than by what one knows. Garber (1998) quoted Augustine, "For when there is a question as to whether a man is good, one does not ask what he believes, or what he hopes, but what he loves." Garber reflected, "He [Augustine] pushes us at a crucial point: true discipleship is not a matter of having the right ideas in my head, but of having a heart that loves God and loves what God loves" (para 15).

The Bible affirms that what one loves determines ones actions:

"Set your affections on things above, not on things of the earth" (Colossians 3:2).

"Where your treasure is, there your heart will be also," (Matthew 6:21, Luke 12:14).

"No one can serve two masters; for either he will hate the one and love the other, or he will be devoted to one and despise the other" (Matthew 6:24).

"You brood of vipers, how can you, being evil, speak what is good? For the mouth speaks out of that which fills the heart" (Matthew 12:34).

"Do not love the world, nor the things in the world. If anyone loves the world, the love of the Father is not in him" (1 John 2:15).

"And you shall love the Lord your God with all your heart, and with all your soul, and with all your mind, and with all your strength (Deuteronomy 6:5, Matthew 22:37).

Chen and Liu (2009) and Liu (2010) affirmed that a person's religion is the governing influence behind his or her behavior. Barna (2003) stated, "The most significant evidence of our loyalty is not what we say but what we do" (p 40). Since belief impacts behavior, the goal of Christian educators is to instill in students the ability to view life through the lens of the Bible, to

view the world Christianly or through redeemed eyes, and to live as otherworldly in both the public and private sectors. These biblical skills should impact how students both think and act. Valk (2012) equated it to the old adage, “practicing what we preach” (p. 164). With this imperative, a Christian young person should think and act differently from the non-Christian counterpart.

Threats to Biblical Worldview

The threats to a biblical worldview began even before the Garden of Eden. When Lucifer, the morning star/shining one, rebelled against God and was hurled from heaven (Ezekiel 28, Isaiah 14), he introduced a sinful will into God’s created order, which planted the seeds of a worldview contrary to the revealed Word of God. The devil, in his arrogance and rebellion, chose to favor his own happiness and selfish pursuits. Barnwell (2009) stated that in Satan’s decision to sin, he reasoned in isolation of faith in choosing to sin, “prioritizing reason over faith” (p. 8). In Satan’s sin the centrality and exaltation of all worldviews whose foundations are diabolically opposed to Scripture can be found. All other worldviews, whether paganism, neo-paganism, secularism, postmodernism, nihilism, or an eclectic *COEXIST* composite find at their roots the same prioritizing of reason over faith and Truth. Table 2.2 briefly outlines the tenets of some of the major worldview influences and their denial of Truth as found in Scripture.

Table 2.2

Major Worldviews

Worldview	Major Themes	Biblical Rebuttal
Paganism	Attributes the events of the world to divine beings or forces, which control the earth and sometimes interacts with humans.	<p>“Hear O Israel, the LORD our God, the LORD is one.” (Deuteronomy 6:4)</p> <p>“You shall have no other gods before Me. You shall not make for yourself an idol, or any likeness of what is in heaven above or on the earth beneath or in the water under the earth.” (Exodus 20: 3,40)</p>
Existentialism	The world is meaningless and each individual creates his own world and is authenticated within his own decisions. Man is his own focus and in control of his own life (McBride, 2012).	<p>“Trust in the Lord with all you heart and lean not unto your own understanding. In all thy ways acknowledge him and he shall direct your paths.” (Proverbs 3:5,7)</p> <p>“All we like sheep have gone astray; we have turned every one to his own way; and the LORD hath laid on him the iniquity of us all.” (Isaiah 53:6)</p>
Naturalism	Matter is all that exists and is best understood through science. The secrets of the universe may only be understood through Science. Science takes precedence over religion. Everything must have an explanation through material and natural causes. The physical universe—what we are able to see, touch, taste, smell, and hear—is all there is. There is	<p>“Through faith we understand that the worlds were framed by the word of God, so that things which are seen were not made of things which do appear.” (Hebrews 11:3)</p> <p>“The heavens are telling of the glory of God; And their expanse is declaring the work of His hands. Day to day pours forth speech, And night to night</p>

	nothing in the world but what we see, and there is nothing to trust in this world but us.	reveals knowledge.” Psalm 19:1-2 “In the beginning was the Word, and the Word was with God, and the Word was God. He was in the beginning with God. All things were made through him, and without him was not any thing made that was made” (John 1:1-3).
Modernism	Uses science to make life better; rejects the need for divine beings. Science is enough.	“For the creation was subjected to futility, not willingly, but because of Him who subjected it, in hope that the creation itself also will be set free from its slavery to corruption into the freedom of the glory of the children of God. For we know that the whole creation groans and suffers the pains of childbirth together until now....” (Romans 8:20-23).
Neo-paganism	Paganism and modernism combined. A modern resurgence of paganism, combining many ancient traditions, which attribute early events to the unseen. Promotes harmony with the elements.	“See to it that no one takes you captive through philosophy and empty deception, according to the tradition of men, according to the elementary principles of the world, rather than according to Christ” (Colossians 2:8).
Secularism	Separates religious beliefs, practice, and faith from the public arena (Green, 2012).	“Whether therefore you eat or drink or whatever you do, do all to the glory of God” (1 Corinthians 10:31).

Post-modernism	<p>Denies the ability to know what is true or real and rejects the notion that someone can make any authoritative claim to reality. Science could not provide the answers; organized, formal religion does not provide the answers, so who really knows? Who is to say what is right and wrong? The Coexist movement and tolerance are the prodigies of postmodernity-we are all on the same field; none of us are wrong; we are all right and equal. None is better; no one can have all the truth; each man is exalted as his own judge. Mueller (2006) defines it as a “worldview with no center” (p. 63).</p>	<p>“I am the way, the truth, and the life” (John 14:6).</p> <p>“Being then the children of God, we ought not to think that the Divine Nature is like gold or silver or stone, an image formed by the art and thought of man. Therefore having overlooked the times of ignorance, God is now declaring to men that all people everywhere should repent” (Acts 17:29-30).</p> <p>“As it is written, There is none righteous, no, not one.” Romans 3:10.</p>
Nihilism	<p>Suggests the possibility that there is actually no reality of our existence; or at least there is no meaning to that reality. All traditional values and objective truth are to be questioned and dismissed. Life is meaningless, and one should reject any attempt to project any personal meaning out of life.</p>	<p>“He made from one man every nation of mankind to live on all the face of the earth, having determined their appointed times and the boundaries of their habitation, that they would seek God, if perhaps they might grope for Him and find Him, though He is not far from each one of us; for in Him we live and move and exist” (Acts 17: 26-28).</p>
Relativism	<p>“Life is defined by fluctuating circumstances....there are no meanings which are universally and unequivocally identified as true by all people-and that personal beliefs can’t [sic] be established as true based on reasoning alone” (McHoskey, Betris, Worzel, Szyarto, Kelly, Eggert ... Anderson, 1999, p. 447).</p>	<p>“Jesus said to him, ‘I am the way, and the truth, and the life; no one comes to the Father but through Me’” (Jn 14:6).</p> <p>“I am the LORD, and there is no other; Besides Me there is no God.” (Isa. 45:5)</p>
According to Berger, relativism		

	declares there is no absolute truth. All ideas, all systems, all cultures are a matter of perspective. Values are generic to the environment of location (Berger, 1963).	
Pop Culture	“Consists of the aspects of attitudes, behaviors, beliefs, customs, and tastes that define the people of any society. Popular culture is, in the historic use of term, the <i>culture of the people</i> (Browne, 2004, p. 25).	“Do not love the world nor the things in the world. If anyone loves the world, the love of the Father is not in him. For all that is in the world, the lust of the flesh and the lust of the eyes and the boastful pride of life, is not from the Father, but is from the world” (1 John 2:15, 16)

Another threat is codified in the attempts of humanism and modernity to perpetuate secularism, which separates religious beliefs, practice, and faith from the public arena. As a whole, society has accepted the deception that religion is a private matter of the soul and should not intersect with the scientific, philosophical, and secular arenas. The seeds of this breach were planted as early as Descartes, whose writings were watered in the Enlightenment era, fertilized by Spencer and Darwin, cultivated through modernity, and today, blossom and bear corrupt fruit in this current postmodern era. It brings with it a clash of knowledge and practice—a dichotomy of personal worldviews—one for the church and another for the culture, one for private life and another for public life. Iselin & Meteyard (2010), Pearcey (2004), and Schaefer (1976) argued against Wolters’ (2005) “unwarranted dualism” (p. 35). Kim, McCalman, and Fisher (2012) further stated, “The mistake lies in thinking that reason is unbiased or neutral, unaffected by anyone else’s point of view, and that it produces perfect objectivity” (p. 206). Private life must intersect and impact public life, unifying them into one. Although there is a wedge between the sacred and secular in secularism, Talbert (2014) solidly established that the postmodern

dichotomy is ultimately founded in what man chooses to believe about God, not what he chooses to believe about the world around him. Talbert stated, “All of life and culture is religious because all of reality is theological because all of humanity has been created in the image of God and is either pursuing God or rejecting and rebelling against him.”

A third threat to a biblical worldview occurs within the confines of the Christian school as the prevailing winds of deception threaten and intrude the lives of the students. Whether it is the media, literature, or entertainment, these voices provocatively influence thinking. The Bible warns of deceptions and encourages believers to beware so that “no one takes you captive through philosophy and empty deception, according to the tradition of men, according to the elementary principles of the world, rather than according to Christ” (Colossians 2:8). Scripture further warns believers “not to be carried away by varied and strange teachings” (Hebrews 13:9). Again, the Bible warns Christians of the dangers of developing an unbiblical approach to Bible reading and the Christian life. The Apostle Paul instructs that deceptive philosophies based on man’s traditions are earthly and not following after Christ. He reminds the Corinthians that he does not preach to them “clever and persuasive words” (I Corinthians 2:4) and later reveals his fear that they will be deceived and led astray by the serpent just as Eve was (2 Corinthians 11:3). His remedy for unbiblical worldviews is to “demolish arguments and every pretension that sets itself up against the knowledge of God, and...take captive every thought to make it obedient to Christ” (2 Corinthians 10:5).

Psalms 2 explains a great conspiracy that is at the core of these worldview threats, where the psalmist describes the heathen and the kings of the earth as taking up council against the Lord as they “break their bands asunder, and cast away their cords” (Psalm 2:1-3). Though this battle has existed since the Fall and can certainly be seen in postmodernity, it is most obvious in the

current young generation, with their unbridled, uncensored, salacious pop culture and the engrossment of all the elements of secularism, modernism, nihilism, and postmodernism. Pop culture finds its expression through universal conduits—whether print, television, the Internet, DVDs, or electronic devices (computers, iPods, cell phones, MP3's, etc.) (Smith, 2012). Pop culture is present in any display or expression and may depict dress, music, dance, art, or life-style. Parker (2011) explained that in the past, culture tended to be divided between elite culture (a refined culture reserved for those most noble in society based on the ability to enjoy and procure such luxuries) and popular culture (a vernacular, common culture based on what was free and readily available). In the vernacular, popular culture was seen as folk art and tended to unify contemporary worldviews. Later, after a time of proving, it was recognized and accepted as a mainstream culture. Today, Delaney (2007) stated, pop culture has moved from folk art to a new contemporary meaning that encompasses a “widely accepted cultural identity” (para. 3). In addition, Browne (2004) classified popular culture as an emergent world identity and defined it as “the aspects of attitudes, behaviors, beliefs, customs, and tastes that define the people of any society. Popular culture is, in the historic use of [the] term, the *culture of the people*” (p. 25). Popular culture, however, encompasses more than the culture of the people; it is the culture of the world. Talbert (2014) expounded, “The world is not neutral; it is a domain; it is a kingdom of subjects governed and influenced by a spirit who is in declared and hostile opposition of God.”

In this highly technical world, mass media moves so quickly that unfiltered messages infiltrate the most immediate aspects of life. According to Ferre (2008), Hoppenstand (2009), Lawson (2013), and Woods and Patton (2010), rather than supporting, solidifying, and sustaining an established worldview, popular culture perpetuates its own story and questions long-standing beliefs and values. Ferre (2008) described a faith/culture mismatch similar to the dualism

between the sacred (God) and the secular (Science), where Christians willingly accept one view for Sunday and one for the other six days. Ferre stated that when Christians accept “an easy alliance between faith and culture, they fail to live according to the Christian values they profess. Many treat their religion as a smorgasbord, blending tenets of other faiths and philosophies with Christianity to form a postmodern hodgepodge of beliefs” (p. 198). Echoing Ferre, Lawson (2013) and Barna (2011) presented pop culture as a worldview in itself as it meshes together all of the other –isms. Lawson stated that mass media deliver “descriptive messages about how the world is and prescriptive ones about how the world ought to be” (p. 92). Lawson further stated, “The media... provide individuals with a sense of direction, purpose, and meaning, as well as their framework for describing and interpreting the world,” (p. 78) operating like “a secular bible” to provide a script that affirms “the core values and beliefs that dominate the way we live” (p. 192). As people participate in mass media, they begin to embrace, imitate, and mimic the attitudes, beliefs, and worldviews of the messengers. Simply, they view the world from the lens of pop culture. They are searching for something, but they do not know what they are trying to find. Popular culture as perpetuated by mass media is the most dangerous because it not only combines the philosophies of the world system, but is also a blatant, emboldened worldview.

These dangers are real. Christian education leaders need a basis to understand how Christian youth are affected by these ruses; yet, however fallacious and inimical the threat, biblical worldview must saturate Christians’ homes, schools, churches, and culture. The biblical worldview is the only worldview that answers the questions of man’s existence and purpose in life. There is one realm, one view, one life. The void left by modernism, the groping for unity seen in postmodernism, and the sybaritic lifestyle of popular culture must be filled by Truth. Students must understand how God’s hand moves through every aspect of life, and how no area is

void of His influence and power. All aspects of secularism, which detach religion's influence in the world, must be counteracted from within the Christian school movement with an integrated Christian curriculum that promotes critical thinking and application. Secondly, secularism must be confronted on the collegiate level through unabashed apologetics. The understanding of students' biblical worldviews and how they correlate to their personal values will not only provide an assessment benchmark, but will also present opportunities to impact a generation with otherworldly thinking—the Christian worldview.

Worldview and Behavior

As biblical worldview has been analyzed on different levels over the past six years, several gaps have emerged in the body of worldview literature. In a ProQuest search (2008-2013), which included the key words *Christian worldview*, *biblical worldview*, and *Christian schools*, eleven published dissertations were located, and of those, two focused on college students (Dolan, 2011; Perkins, 2012), six focused on high school students (Brickhill, 2010; Bryant, 2008; Guthrie, 2009; Rutledge, 2013; Taylor, 2009; Van Meter, 2009), two had instrument development (Morales, 2013; Schultz, 2012), and one studied Christian school faculty (Wood, 2008). In a review of both the empirical and theoretical literature, all studies converged on the need for a practical application of biblical worldview dogma.

After constructing biblical worldview research on a regional sampling (N= 642) of Christian schools correlated with the type of Bible curriculum used, Bryant (2008) recommended further study associated with students' behavior and beliefs. Abels (2013) studied the factors (school, home, personal) influencing biblical worldview among Pacific Islands Christian school students and suggested the need for further study on correlating worldview and behaviors. In Walker's (2102) study that correlated ethics and religiosity, Walker called for more study on what

impacts moral awareness. Schultz's (2012) study on the three dimensions of biblical worldview (knowledge, heart-intent, and behavior) implored "the next set of worldview thinkers" to examine behavior "as an integral part of worldview itself" (p. 32). Schultz also warned that biblical worldview must move past the intellect and delve deep into the heart of a truly regenerated mind. Morales (2013) recommended a future study to "confirm which types of questions will lead respondents to disclose the motivation behind their behavior" (p. 102). Naugle (2002) expounded, "The heart of the matter is that worldview is a matter of the heart (p. 269). Colson and Pearcey (1999) wrote, "Our choices are shaped by what we believe is real and true, right and wrong, good, and beautiful." Barna (2003a) stated, "The most significant evidence of our loyalty is not what we say, but what we do" (p. 40). Greene (1998) expressed that "allegiance of the heart" is "more worldview than propositional truth" (p. 255). The focus of understanding worldview is to understand the underpinnings of faith, which in turn must make one's witness bolder, to sound forth the praises of God, to herald His truth, to walk circumspectly in the world, and to ultimately bring glory to His name by honoring His grand story of creation and ultimate restoration through Christ's redemptive power. A worldview must move past the verbiage and impact behavior.

Biblical Worldview Integration

A key component of assessing biblical worldview is the ability to correlate students' biblical worldviews with their behavioral choices. The primary source of biblical worldview knowledge is the Christian school and more specifically, Christian textbooks. In their study on textbook fidelity, Cox, Hameloth, and Talboth (2007) asserted, "Textbooks are a foundational resource from which teachers convey and students learn information, skills, attitudes, and behaviors" (p. 183). Poe (2004) believed one consequence of postmodernity is that worldview, beliefs, and decisions have moved from a logic base to an emotional base, which provides further

evidence of the need for Christian textbooks to intellectually and logically present the Christian worldview within each academic discipline. Poe concluded that in each discipline there are “profound presuppositions of reality” (p. 161); these must be tackled to adequately convince, persuade, and equip Christian young people to engage their culture through their beliefs and lifestyle. Since the textbook is a fundamental source for knowledge, biblical worldview needs to be integrated into every subject.

Beginning with Gaebelein’s (1945) work, a 70-year-long discourse on faith-learning integration and more recently, biblical worldview integration, has progressed. According to Gaebelein, God’s truth is “nothing less than the context of everything that we know or ever can know” (p. 8), and this “Christian truth must be the vital center of the curriculum” (p.49). In grappling with the heart of integration, Gaebelein defined a “universal scope” in which “every aspect of education must be brought into relation to it” (p. 7). Gaebelein continued that God’s truth frames and unifies education both internally and externally—“it includes every realm of knowledge...every fact in the universe find their place and their answer within Christianity...it is the system of truth enveloping the entire world in its grasp” (p. 18). Expanding on Gaebelein’s cognitive premise, Baniszewski (2013) reviewed the following contributors to faith integration: Lebar extended theology by merging it with the pragmatic approach—learning by doing; Richards examined community aspects of integration, while Getz developed an approach around evangelism (p. 12, 13). Upon synthesizing the body of literature, six aspects of biblical worldview surfaced. First, students enter Christian schools with a variety of worldviews, most of which have been influenced by postmodernity (Garber, 1998; Kanitz, 2005). Second, worldview integration must be holistic design that impacts the whole person and is fused into all academic disciplines (Glanzer, 2008; Quinn, Foote, & Williams, 2012; Smith, 2009). Third, worldview integration

needs to challenge dispositions and provide answers to life's pervasive, ubiquitous questions (Campo, 2010). Fourth, biblical worldview integration involves active student engagement (Bailey, 2012; Lawrence, Burton, & Nwosu, 2005), which leads to five determinate outcomes:

1. It results in non-conformity to the world (Romans 12:1, Dockery, 2007; Watson, 2009).
2. It promotes Godly actions (Romans 12:1, James 1:22, 2:20; Baumann, 2010; Dockery, 2007).
3. It moves from "worldview to world-life" (Iselin & Meteyard, 2010, p. 33) and from "right thinking to right living" (Sweet, as cited by Iselin & Meteyard, 2010, p. 33).
4. It transfers immaturity to maturity, resulting in life-long discipleship (Baumann, 2010; Lawrence, Burton, & Nwosu, 2005).
5. It submits all knowledge to God's authority (Welch, 2008).

Not only is the Bible taught, are creeds stressed, is truth exalted, and application made, but each academic subject is also examined from a biblical worldview foundation. This biblical worldview frames and permeates curriculum, challenges presuppositions, and demands transformation in student thinking and living. Though Bible knowledge and an ability to counteract the culture are noble skills, they are not enough. Biblical truth must renew the mind so that every thought, action, and decision is viewed through the lens of Scripture, habitually "destroying speculations and every lofty thing raised up against the knowledge of God, and *we are* [emphasis my own] taking every thought captive to the obedience of Christ" (2 Corinthians 10:5).

Welch (2008) studied the perceptions of Christian school administrators regarding the factors necessary for integrating worldview within secondary education. Of the 30 elements tested, a holistic approach to integration was deemed the most important institutional learning

factor. Providing worldview curriculum was one of the top five ranked activities provided by schools to perpetuate biblical worldview. Welch concluded “Christian education performed through the integration of faith and learning sets the environment for students to synthesize God’s principles into a complete framework for living” (p. 203).

Taking the lead in biblical worldview integration, the BJU Press located in Greenville, South Carolina is one of the largest Christian school textbook publishing houses in the world. Smith (n.d) in discussing the integration philosophy writes:

At BJU Press, we define biblical integration as Christian worldview shaping. The Christian worldview is best expressed in the biblical story of Creation, Fall, and Redemption. Taking these three events as the lenses through which to look at education, we see that faith and learning are bound together and that the Christian faith must govern the educational experience.... Good biblical integration has not happened until the student learns how the Bible is relevant to the subject at hand. This involves three levels of effort. In Level 1 biblical integration, the Bible is referenced while the subject is being taught, using biblical analogies or examples. In Level 2, the teacher shows the student how the Bible should guide him as he applies the academic discipline to real-life situations. The final level focuses on rebuilding the academics for the glory of God. Remembering the fallenness of the human mind, the teacher should call into question the secular assumptions of each subject and then encourage the student to rebuild the discipline from biblical presuppositions. The work of Christian education is the work of redeeming what has fallen. We study all aspects of human culture because we see in that study the potential for redemption. As we view the academics through the lens of Scripture, we learn how we may be used to redeem those disciplines back to God. (p. 7)

The BJU Press model was used as the basis for establishing the accountability piece of this research. One secondary textbook per each academic subject (history, mathematics, literature, writing and grammar, science) was examined for biblical worldview integration. Such tenets were used in determining the knowledge-based piece of the survey instrument (Bolinger, 2013; Egolf & Santopietro, 2008; Gage, Rose, & Stegall, 2011; Hess & Cates, 2010).

Biblical Worldview Accountability

A presupposition of Christian education is that it is distinct and promotes a product that is unique—a concept corroborated in the vision statements of many Christian schools, Christian organizations, and Christian colleges and universities (LeBlanc & Slaughter, 2012; Maher, 2010; Mitchell, 2009; Schultz, 2012). The Association of Christian Schools International (ACSI) stated that one of their goals is to provide the platform and resources to enable their schools to hire and maintain “educators who embody a biblical worldview...” (2012, Vision, para. 3). The ACIS further stated that their association member schools’ top priority is to develop a Christian worldview. The Association of Christian Teachers and Schools (ACTS) is “passionately committed to a Biblical Worldview that is consistent with God's Word” (2014, Core Values, para. 1). The Southern Baptist Association of Christian Schools (SBACS) (2012, Mission) shares a similar sentiment. Uecker (2008) conducted a study (N=3123) that correlated adolescents’ religiosity and the type of private school attended. Uecker deduced that “Protestant schools are united in their commitment to adolescent religious and spiritual development” (p. 582). This is carried over into the realm of post-secondary education. Christian universities purport biblical worldview as an integral part of their mission. For example, Bob Jones University (2015) stated that one of its goals is to “infuse every course with a biblical worldview...” (para. 1). Liberty University’s (2014) mission “promotes the synthesis of academic knowledge and Christian

worldview in order that there might be a maturing of spiritual, intellectual, social and physical value-driven behavior” (Mission and Purpose, para. 3). Morales (2013) critiqued Biola, Regents, and The Master’s College, all of which corroborate the worldview value. Therefore, with this as the mission, Christian schools and biblical publishers need a means of measurability, which is an essential component of accountability to the mission (Boerema, 2011, 2012). Furthermore, in their study of the biblical fidelity of Christian school textbooks, Cox, Hameloth, and Talboth (2007) discovered most schools did not have a measure in place to evaluate biblical worldview learning. Wood (2008) stressed the need for such accountability. Citing Barna’s (2003) work, Wood wrote, “When ‘there is no defensible evaluation process, assessment is based on assumptions and intuition’ (p. 126)” (p. 127). In deciphering the faith-learning integration semantic controversy, Badley (2009) also broached the need for accountability to a stated-goal. Concurring, Schultz (2012) reiterated the continued need for institutions to assess their students’ biblical worldviews for “institutional effectiveness” (p. 141). More specifically and closer to home, the Biblical Integration Team and the Testing Department at BJU Press, in Greenville, South Carolina desired an annual criterion-referenced assessment instrument that correlates biblical worldview with all academic subjects in the view of Creation, the Fall, and Redemption as they are specifically integrated into their Christian school curricula (Batdorf, B; Kohler, R.; and Smith, B., personal communication, November 14, 2012). To be effective in cultivating a mature biblical worldview in Christian youth and to provide a starting point to impact otherworldly thinking and behavior, religious post-secondary institutions need a benchmark of student beliefs correlated to behaviors. Another benefit in establishing a benchmark in freshman year is to enable the institution to longitudinally measure growth over four years (Combs, 2009; Powell, 2010;

Turi, 2012). In addition, Morales (2013) recommended that college students be surveyed at the beginning of their first semester rather than waiting until the second semester.

Theoretical Framework

Cognitive and moral development must be considered in determining the optimum time to access biblical worldview. What is the best time to assess students' knowledge of biblical worldview in relationship to their behaviors?

Educational psychologist Piaget developed four stages (schema) of cognitive development (sensorimotor, preoperational, concrete operational, and formal operational). These stages develop over a course of years and are affected by one's culture and environment. In the Formal Operational stage, children pass from childhood into adolescence and on to adulthood—the time of development when a person is able to think through hypotheses, proportions, probability, and logic. In addition, individuals are able to reflect, draw conclusions, engage in metacognition, and form ideas independently of others. This stage develops in the late middle school and high school years and then matures through early adulthood (Keller, 2011). Later, Piaget expanded these cognitive theories to coincide with two moral development dimensions (Carpendale, 2009; Moshman, 2009; Piaget, 1999).

Theory as Applied to Moral Development

Influenced by Piaget, Kohlberg (1980, 1981) further developed and formalized a Stages of Moral Developmental Theory. Kohlberg observed that Piaget's two-stage theory was limited, and that children develop moral sense of right and wrong in stages related to the chronological stages, though less rigidly and more fluid. Kohlberg (1980, 1981) based this theory on justice—what is right. Kohlberg (1980, 1981) posited that human moral reasoning emerges through six progressive stages.

In the initial or lower stages, moral choices are made based on self-interest—what one wants and on the need to please authority. In the middle stages, persons consider the welfare of others when making moral decisions (what would others like and what are the personal ramifications of this decision). At this point, it becomes the ideal to obey the law for the good of all people involved. Persons begin to understand the need for guidelines and rules to promote orderliness and consistency. In the highest stages, moral choices are guided by commitment to principles and less concerned with what others think, but rather what principles and values are at stake.

Stage five emphasizes basic rights and the democratic process—everyone has a voice. At stage 6, defining principles are based on which agreement will be most just and which one will gain the most consensus for the betterment of all (Kohlberg, 1980, 1981; Kohlberg & Hersh, 1977). Later, Kohlberg (1981) considered a seventh stage in which people stand alone on their ideals and are even willing to die for a cause. Crain (2010) proposed that the people who reach this stage become moral leaders and cited Kohlberg's interest in the life and death of Martin Luther King (p. 166). Gibbs (2010) expanded on stage 7 and theorized that this stage occurs much earlier in life and is more common than Kohlberg suggested. Reed (2008) built off of Kohlberg's work and proposed "moral stages are not structures of thought. They are structures of action encoded in thought" (p. 473). These actions encoded in thought are necessary for students to be able to differentiate and cognitively contemplate the existential questions involved in worldview development. Students need to be able to extract meaning to life's questions and understand how these concepts will impact their own "acting and thinking" (van der Kooij, de Ruyter, & Miedema, 2013, p. 222).

Theory as Applied to Faith Development

Fowler (1981) attempted to bridge the gap between the social science of moral development and faith. Fowler's personal faith was based on self-developed faith stages that were influenced by the work of Piaget and Kohlberg which attributed faith growth as a part one's cognitive and moral development (Avery, 1991). Avery asserted that Fowler's definition of faith was not meant to be a biblical faith definition, but rather a means of one's growing in an awareness of religion as one becomes more aware of the realities of life. Fowler's six Faith Development Stages (FDS) are delineated and defined in Table 2.3.

Table 2.3

Fowler's Faith Development Stages

Stage	Title	Description
One	Intuitive-Projective	Limited Perspective: Occurs when a child learns to speak and use limited perceptions to understand faith.
Two	Mythical-Literal	Fantasy vs. Reality: Occurs when a child engages in the task of sorting through fantasy and reality.
Three	Synthetic-Conventional	Social Conformity: Occurs as a child/adolescent/young adult becomes conscious of peers and succumbs to social conformity.
Four	Individualistic-Reflective	Critiquing Faith: Occurs in late adolescent to early adulthood and includes critiquing faith.
Five	Conjunctive	Other Perspectives: Occurs as one begins to see faith from many perspectives.
Six	Universalizing	Principled Commitment: Occurs as one looks beyond a set of rules and commits to principles of serving, accepting, and loving others

(Avery, 1991; Fowler, 1981; Powell 2010; Newman, 1998).

Stages 4 through 6 are most relevant to biblical worldview formation and the high school graduate/incoming college freshmen. This is time where students may begin assimilating and synthesizing their faith and beliefs. Beliefs should turn to action and determine the students' morality. The goal of a school, faculty, or curriculum should be to move students away from Stages 4 and 5 and lead them to Stage 6. This would be in keeping with Christ's Kingdom teachings:

“Then Jesus said to His disciples, "If anyone wishes to come after Me, he must deny himself, and take up his cross and follow Me” (Matthew 16:24).

“And thou shalt love the Lord your God with all your heart, and with all your soul, and with all your mind, and with all your strength: this is the first commandment. The second is this, 'you shall love your neighbor as yourself.' There is no other commandment greater than these" (Mark 12: 30, 31).

“But the greatest among you shall be your servant. Whoever exalts himself shall be humbled; and whoever humbles himself shall be exalted” (Matthew 23:12).

“Jesus called them together and said, "You know that those who are regarded as rulers of the Gentiles lord it over them, and their high officials exercise authority over them. Not so with you. Instead, whoever wants to become great among you must be your servant, and whoever wants to be first must be slave of all. For even the Son of Man did not come to be served, but to serve, and to give his life as a ransom for many” Mark 10:42-45 (NIV)

Fowler's FDS and FDT constructs are strikingly similar to worldview formation. Romney, Jarvis, and Fowler (1988, as cited in Avery, 1991), later summarized Fowler's theorized three-fold faith integration process: “(1) faith involves a patterned knowing (belief); (2) faith

involves a patterned valuing (commitment or loyalty); (3) faith involves a patterned construction of meaning usually in the form of an underlying narrative or story” (p.72). Avery (1991) suggested that this theory may be used to explain how people change, grow, and develop in their understanding of what it means to live as a Christian. In researching Fowler’s Faith Development Theory, Parker (2010) cited over 90 studies conducted between 1977 and 2007. Two were pertinent to this study. One examined the spiritual development of college freshmen (Cureton, 1989), and the other researched moral and faith development of 17-year-olds (Gorman, 1977). In the latter study (N=50), correlations were highly significant (at .001 levels) between faith and moral scores. The mean moral score was 3.2, the mode was 3, and the median was 3. The mean faith score was 3.4, the mode was 3.7 and the median was 3.6. In a review of Fowler’s (1981) work, Gorman (1982) postulated that a student in Kohlberg’s Stage 4 might be in a faith stage between two and four, which could impact an understanding of the application of faith and morals to worldview. Gorman warned religious instructors that if they are “facile in providing religious answers” it might result in stymied growth (p. 111). Morales (2013) studied college freshmen and found that young adults in Fowler’s Individualistic-Reflective stage of faith (stage 4) can have personal faith-based convictions. Though this study examined biblical worldview as it is correlated to behavior, Morales’ and Gorman’s studies provided insight into the moral, faith, and behavioral aspects of biblical worldview applications. In addition, Van Meter’s (2009) reviews of several dissertations supported Morales’ assertion that high school students are cognitively and morally able to develop and live a biblical worldview.

Though a theologian, Fowler’s (1981) work did not call upon the Bible in the definitions or theories of faith, nor did Fowler rely on the power of the Holy Spirit that indwells a person at the point of regeneration. Fowler recognized that a person’s faith journey is enhanced by

conversion, but that conversion is not necessary for faith development. The Bible, however, recognizes the process of maturing in faith when it admonishes Christians:

“Therefore, putting aside all malice and all deceit and hypocrisy and envy and all slander, like newborn babies, long for the pure milk of the word, so that by it you may grow in respect to salvation, if you have tasted the kindness of the Lord” (1 Peter 2:2, NASB).

“But grow in the grace and knowledge of our Lord and Savior Jesus Christ. To Him *be* the glory, both now and to the day of eternity” (2 Peter 3:18).

“Therefore as you have received Christ Jesus the Lord, *so* walk in Him, having been firmly rooted *and now* being built up in Him and established in your faith, just as you were instructed, *and* overflowing with gratitude” (Colossians 2: 6, 7).

“For though by this time you ought to be teachers, you have need again for someone to teach you the elementary principles of the oracles of God, and you have come to need milk and not solid food. For everyone who partakes *only* of milk is not accustomed to the word of righteousness, for he is an infant. But solid food is for the mature, who because of practice have their senses trained to discern good and evil” (Hebrews 5:12-14)

These verses reveal that God expects a growing faith that is striving toward a perfection that will be realized before the throne of God. Fowler (1981) posited that a person could not reach Stage 6 (Universalist) until later in life; however this does not take into account spiritual growth as revealed in the Scriptures. The goal of both Christian Schools and Christian colleges should be to fulfill their mission by guiding students into Stage 6 as they strive to perfect the body of Christ. One question to consider is how many Christian school graduates have formulated their convictions past Stages 4 and 5 and have reached the Universalist Stage. Another interesting

concept would be a longitudinal study of the impact on moral and faith development after four years in a Christian institution of higher learning.

Fowler's FDT and FDS are beneficial when combined with Piaget's (1967) and Kohlberg's (1980, 1981) theories regarding understanding the pattern in the cognitive, moral, and faith development stages. Cognitive and moral stages must be considered in the development of faith and spiritual growth, along with the formation of a biblical worldview. Since enlightenment comes by the Holy Spirit through the Word of God, even adolescents and emerging adults can grow, mature, and experience spiritual understanding and development. One must not underestimate the enlightenment of the Holy Spirit as evidenced in Paul's prayer for the Colossians, "...we have not ceased to pray for you and to ask that you may be filled with the knowledge of His will in all spiritual wisdom and understanding..." (Colossians 1:9).

The purpose of this theoretical framework serves as a basis for assessing high school graduates enrolled as college freshmen. Adolescents who are leaving home to attend college are at a stage in life where they begin solidifying their own biblical knowledge and worldview. Kohlberg's (1980) and Fowler's (1981) theories support this conclusion; therefore, in this study, these theories will serve as the impetus to correlate biblical worldview knowledge with actions.

Theory as Applied to Gender

Gilligan's (1977) work on female moral development assessed how females discern and identify with worldview, as opposed to their male counterparts. As a result of working with Kohlberg (1980) during the formation of the Moral Stages Theory, Gilligan stated that Kohlberg's work with adolescent boys was not conclusive because it excluded the female perspective. Gilligan believed that males and females develop values differently; therefore, Kohlberg's work should not be generalized to the female population. Gilligan discovered that when females were

assessed using Kohlberg's moral reasoning stages, they tested at lower levels, though they were academically and cognitively equal. According to Gilligan, females reach moral decisions based on relationships (love, nurture, care) and males reach them based on justice and logic in terms of mathematics (Beaty, 2002; Gilligan, 1977; Jorgensen, 2006). Vitton and Wasonga (2012) confirmed Gilligan's theory in examining school principals' use of high levels of moral judgment. Female principals had higher P scores on The Defining Issues Test Version 2 (DIT-2), which "provides some congruency with Gilligan's belief that caring for others and relationship building is critical to moral judgment" (p. 110). In keeping with Gilligan's theory, Bryant (2011) cited studies (Bryant, 2007; Buchko, 2004; Smith & Denton, 2005) that documented gender differences in spiritual and religious qualities. Coll and Draves (2008) found significant gender differences in their study—males had a mean of 53.1 and females had a mean of 47.3 ($t(26) = 2.6, p < .05$) (para. 19). While studying the relationship of religious orientation and Goldberg's Big 5 factor markers, Williamson, Hood, Ahmad, Sadiq, and Hill (2010) suggested that men more than women tend to be fundamentalists ($r = -0.21, p < 0.01$), and that females experience more social benefits from their religion. When examining moral behavior and paradigm thinking, Gilligan (2004) and Kalsoom, Muhammad, and Kaini's (2012) research confirmed the validity of disaggregating the data by gender to determine if a statistical difference based on gender existed. Additionally, Walker (2012) cited seven studies between 1994 and 2008 in which gender was found to be significant predictor of ethical attitude. More specifically, Walker cited the findings of Ameens, Gaffey, and McMullen (1996) and Fallon and Butterfield (2005) that suggested that females tend to be more morally aware and ethical. Compton's (2009) qualitative study on the faith development of young children found that though young children select activities and toys that are predominantly gender-based, their views on God, prayer, and caring are very similar.

Compton concluded that gender does not impact faith development as it relates to how children view spiritual things. To provide more literature on how females approach spirituality as it pertains to identity, Corry's (2002) non-empirical, theoretical research on gender identity and spirituality noted that further research based on gender is needed during the college years since this is the segment of life when young adults are developing their own belief systems.

Although Haggray (1993), Abels (2013), Bryant (2011), Williamson, Hood, Ahmad, Sadiq, and Hill (2010) all recommended a study examining gender as it relates to biblical worldview development, none were conducted. However, in a study on Christian school faculty and worldview, Wood's (2008) results indicated a significant statistical difference between male and female teachers ($M=11$, $p=.004$; $t(139) = 2.927$, $p < .01$). In keeping with Gilligan's relational theories and repeating Perry's Harvard upper class, Caucasian, all-male studies, Belenky, Clinchy, Goldberger and Tarule's (1997) all-inclusive female study ($N=135$) found patterns similar to Perry's, but uncovered distinctive dimensions in women's ways of processing knowledge. Positing that women develop their beliefs in a spectrum, the following perspectives were defined as follows: Silence-dependence on the voice of others, voiceless, mindless; received knowledge-listening to the voices of others; subjective knowledge-listening to an inner voice-a quest for self; procedural knowledge-acquiring the voice of reason/constructing arguments and connecting voice with understanding and relationships; and constructed knowledge-integrating the voices, knowing self intimately (Belenky, Clinchy, Goldberger & Tarule, 1997; Henze, 2008; Lundeberg, 1989).

The studies referenced above not only solidify the need to consider gender in this research, but also the need to add to the body of literature on the impact of gender on the development of biblical worldview and its possible implications on behavior. The findings may provide insight on

a didactical approach to biblical worldview integration in Christian textbooks and curriculum development as it pertains to both genders' faith development.

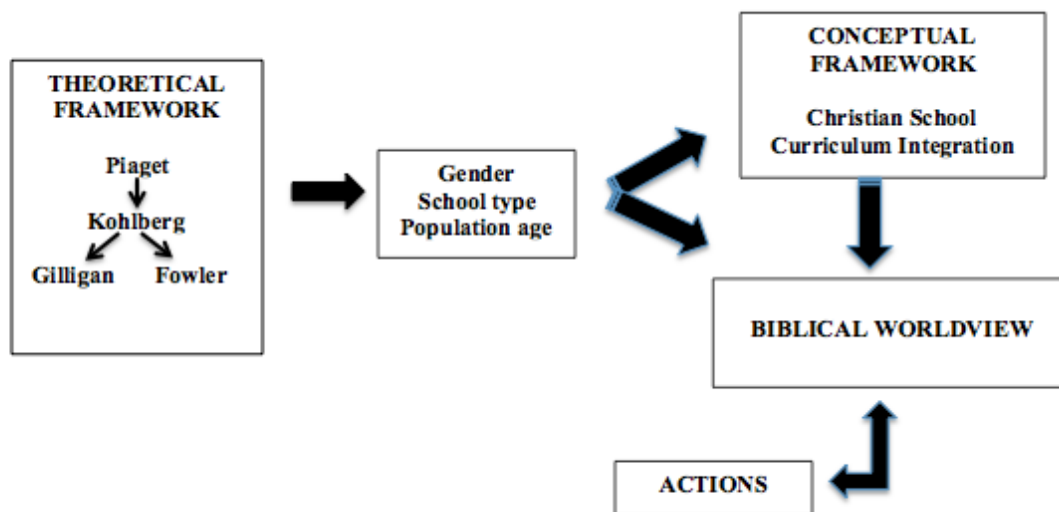
Theory as Applied to Sample Age

In determining the most appropriate population to test, both Piaget's (1967) cognitive theories and Kohlberg's (1980) moral developmental theories were important to consider. Cognitively, students need to be at the highest level of development (formal operations). For moral development, they need to have matured to Stage 6. Cobern (1996) stated that "attitude and interests have roots [and] thus are shaped by worldview presuppositions" (p. 896), further validating the need for a higher level of moral development. Another consideration is student capability to internalize and identify with worldviews concepts (Bertram-Troost, de Roos, & Miedema, 2007). Based on high school seniors' and college-aged students' ability to think critically through cognitive and non-cognitive concepts, Henze (2006), Parks (2000), and Edgell (2007) critiqued the work of Chickering, Dalton, and Stamm (2006) and emphasized the need for the use of moral development studies for this age group. Entry-level college freshmen seem to be the best population since they are completing high school, entering a new phase of life, and for many, living independently for the first time (Combs, 2009; Morris, Beck, & Mattis, 2007; Newman 1998; Van Meter, 2009). In contrast, they have not yet had intense exposure to an incessantly fervent Christian climate (Kneipp, 2011; Turi, 2012). This also provides a benchmark for future studies and comparative analysis (Combs, 2009; Morales, 2013; Powell, 2010; Turi, 2012).

Kohlberg (1980, 1981), Fowler (1981), and Gilligan's (1977, 2004) work accentuate and confirm the need for the study of biblical worldview development of freshmen because of their status on the moral and faith development continuum. Subsequently, understanding organizational

biblical worldview may serve as an adjustment to the college culture (Newman, 1998). In addition, a study of this population will fill a void in biblical worldview literature (Combs, 2009, Newman, 1998; Powell, 2010).

Figure 2. Theoretical and Conceptual Frameworks



Chapter Summary

Biblical worldview finds its roots in the Bible and follows three major themes: Creation, the Fall, and Redemption. These tenets are necessary for Christian school students to grasp and apply to their lives. In this chapter, discussions were centered on historical and biblical mandates, the basis of theory, and the compelling need to examine organizational worldview with personal worldview as it translates into application, behavior, and action. This review found several gaps in the biblical worldview body—the need for the accountability of the overall Christian school mission, the need to examine biblical worldview in behavioral terms, and the need for more biblical worldview research on college freshmen. Piaget’s (1967), Kohlberg’s (1980, 1981),

Gilligan's (1977, 2004), and Fowler's (1981) theories agreed that recently graduated high school seniors and entering college freshmen are cognitively, morally, and religiously capable of understanding and apprehending biblical worldview applications.

In the following chapter, methodology will be delineated as to the purpose of this quantitative, predictor study—to determine if the strength of Christian worldview is statistically significant with the following predictor variables: gender, home environment, frequency of church attendance, use of BJU Press textbooks, international status, personal and parental profession of faith, and Bible reading. Also included in the next chapter is a discussion of the design, the research questions and hypotheses, participants, setting, instrumentation, procedures, and method of data analysis.

CHAPTER THREE: METHODOLOGY

This chapter explains the methodology used in this quantitative predictor study.

Included in this chapter is a discussion of the design of the study, the research questions and hypotheses, participants, setting, instrumentation, procedures, and method of data analysis.

Design

This non-experimental comparative predictive study examined the relationships between biblical worldview, general worldview, and acts of volition (covariables) and the following predictor variables: gender, home environment, frequency of church attendance, use of BJU Press textbooks, international status, personal and parental professions of Christ, and Bible reading. The purpose of this study was to determine whether biblical worldview might be predicted through several variables and whether behavior was a predictor of biblical worldview based on scores on the Biblical Worldview Outcome Scale (BWOS). Previous research was restricted to correlational and comparative studies with the goal of statistically significant outcomes. No studies were used for prediction. Though this study incorporated some correlational analyses to test null hypothesis one, the multivariate regression model and ANOVA were used to test null hypotheses two through eight. According to Cohen, Cohen, West, and Aiken (2002), Keith (2006), and Tabachnick and Fidell (2013), multivariate statistics simultaneously analyze multiple dependent and multiple independent variables. Tabachnick and Fidell (2013) further stated, “With the use of multivariate statistical techniques, complex interrelationships among variables are revealed and assessed in statistical inference. Further, it is possible to keep the overall Type I error rate at, say, 5%, no matter how many variables are tested” (p. 6).

Another purpose of this study was to determine if a significant statistical relationship existed between a biblical worldview, secular worldview, and acts of volition. A comparative

correlative study best determines this relationship (Conrad & Serlin, 2011; Gall, Gall, & Borg, 2007). One goal of this study was to provide limited generalizations based on the scope of the study, which was supported by Conrad and Serlin (2011) and Gall, Gall, and Borg (2007). In addition, correlation methods also provide for the reliability/replicability of the findings (Conrad & Serlin, 2011), which is a secondary goal of this endeavor. A survey was administered to incoming freshmen and the data was analyzed using a nonparametric statistical analysis since at this time, assumptions could not be made about the shape or variance of the population scores (Gall, Gall, & Borg, 2007). The literature provided scenarios where correlative statistics have been successful in determining statistical relationships, making generalizations, and creating possible opportunities for replicability of the findings (Brickhill, 2010; Bryant, 2008; Liu, 2011). Schulze's (2011) correlational study of the biblical understanding of the levels of sin, morality, and religiosity found a positive relationship between morality and religiosity.

This study used gender, family environment, church attendance, the use of BJU Press textbooks, and frequency of Bible reading to predict biblical worldview as discussed in detail in Chapter Two. Although six studies were located that found a positive relationship between worldview and church attendance, Rutledge's (2013) findings showed little to no correlation between church attendance and the Biblical worldviews of the high school students in a local church. Oppman's (2014) study of college students had similar results with no statistical differences in worldview based on church attendance. Therefore, this study will add to the growing body of literature regarding worldview and church attendance. Though no studies were found that explored family life as an influencer of worldview, Ochman's (2014) study of college students confirmed that those students whose parents were still married on their 18th birthday had stronger biblical worldviews than their peer counterparts.

Research Questions

The following research questions have been designed to focus the study and to frame the topic:

RQ 1: Is there a correlational difference between the biblical worldview, general or non-biblical worldview, and acts of volition of incoming freshmen as measured by the Biblical Worldview Outcome Scale (BWOS)?

RQ 2: Is there predictive strength of the variables of gender, church attendance, home environment, and bible reading relative to university freshmen's biblical worldview, general worldview, and acts of volition as measured by the Biblical Worldview Outcome Scale (BWOS)?

- a. What is the measure of strength of the prediction?
- b. Which variables are necessary to get a measurable prediction?

RQ 3: Based on Carol Gilligan's Theory (1977) of Moral Development, is there a difference in the mean scores on the BWOS between as related to biblical worldview and culturally related societal issues?

Null Hypotheses

H₀₁: There will be no statistically significant difference between university freshmen's biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26), general (non-biblical) worldview (survey items 2, 5, 8, 11, 14, 16, 20, 24), and acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₀₂: There will be no predictability of worldview (survey items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14-16, 18, 20, 21, 24, 26) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), and parents' in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey

item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₀₃: There will be no predictability of the acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), and parents' in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₀₄: There is no statistical significant difference between men and women (survey item 28) in their views for the right to an abortion as measured by survey item 11 on the BWOS.

H₀₅: There is no statistical significant difference between men and women (survey item 28) in their views for sexual relations before marriage as measured by survey item 21 on the BWOS.

H₀₆: There is no statistical significant difference between men and women's (survey item 28) in their views on same-sex marriage as measured by survey item 24 on the BWOS.

H₀₇: There is no statistical significant difference between men and women's (survey item 28) in their views on the Harm Principle as measured by survey item 20 on the BWOS.

H₀₈: There will be no statistical significant difference between men and women (survey item 28) in their total biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26) as measured by the BWOS.

Setting

This study was conducted in a private, non-denominational Christian liberal arts university in the southeastern United States. The university was comprised of approximately 2,800 graduate and undergraduate students. Students matriculate from all 50 states and 41 countries. Sixty-six percent (66%) live on campus and 34% live off campus. The university is nationally accredited and has applied for regional accreditation. The freshman class comprised approximately one-fourth of the student population. The university offers associate, undergraduate, and graduate degrees with over 50 different majors among six different schools (College of Arts and Science, School of Business, School of Religion, School of Fine Arts, School of Education, Seminary and Graduate School of Religion). To protect the identity of the research site, no citations were used in this manuscript.

Participants

The Biblical Worldview Outcome Scale was electronically mailed to 604 potential participants attending a Christian university; 414 responded (69%), with 374 useable responses (62%). The participants in the study were a purposeful sampling of a conveniently located population (Gall, Gall, Gall, & Borg, 2007). According to the online Sample Size Calculator provided by the University of Connecticut, to obtain a level of 99% with a confidence interval of ± 5 , a sample size of 301 was needed (Siegle, 2014).

All consenting students were given the opportunity to participate regardless of race, nationality, gender, or religious practice. Each was required to consent to the survey and was told they could exit the survey at any time. No attempt was made for a probability sampling or guarantee of a regional or national representation, though students represented a broad spectrum of independent, fundamental Christian youth who chose to attend a religious institution. No

incentives were given to the subjects participating in the study, though faculty who taught freshmen were encouraged to remind the students of the survey and reminder emails were sent out twice during the open window. Both male and female students were represented in the 414 returned forms. After exclusions, which are discussed in Chapter Four, 374 useable surveys remained.

Instrumentation

The first step in developing the instrument was to determine the worldview knowledge substrata, which necessitated examining general (non-biblical) worldview statements, systematic theology components, and issues of government, history, science, and culture. The next step was to understand what people love—their obedience to Scripture and “sense of what is true, good, and beautiful” (Vanhoozer, Anderson, and Sleasman, 2007, p. 31). The final step was determining how knowledge and affections impact behavior.

Instrument research and the development of the Biblical Worldview Outcome Scale

(BWOS). Surveys are one of the best and most economically and time efficient means to collect data and reach a large population (Creswell, 2008; Tabachnick & Fidell, 2013). As anticipated, web-based surveys are generally appealing to the younger generation and provide a quick turnaround for receiving and aggregating data (Andrews, Nonnecke, & Preece, 2003; Gosling, Vazire, Srivastava, & John, 2004; McPeake, Bateson, & O'Neill, 2014). In seeking an appropriate instrument to correlate and predict biblical worldview based on the determined variables, eight instruments were examined and each one was deemed unsuitable for this study (See Appendix G for detailed analysis and consideration of each.)

Though the eight instruments had worthy questions and provided background information and insight into the worldview literature, none addressed both biblical worldview and students' acts of volition.

To begin the process of creating a researcher-based instrument, a total of 250 questions and statements were compiled from the other eight surveys, along with worldview statements from the BJU Press curricula and 15 author-written statements. A biblical worldview content theologian examined the questions using the following criteria:

1. Clear, concise statements
2. Pertinent content (See Appendix D):
 - Systematic Theology elements
 - Units found in worldview curricula
 - The biblical worldview components (Creation, the Fall, Redemption)
 - Propositional, worldview specific behaviors and devotion/love
 - Alignment to universal worldview questions
3. Repetitive concepts and themes.

Based on the above criteria, revisions were made and I decided on 56 statements. However, based on the literature length was still a concern (Hoerger, 2010). Ting, Conrad, Tourangeau and Couper (2011) found that surveys touted as taking less than five minutes to complete were not taken seriously; however, surveys that take over 20 minutes to complete revealed a 17% drop-out rate. Ting et al. further stated that a survey that takes 25 or more minutes to complete is perceived as too much of an investment. Bakla, Çekiç, & Köksal (2013) studied electronic surveys and suggested that surveys should not exceed 30 minutes for even the slowest of readers. Morales strongly discouraged an instrument with more than 20 questions (personal

conversation, June 4, 2014). Additionally, shorter surveys have been shown to have the same validity and reliability as longer instruments. The Barna Group's worldview survey is 11 questions and shows robust validity and reliability (Lanier, 2010). Similarly, the Shorter Christian Orthodoxy Scale (SCO) created by Hunsberger (1989) provided a shorter version of the Christian Orthodoxy Scale (CO), has only six questions, and has been found to have similar psychometric properties as the CO. Based on this research and in an attempt to refocus the instrument, the basic ideas of worldview were reexamined (Smith, n.d.; Slick, 2004). After further synthesis of the instrumentation research, a new instrument of 27 statements emerged. The composition included five statements from the BJU Press curriculum (Bolinger, 2013; Egolf & Santopietro, 2008; Gage, Rose, & Stegall, 2011; Hess & Cates, 2010); all others were original statements, though greatly influenced by the literature. Statements were divided into three sections—biblical worldview, non-biblical worldview, and act of volition—and were then examined to ensure their comparative predictor capability, scriptural context, and general worldview knowledge. In addition to the survey being examined by a panel of biblical worldview specialists, youth pastors and a reading specialist also reviewed the instrument. Furthermore, a statistician examined the psychometrics. The product was the Biblical Worldview Outcome Scale (BWOS), an original survey that covers both aspects of worldview—knowledge and volition (See Appendix C).

Survey Components. The survey was comprised of four distinct sections. The first three sections were randomized in the final format, with the fourth section including demographic information.

Biblical worldview. This section included nine statements (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26) designed to probe participants' general theological knowledge and beliefs. The statements were assessed using a three-point Likert scale—Agree (5), Disagree (3), Unsure (1).

General or non-biblical worldview. This section included seven statements (survey items 2, 5, 8, 11, 14, 16, 20) regarding non-biblical worldview, which were most likely influenced by secularism and postmodernity. Each question was assessed on a five-point Likert scale ranging from strongly disagree to strongly agree.

Acts of volition or personal beliefs. The acts of volition or personal beliefs section dealt with the participants' individual behavior and targeted one's loves and inward desires. Of the 36 statements, seven (3, 6, 9, 12, 17, 19, 22, 23, 25) were intended to test acts of volition/personal beliefs. Each question was assessed on a five-point Likert scale ranging from strongly disagree to strongly agree.

Demographics. These statements were used to identify the following: students' age, sex, church attendance, devotional practice, home environment, and profession of Christ (items 27-36). These 11 questions were designed to determine the predictive value of worldview.

Procedures

After the defense proposal and appropriate approvals, the instrument was field tested for validity and reliability, after which a comparative data analysis to investigate the relationship between the variables and the covariable was performed.

Approvals (IRB, OIE)

The IRB packet was submitted and after two revisions, approval was granted to proceed with the research (See Appendix E). The Office of Institutional Effectiveness at the participation site also granted approval to administer the instrument to the 2014-2015 freshman class (Appendix F).

Anonymity

An anonymous survey protects students' privacy and the institution from liability (e.g. Family Educational Rights and Privacy Act). The anonymity and assurance of confidentiality of the survey provided for privacy of the respondent and also enabled students to be more forthcoming and accurate in their responses (Bates & Cox, 2008; Rockinson-Szapkiw & Szapkiw, 2011; Sinkowitz-Cochran, 2013; Wright & Schwager, 2008).

Validity

Face, content, and construct validity are addressed.

Face validity-Expert panel results. Face validity, which evaluates the degree by which a measure adequately covers the concept as viewed by knowledgeable individuals (Creswell, 2008; Patten, 2009), was established by submitting the document to a panel of six biblical worldview content specialists who were experts in the areas of theology, education, and ministry and who have teaching, research, and writing experience in the areas of worldview, along with two youth pastors who have ministered to youth for 25 years. They were asked to evaluate each question based on clarity, appropriateness for freshmen, and accuracy and inclusivity of biblical worldview content. Sinkowitz-Cochran (2013) stated that the reading level of the participants should be considered; therefore, a reading specialist also reviewed the questions.

Table 3.1

Expert Panel Responses

Question	Comments
Man is created by God in His image.	<p>JB: Would you want to amend to "Man is created by a direct act of God..." to rule out evolution as a means whereby God created man (theistic evolution)?</p> <p>BC: I like JB's suggestion to phrase the question in a way that excludes embrace of evolution; It would be good to make sure to retain something on the image of God in man.</p>
The Bible is the inspired Word of God.	<p>EN: As the Word of God, the Bible is trustworthy, without error, and authoritative for all of life.</p> <p>BC: I think EN's rephrasing of this question is excellent</p>
Salvation only comes through repentance of sin and faith in Jesus Christ's sacrificial death for mankind.	<p>EN: Salvation comes only through repentance of sin and faith in Jesus Christ, who sacrificially died for the sins of the world and rose again bodily the third day.</p> <p>MW: Add resurrection per 1 Cor. 15.</p>
Mankind is responsible to rule over God's creation to create and cultivate culture. *	<p>JB: I'm not comfortable with saying that God gave a command to create and cultivate culture. He gave man a command to have dominion/steward the earth. In doing so, as a rational and social being, he would naturally create and develop culture. Perhaps say, "Mankind is responsible to rule over God's creation for the good of mankind and the glory of God."</p> <p>MW: I agree with the original, but I think JB change is best because "creating and cultivating culture" is a technical term kids won't understand "creating and cultivating culture" is a technical term kids won't understand.</p> <p>BC: How about: "God blessed mankind with the ability to rule over God's creation and develop cultures"?</p>
All sorrow (ex: disease, pain, death, trouble) and natural disasters (ex: hurricanes, earthquakes, floods) are a result of man's	<p>JB: Would it be better to say these are the result of the curse upon the earth because of the fall of man? We aren't saying that God caused a typhoon in the tropics because someone sinned there.</p> <p>MW: "...man's fall into" seems to satisfy JB's comment</p>

fall into sin. *	
Marriage is a covenant between one man and one woman for life.	<p>JB: This is true, but it isn't as exclusive a statement I'd make it. This leaves open another possibility that marriage is also a covenant between one man and another man. Probably better to say, "God intends that marriage be a covenant only between a man and a woman."</p> <p>EN: Perhaps this could be eliminated since there is a related question re: homosexuality below.</p> <p>BC: I like JB's revision, but I would keep "for life" at the end.</p>
Creator God is active in the world today sustaining and providing for His creation.	MW: The Creator God....
No one has the right to tell me what to do.	<p>EN: This seems too general to be useful. If you need to eliminate a few questions, I think this one could go.</p> <p>MW: I might say something that hits the American value of freedom and the harm principle like, "People ought to be free to do what they wish as long as they don't harm anyone else." The harm principle is one of the few major moral foundations operative in mainstream American society; see Jonathan Haidt's work.</p>
A woman has the right to abort her unborn child.	MW: I guess I'm not completely certain who the audience for this is, but I would make it a little harder to get this one right by using the word "fetus."
Scientific study of the world is the most reliable source for truth. *	MW: "Science provides the most reliable means for establishing the facts about our world and ourselves." I think that requires a little more thinking on the part of the respondent.
Man is basically good.	EN: This question is important, because the first section on BWV does not have a question related to the fall, except for relationships of evil to the curse.
A person has the right to marry whom they choose even if it is someone of the same sex.	<p>BC: I would change "whom they choose" to "whom they love" to capture the force of the opposing argument</p> <p>JR: Would gender be a better word?</p>
It is okay to live together and/or have	BC: You might add "if we love each other" or "if we are committed to each other" to distinguish between those who think

sex before marriage.	casual sleeping around wrong but that not all sex before marriage is wrong JR: I'm concerned about the use of the phrase, "Sex before marriage." Would a better wording be, "intimate physical relations"?
The way I present myself (clothing choices, hair style, etc.) reveals my inward desire to reflect God's image.	PG: It seems to me that this question communicates to Christian students what the "expected" answer should be. It should be rephrased, but I don't know what to suggest. MW: If PG is right, then make it false: "What I wear says nothing about who I really am."
When given a choice, I am more likely to choose a sporting/entertainment event over church.	PG: It seems to me that this question communicates to Christian students what the "expected" answer should be. Rephrase: I go to church even if it means missing a sporting/entertainment event. (Even rephrased this seems to be a "male" question) EN: I go to church even if it means missing a sporting/entertainment event. MW: Rephrase; I agree with EN.
I make it a priority to tell unbelievers about Jesus Christ.	PG: Rephrase: I have told an unbeliever about Jesus Christ in the last 6 (or 12?) months. EN: I have told an unbeliever about Jesus Christ in the last 6 months. MW: I agree with PG and EN.
When seeking friends, I gravitate to those who love God and want to serve Him.	MW: Telegraphs expected answer (and who "seeks friends"?). Maybe try "My two closest friends show clear evidence of love for God and a desire to serve Him."
I find keeping God's commandments a burden.	MW: I find keeping the rules of the Bible a burden.
My choices in music, literature, and entertainment reveal that I desire to become more like Christ.	PG: It seems to me that this question communicates to Christian students what the "expected" answer should be. Perhaps rephrase: I have made decisions on what I read, watch or listen to based on my desire to be more like Christ. EN: I regularly make decisions on what I read, watch or listen to base on my desire to be more like Christ.

	MW: I agree with EN.
The more money I make, the happier I will be.	DG: The Likert scale may not work as well on this type of survey is an agree-disagree approach. What would it mean if someone chose “slightly agree” to “The more money I make, the happier I will be?” What would it mean if someone chose “agree?” Could statistical significance be parsed between the two? The better approach may be to ask them whether they agree or disagree.
General Comments	<p>PG: As the rephrased questions above indicate, I think that the best way to gauge impact on behavior is to ask, at least in some cases, what they have done in the past rather than to put the question in the abstract. It makes it less likely that you get the answer that a "good Christian kid" thinks you want as opposed to how they really behave.</p> <p>DG: Statements should be randomized and phrased such that students would be less likely to give an expected answer. The old saying that “actions speak louder than words” may also apply. You might consider asking the students if they did something within a specified period of time or at a key decision point in their lives.</p> <p>EN: One potential solution would be to restate some of the statements as scenarios. That might get too complicated, I understand. My thought is that, whereas nearly every student is going to affirm that knowing God’s will for his life is important, crafting a brief description where he has to make a judgment call indicating his belief in its importance might yield better data. Again, I say this as a novice when it comes to assessment instruments.</p> <p>PG: Are you going to ask these questions in this order? If so, then I believe you are communicating the expected response by the very order. If you are going to mix the questions, then I believe they are OK.</p>

Based on a scale of 1-5, with the highest score in each section equaling 20, the mean scores were as follows:

- Clarity: 79%
- Accuracy of content (theology): 100%
- Inclusivity of bible worldview content: 90%

- Appropriate for freshmen: 90%
- Reading level to include vocabulary: 90%

Based on the input from the panel of experts, changes were made accordingly (Appendix C). In addition, face validity were addressed through the administration of a pilot test using the instrument with representative individuals of the sample population (van Teijlingen, Rennie, Hundley, & Graham, 2001; White & McBurney, 2013).

Content Validity. "Content validity is the extent to which the questions on the instrument and the scores from these questions are representative of all the possible questions that a researcher could ask about the content or skill" (Creswell, 2008, p. 164). In order to address this, a comprehensive review of the biblical worldview literature was conducted and used to construct the survey instrument along the range of concepts identified within each review. A review of the survey instrument by area experts and the administered pilot test also served to address content validity.

Construct Validity. According to Creswell (2008), construct validity "is established by determining the scores from an instrument are significant, meaningful, useful and have a purpose. In short are they a good measure, and can you use them to understand a sample from a population" (p. 165)? The items selected for the instrument were identified and supported through an extensive review of the literature. Their inclusion has been shown through previous research to support the relationships between biblical worldview, general non-biblical worldview, and devotion to God.

Internal Reliability. To test the reliability and internal consistency of the instrument, a field study was conducted and Cronbach's Alpha was computed. The internal reliability of the instrument was an acceptable .757. (Appendix H). By removing the 14 questions with item

correlation below .3, the Cronbach Alpha rose to .813 (Appendix H); however, the questions remained in the instrument.

Developing the electronic survey. As previously stated, a web-based survey was chosen for its appeal to the younger generation, cost effectiveness, and the expediency of receiving the results. SurveyMonkey® was chosen for its ease of use, economic appeal, and the recommendation of the Office of Institutional Effectiveness at the university site. In constructing the online survey, the following considerations provided by Dolnicar (2013), Dolnicar and Grün, 2013, Dillman (2007), and Rossiter (2011) were implemented:

- Demographic information should be placed at the end of the survey because the first several questions should captivate interest in the survey and connect the participant to the importance of the survey as conveyed in the cover letter (Dillman, p. 94).
- Avoid forcing respondents to respond; provide them an undecided choice (Dillman, 2007).
- Move Neutral, Undecided, and No Opinion choices to the end of the responses to avoid the frequency of usage. Dillman found that when a neutral choice was at the midpoint of the responses, its use went from 5% to 13% (p. 58-60). Dolnicar (2013) stated that the use of “Don’t Know” responses should be limited to when there was evidence that the person truly might not know, and if used, should be separate from the other answers. Rossiter found that when respondents were not given a “Don’t Know” choice or the equivalent the error rate was 9%. When given the option, the error rate was 1%. Dolnicar (2013) and Rossiter recommended avoiding the use of midpoint responses because of the lack of intuitive

understanding of why the respondent chose that option. Rossiter added that midpoint choices led to “Evasion Bias” (p.79).

- Participants should not be required to answer any question, since they have the right to opt out at anytime (Dillman, 2007).
- Evaluative beliefs are best tested by use of a Likert scale or Semantic Differential Item scale (Dolnicar & Grün, 2013).

Survey queries were developed using Vagas’s (2006) compilation of Likert response anchors.

Field study population, administration and results. White & McBurney (2013) stressed the importance of field studies, and van Teijlingen, Rennie, Hundley, and Graham, (2001) concluded that field studies reveal problems and inconsistencies in the instrument and provide the researcher an opportunity to correct and improve. They added, “Well-designed and well-conducted pilot studies can inform us about the best research process and occasionally about likely outcomes” (p. 293). The field study provided an opportunity to refine questions, assure all scores were valid, test Cronbach’s Alpha, and to gain a familiarity for the data.

The Biblical Worldview Outlook Survey was administered to 38 juniors and seniors at a local Christian high school. Prior to the administration of the field study, consent forms were distributed to the students for parental consent, and on the day of administration each student signed and returned the consent form before completing the survey. The researcher administered the survey in two different class settings with the class instructor present. Participation was voluntary and no identifying information was collected from subjects. Subjects were allowed as much time as they needed to complete the instrument; however, it generally took most students six to ten minutes to complete the survey. Overall, understandability, relevance, and appropriateness of the questions were assessed by questions proposed by Yoshimura (2010), such

as: "I clearly understand the survey items;" "There are no places in the survey that cause me confusion;" "The questions offer all possible response options;" "None of the terminology is too difficult;" and "The survey drags on too slowly for me " (p. 37). Students were also instructed that if they had any questions or comments about specific questions, to give their input directly on the survey instrument. Three different students wrote the following feedback:

Question 24: If two people love each other, it is okay to live together and/or have sex (intimate relations) before marriage.

Comment: Real life example, I know a man who is living with a woman and her single child to provide protection and support for her. I think this is okay.

Researcher comment: This could be deemed as situational ethics; however, the student did not address whether or not the male and female were engaged in intimate relations.

Question 32: Is either of your parents in full-time Christian Service?

Comment: "My mother works here at the school, is she considered in full-time Christian service?"

Comment: "My parents work for a living."

Researcher comment: Both students answered, "Yes" to the question. Possibly the question should be phrased: "Do either of your parents make their living in full-time Christian service." However, some students' parents might be in full-time Christian service but do not draw a salary and are not supported by other means. Students may have been confused by what was meant by full-time Christian service.

Additionally, the researcher provided contact information for students to use if they had other questions, needed clarifications, or had any additional comments about the survey. Students were also informed of sources of counseling available to them within the school if the survey had

led them to question their own faith in Christ. Based on student responses, the overall combined mean scores on a Likert 5-point scale was 4.2.

After reviewing comments and combing through the pilot study results, the following changes were made to the survey:

Question 9: “Before coming to college” was added to the “I go to church even it means missing a sporting/entertainment event.”

Question 30: The choice of “Never” was included in the question, “...how often do you devotionally read your Bible each week.”

Threats to validity and reliability. The threats addressed are as follows: The online survey decreased a potential threat by providing a single-source of instrumentation rather than using multiple proctors or administering the test in a large group seminar setting. However, in an online survey, students do not have the potential to ask questions or express concerns. Since the freshmen class was divided into 37 different Freshman Seminar sections, the researcher met with the instructors to disseminate information about the survey, which provided personal contact with the researcher and an opportunity for the instructors to ask the researcher questions and clarify the information. This also gave the facilitators an opportunity to discuss the survey’s purpose, cover unfamiliar terminology within the consent form, and once again reinforce the anonymity of the survey. Having the facilitators discuss this with the students helped to clarify the information the students saw when they opened the SurveyMonkey® link. At this point, students also received the consent form and were informed they could contact the researcher or the researcher’s advisor with additional questions before beginning the survey.

Procedures for Administering the Survey

Once validity and reliability were established, an email containing the SurveyMonkey® link and an attached consent form was launched November 12, 2014 (See Appendix B). The instructions assured the participants that the survey was voluntary, anonymous, and that no monetary incentive or personal benefit was being offered to complete the survey. All of the Freshman Seminar instructors were asked to announce the launch date and encourage their students to complete the survey. The survey window was opened for 12 days and closed at midnight EST on November 24, 2014. A reminder email was sent on November 20 and 24. After electronically receiving the results from Survey Monkey®, the data were exported directly to the researcher's SPSS (version 22) software and statistical analyses commenced.

Data Analysis

This research was a predictive data analysis to investigate the relationship between the predictor variables and two covariables (the combined worldview scores and acts of volition scores). The study analyzed the relationship between each of the predictor variables and the covariables. Additionally, a correlational study examined the relationship between biblical worldview, general worldview, and acts of volition. The mean differences between gender and several culturally related topics were analyzed. An analysis of descriptive statistics and frequencies provided general statistics of the predictor variables and the covariables, as well as the means, standard deviations, and ranges of scores which were used to obtain a clear view of the raw data, as well as to reveal any data collection abnormality. Additionally, to better understand the sample, an ANOVA was first used to analyze the predictor variables. Tukey's Post Hoc test was run to examine the homogenous subsets.

Null hypothesis one was tested using a bivariate correlation. Data was reported using histograms and a Bivariate Scatter plot of each variable to determine relationship (Gall, Gall, & Borg, 2007). This procedure was repeated with the three covariables—biblical worldview, non-biblical worldview, and acts of volition—to obtain a sum of sections to determine if the components are statistically significant or dependent upon one another.

Since it is possible that several predictor variables could predict worldview, a linear regression analysis was used for H_{02} and H_{03} to determine a statistically significant predictive model. According to Cohen, Cohen, West, and Aiken (2002), multiple regression is tool that has “the capacity to represent with high fidelity” complex relationships,” which will enable the researcher to predict outcomes and test hypotheses (p.6). The multiple regression analysis provided great range and enabled examination of any set of data collected from the variables analyzed. Stepwise regression analyses were used to test distinct prediction models. According to Cohen, Cohen, West, and Aiken (2003), an implicit assumption in stepwise regression analyses is that the relationship between each predictor and the outcome measure is constant (i.e., linear) across all values of the outcome. The strength of predictability will be evaluated by the p value; if it is close to zero, predictability may be assumed. A parsimony study provided the simplest explanation of predictability (White & McBurney, 2013; Springer, 2010). Additionally, a Single Factor, Independent Measures Analysis of Variance (F test) was used to determine if there were any significant differences in the group means with 0.05 used as the level of significance, which further necessitated the use of Tukey’s post hoc analysis (Gall, Gall, & Borg, 2007). According to Verial (2015), the purpose of Tukey's HSD test is to determine which groups in the sample have significant differences, which was also helpful in better defining the sample.

For null hypotheses four through eight, the mean distribution was computed using a univariate ANOVA for each variable. In addition to the ANOVA, Pearson's correlation was applied to verify the degree of association between variables (Mesquita, Antonio, Januário, & Barroja, 2008). To reject the null hypothesis, a p value less than .05 was used. Because homogeneity of variance assumes that the spread in data will be equal, an independent samples t-test was used to satisfy the assumptions (Moore, McCabe, & Craig, 2009).

All statistical analyses were performed using IBM SPSS Statistics, Version 22 and Microsoft Office Excel, 2011.

Chapter Summary

This chapter included information regarding the procedures used to conduct the research, a review of the background and the purpose of the study, the research questions, and the null hypotheses. Great attention was given to the development of the instrument, the field study, the launch of the research, and the procedures and methods of data analysis. Chapter Four will discuss the results and findings of the data analysis.

CHAPTER FOUR: RESULTS

This study sought to answer three research questions using a correlative analysis, a predictive model, and a comparison of mean scores. Pearson's correlation coefficient was used to analyze a correlation between biblical worldview, general worldview, and acts of volition (RQ 1). A linear regression model explored the predictive value of worldview (RQ 2), and an analysis of variance (ANOVA) examined the comparison of the mean scores of male and female students' views on cultural issues (RQ 3). An independent variable t-test was used to satisfy assumptions violated in the ANOVA. The research questions were as follows:

RQ 1: Is there a correlational difference between the biblical worldview, general or non-biblical worldview, and acts of volition of incoming freshmen as measured by the Biblical Worldview Outcome Scale (BWOS)?

H₁: A significant correlation will exist between university freshmen's biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26), general (non-biblical) worldview (survey items 2, 5, 8, 11, 14, 16, 20, 24), and acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) as measured by the Biblical Worldview Outcome Scale (BWOS).

RQ 2: Is there predictive strength of the variables of gender, church attendance, home environment, and Bible reading relative to university freshmen's biblical worldview, general worldview, and acts of volition as measured by the Biblical Worldview Outcome Scale (BWOS)?

- a. What is the measure of strength of the prediction?
- b. Which variables are necessary to find a measurable prediction?

H₂: There will be predictability of worldview (survey items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14-16, 18, 20, 21, 24, 26) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment

(survey item 31), and parents' in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

H₃: There will be predictability of the acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), and parents' in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

RQ 3: Based on Carol Gilligan's Theory (1977) of Moral Development, is there a difference in the mean scores on the BWOS between as related to biblical worldview and culturally related societal issues as measured by the Biblical Worldview Outcome Scale (BWOS)?

H₄: There is a statistical significant difference between men and women (survey item 28) in their views for the right to an abortion as measured by survey item 11 on the BWOS.

H₅: There is a statistical significant difference between men and women (survey item 28) in the level of support for sexual relations before marriage as measured by survey item 21 on the BWOS.

H₆: There is a statistical significant difference between men and women's (survey item 28) in their views on same-sex marriage as measure by survey item 24 on the BWOS.

H₇: There will be a statistical significant difference between men and women's (survey item 28) in their views on the Harm Principle as measured by survey item 20 on the BWOS.

H₈: There will be a statistical significant difference between men and women (survey item 28) in their total biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26) as measured by the BWOS.

Descriptive Data

Participants (N=441) were both male and female and represented a community of students between 16 and 30 years of age. The following age groups were excluded:

Non-traditional freshman 21 years of age or older (n=11)

Minors 17 years of age or younger (n=21)

Year of birth not included (n=7).

The age breakdown of the remaining sample (N=374) is depicted in Table 1.

Table 4.1

Demographic Frequencies and Means

Characteristics		N	Percentage	Mean	Std. Deviation
Gender	Female	230	61.5%	1.38	61.5
	Male	143	38.2%	1.00	38.2
	Missing	1	.3%		
	Total	374	100%		
Age	18	226	60.4%		60.4
	19	130	34.7%		34.8
	20	18	8%		4.8
	Total	374	100%		100%

In addition, the following demographic questions were included as predictors of worldview:

Item 29 asked students the frequency of church attendance before coming to college. The statement had seven possible levels of frequency with 67.9% (254) who attended church three or more times a week ($M=5.94$, $n=370$) .

Item 30, Devotional Bible reading, had six possible Likert-scale responses with 143 students (38.2%) indicating a consistent reading of the Bible, and 9.6% (36) never reading the Bible devotionally ($M=3.91$, $n=371$).

Item 31 was based on a 5-point Likert scale and asked students to rate the spirituality of their home ($M=4.78$; $n=373$).

Item 32 asked students to indicate whether or not their parents were in full-time Christian service, with 33.7% (126) indicating that their parents were in full-time Christian service ($M=1.134$, $n=372$).

Item 34 asked whether or not the students considered their parents Christians, with 93.5% (350) responding that both parents were Christians; 13 (3.5%) indicated they were not or that they did not know, and three stated that at least one of their parents were not Christians ($M=3.92$, $n=366$).

Item 35 asked students if they used BJU Press textbooks in high school. Students had three choices: Yes (66.8%, 250), No (29.7%, 111), and Unsure (3.2%, 12) ($M=2.37$, $n=373$).

Item 36 asked participants to self-report if they considered themselves professing Christians, with 98.1% indicating that they were Christians ($M=2.97$, $n=367$).

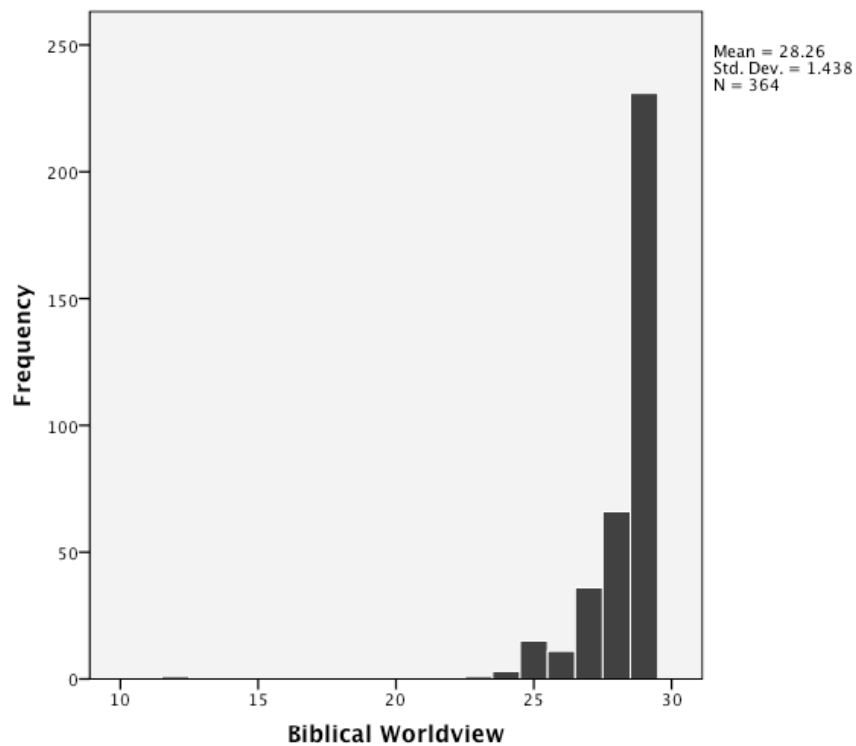
Table 4.2

Predictor Frequencies and Means

Characteristics	N	Mean	Std. Deviation
Church Attendance	370	5.94	1.046
Daily Bible Reading	371	3.91	1.577
Do you consider your home/family life to be spiritual?	373	4.28	.932
Are either of your parents in full-time Christian service?	372	1.34	.474
Are you an international student (non-missionary child)?	372	1.08	.264
Parents' (or guardians') spiritual condition	366	3.92	.380
BJU Textbook	373	2.37	.912
Do you profess to be a Christian?	373	2.97	.236

The following four histograms depict the population relative to its worldview and acts of volition. A more diversified population would render a more normal distribution, but this population clearly does not follow that pattern in terms of biblical and non-biblical (general) worldview. Biblical worldview ($M=28.25$, $SD=1.438$) shows the population heavily skewed to the right, which was expected considering the setting of the survey.

Figure 3. Biblical Worldview



General or non-biblical worldview ($M=12.84$, $SD=4.026$) shows the population skewed in the opposite direction of BWV (as seen in Figure 4).

Figure 4. General (Non-biblical) Worldview

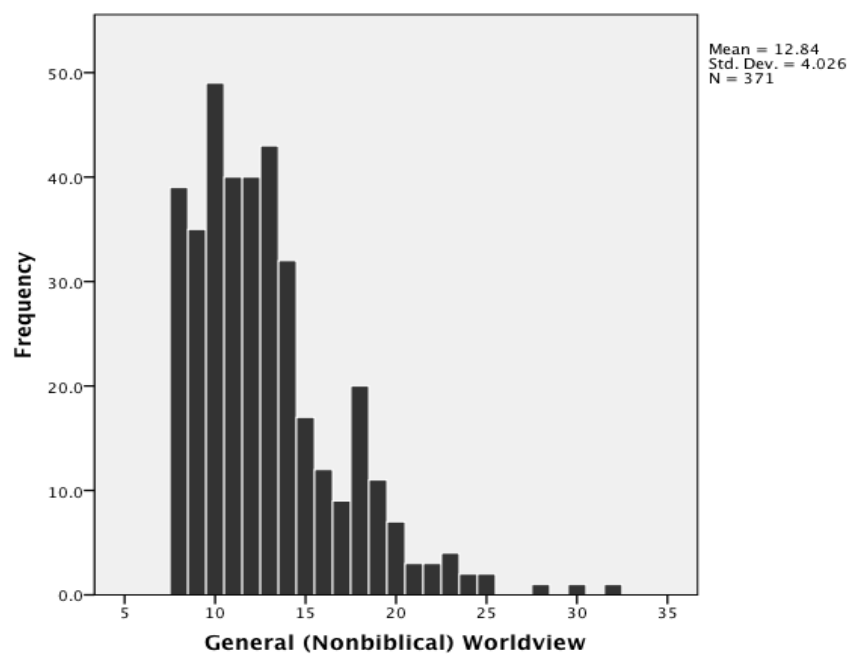
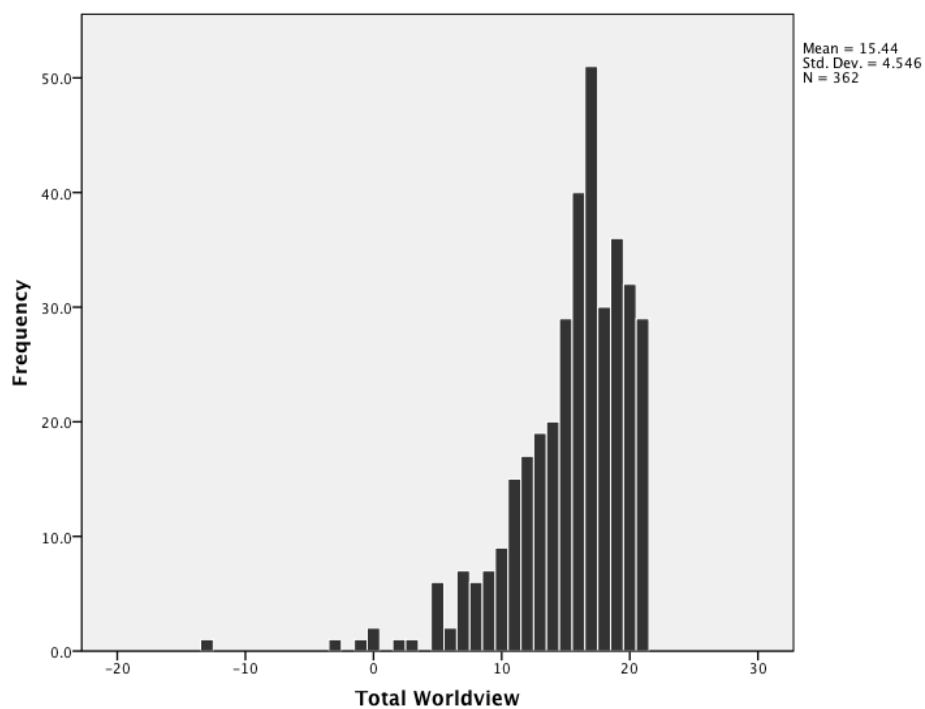


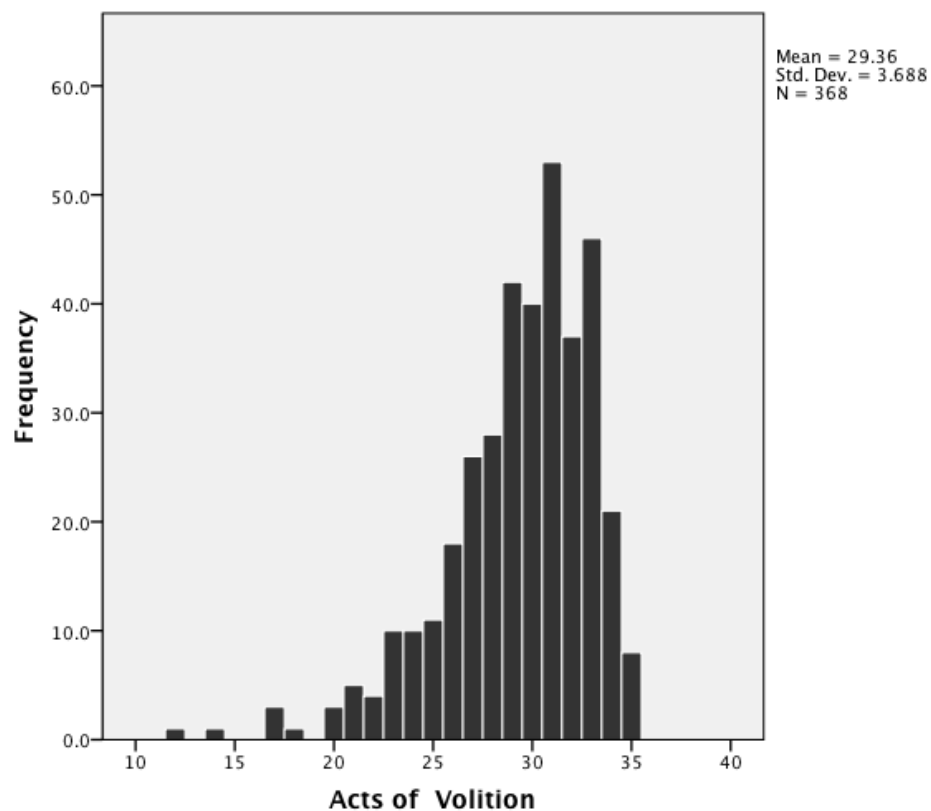
Figure 5 depicts biblical worldview and general (non-biblical) worldview, combined in the new variable of Total Worldview ($M=15.44$, $SD\ 4.546$). Though not as skewed, the population still leans toward the biblical worldview.

Figure 5. Total Worldview (Biblical and General Sum)



For Acts of volition ($M=29.36$, $SD=3.688$), the population shifted toward a normal distribution (see Figure 6).

Figure 6. Acts of Volition



Thus in comparing all four histograms, the population scored as expected. The Total Worldview ($M= 15.44$) was skewed toward a biblical worldview, while General Worldview

(GW) ($M=17.84$) and Biblical Worldview (BWV) ($M=28.26$) were skewed in opposite directions. The GWV and Acts of Volition ($M=29.36$) were not as skewed as the BWV since some of the general worldview questions registered more moderate answers.

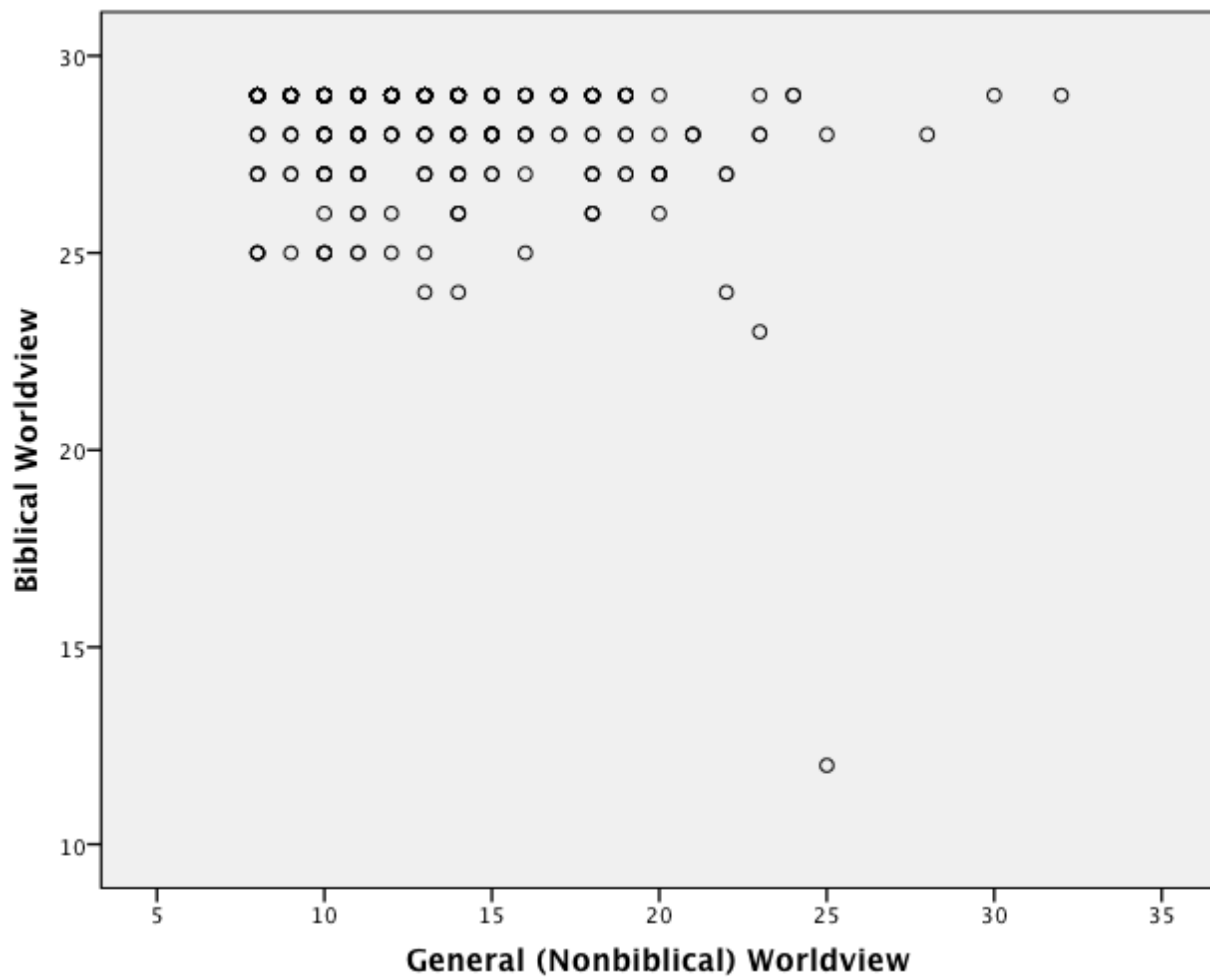
Null Hypotheses

Hypothesis H_{01}

There will be no statistically significant difference between university freshmen's biblical worldview, general (non-biblical) worldview, and acts of volition as measured by the Biblical Worldview Outcome Scale (BWOS).

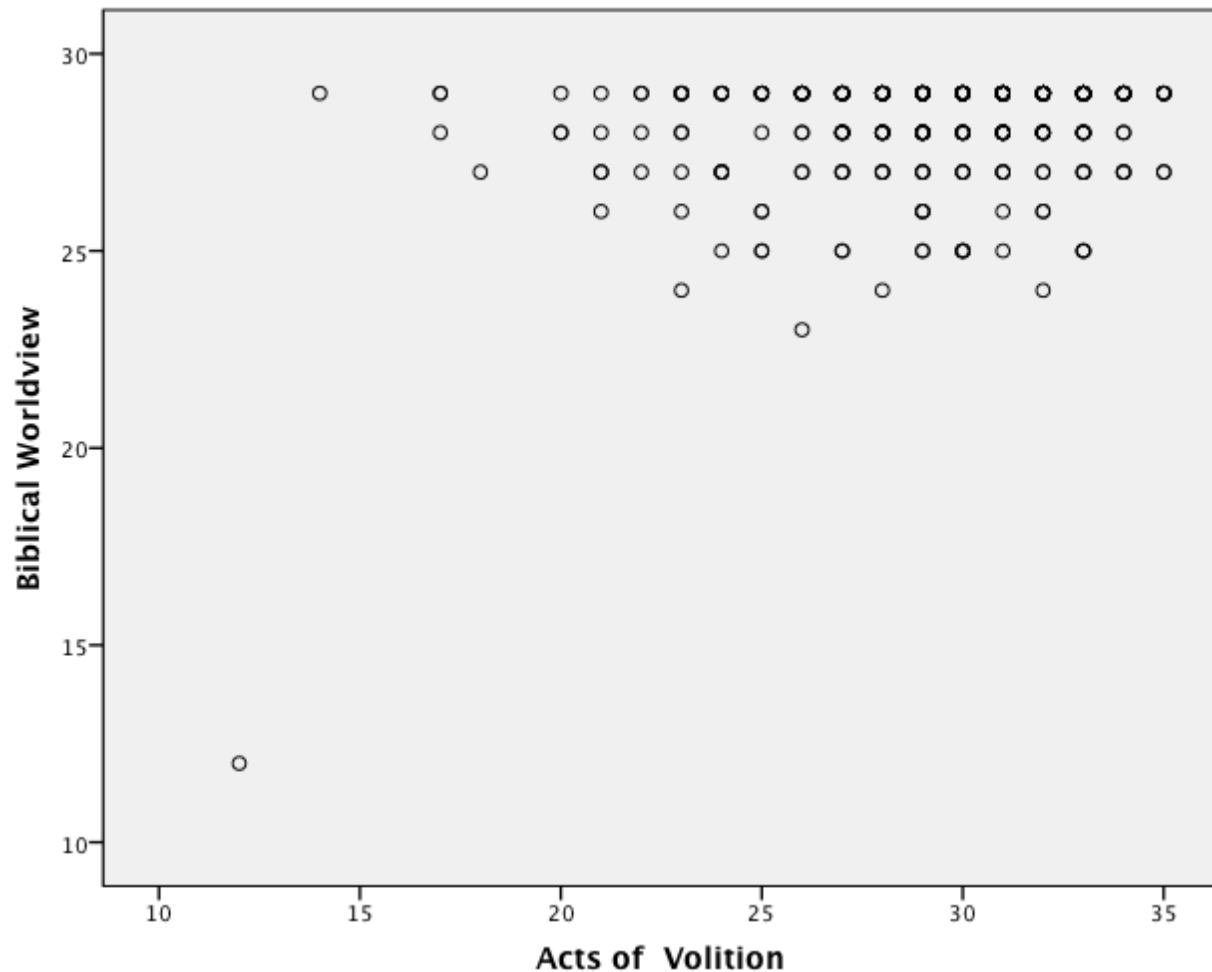
Pearson product-moment correlation coefficient (Pearson's r) was computed to assess the relationship between biblical worldview (BWV) and general worldview (GWV). There was a negative correlation between the two variables, $r = -.19$, $p < .001$. A bivariate scatterplot was used to summarize the results (Figure 4.1). According to Patten (2009), this indicates a negligible negative relationship ($-.01$ to $-.19$). Increases in BWV were correlated with decreases in GWV (see Figure 7).

Figure 7. Bivariate Scatter Plot- Biblical Worldview and General Worldview



A second Pearson product-moment correlation coefficient (Pearson's r) was computed to assess the relationship between biblical worldview (BWV) and acts of volition (AoV). There was a positive correlation between the two variables, $r = .26$, $p < .001$. A bivariate scatterplot was used to summarize the results (Figure 8). Patten (2009) described this as a weak positive relationship ($+.20$ to $+.29$). Increases in BWV were correlated with increases in AoV (see Table 4.5).

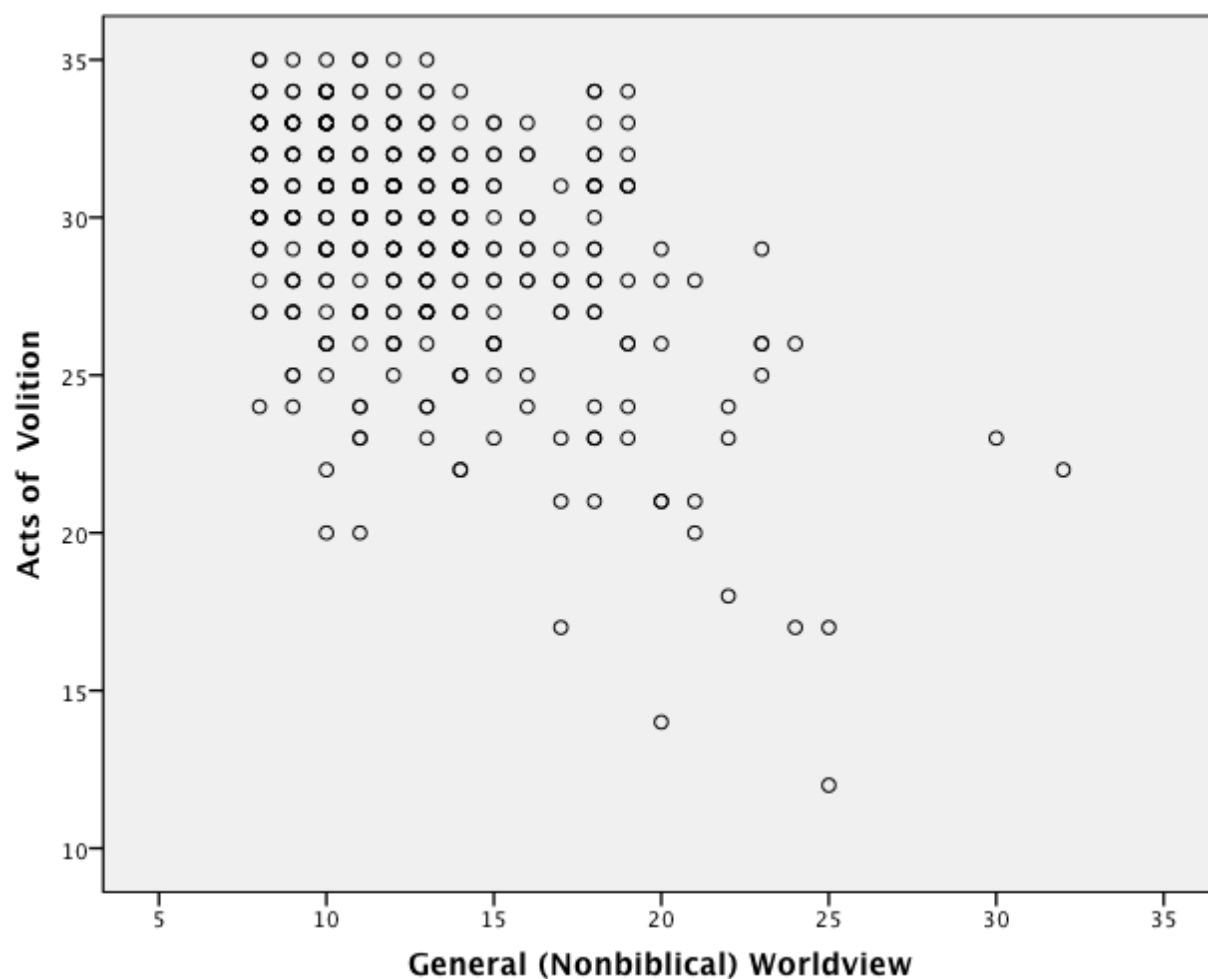
Figure 8. Bivariate Scatter Plot- Biblical Worldview and Acts of Volition



A third Pearson product-moment correlation coefficient (Pearson's r) was computed to assess the relationship between acts of volition (AoV) and general worldview (GWV). There was a negative correlation between the two variables, $r = -.47$, $p < .001$. A bivariate scatterplot was used to summarize the results (Figure 9) Overall, there was a negative correlation between AoV and GWV. Correlation coefficients in the .04-.05 range are considered to be moderate (Patten, 2009). Increases in AoV were correlated with decreases in GWV. All findings were significant at

the .01 level (2-tailed). The strength of the correlation was based on the distance from +1 or -1; the closer the value, the stronger the correlation (Archambault, 2002; Patten, 2009).

Figure 9. Bivariate Scatter Plot: General Worldview and Acts of Volition.



The Pearson's coefficient correlation analysis of the two worldviews and acts of volition factors revealed the magnitude and direction of the association between the variables on an interval or ratio scale (Archambault, 2002). The Statistical Package for the Social Sciences

(SPSS) 22.0 was used for correlation analysis and a correlation matrix of the results was presented in Table 4.3, along with histograms (Figures 3, 4, 6) and bivariate scatter plots (Figures 7-9). Implications of this finding will be discussed in Chapter 5.

Based on these findings, the researcher rejected null hypothesis one; statistically significant correlations exist between the three categories.

Table 4.3

Correlation Matrix, Biblical World View, Global World View, and Acts of Volition.

R (p)	Biblical World View	General World View	Acts of Volition
Biblical World View	1	-.192** (<.001)	.257** (<.001)
General World View	----	1	-.472**(<.001)
Acts of Volition	----	-----	1

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

Hypothesis H₀₂

There is no predictability of worldview as measured by the Biblical Worldview Outcome Scale (BWOS) based on the variables of gender (survey item 28), church attendance (survey item 29), home environment (survey items 31, 32, 34), devotional life (survey item 30), international

student (item 33), use of BJU Press textbooks (item 35), and personal profession of Christ (survey item 36)

This study sought to answer the research question regarding the predictability of worldview based on the demographic variables (spiritual family life, devotional Bible reading, international student, BJU textbooks, gender, parents in Christian service, parents' spiritual condition, church attendance, and a student's profession of Christ). After BWV and GW were summed to create a Total Worldview variable (TWV), a multiple-linear regression was calculated to determine the overall predictive value of worldview. A significant regression equation was found ($F(9,367)=5.614$, $p<.001$), with an R^2 of .12. Based on the R^2 , the model had an overall predictability of 10% of the population. In the social sciences, R^2 of .30-.40 is considered acceptable; however, a better predictor is the impact of each predictor on the dependent variable (Augemberg, 2011; Coşkuntuncel, 2013; Flom, 2014). Following completion of the initial analysis, stepwise was added to the equation and four models were created. As illustrated in Table 4.4, Models 1-4 provided significant predictive value; however, Model 4 ($F(4, 372)=11.66$, $p<.001$), with an R^2 of .11, was the most parsimonious (spiritual family life, devotional Bible reading, international student, and BJU Press textbooks) statistically significant predictor of Total World View.

Hypothesis H_{02} was rejected because there were predictor variables for worldview. Implications of this finding will be discussed in Chapter 5.

Table 4.4

Multiple Regression Model: Predictors of Total World View

Model	Independent Variable	R	F (Change)	Beta	t	p
1	Spiritual Family Life	.202	<.001	.202	3.507	.000
2	Spiritual Family Life	.292	<.001	.193	3.507	.000
	Devotional Bible Reading			.193	3.504	.000
3	Spiritual Family Life	.221	.039	.189	3.387	.000
	Devotional Bible Reading			.174	4.351	.000
	International Student			.138	-2.654	.008
4	Spiritual Family Life	.334	.000	.207	3.804	<.001
	Devotional Bible Reading			.172	3.156	.002
	International Student			-.164	-3.023	.003
	BJU Press			.118	2.320	.021
5	Spiritual Family Life	.361	.371	.194	3.314	<.001
	Devotional Bible Reading			.173	3.070	.002
	International Student			-.139	-2.446	.015
	BJU Press Use in High School			.113	2.186	.029
	Gender			-.085	-1.555	.121
	Parents in Christian Service			-.025	-.445	.657
	Parents are Christian			.022	.388	.698
	Professed Christian			-.030	-.547	.585
	Church Attendance			.019	.332	.740

Hypothesis H₀₃

There is no predictability of the acts of volition based on the variables of gender (survey item 28), church attendance (survey item 29), home environment (survey item 32, 33, 35), devotional life (survey item 30), international student (item 33), use of BJU Press textbooks (item 35), and personal profession of Christ (survey item 36) as measured by the Biblical Worldview Outcome Scale (BWOS).

Multiple-linear regression without stepwise was calculated to determine the predictive value of acts of volition. To create a predictor model, variables (spiritual family life, devotional Bible reading, international student, BJU Press textbooks, gender, parents in Christian service, parents' spiritual condition, church attendance, and whether a student professed to be a Christian) were entered into the matrix. A significant regression equation was found ($F(9,373)= 13.60$, $p< .001$), with an R^2 of .25. Based on the R^2_a , the model had an overall predictability of 23% of the population, which according to Augemberg (2011) is considered acceptable in the social sciences, where an R^2 of .30 is the baseline. Following the completion of the initial analysis, stepwise was added and four models were created (see Table 4.5). Models 1, 2, and 3 each created significant additional predictive value; however, the change provided by Model 3 ($F(3,371)= 39.19$, $p< .001$), with an R^2 of .24 made it the most parsimonious with devotional Bible reading, church attendance, and spiritual family life as the significant predictors of Acts of Volition. Since predictive value was found for Acts of Volition, Hypothesis H₀₃ is rejected.

Table 4.5

Multiple Regression Model: Predictors of Acts of Volition

Model	Independent Variable	R (R ₂)	F Change	Beta	t	p
1	Devotional Bible Reading	.409 (.167)	.000	.409	8.379	.000
2	Devotional Bible Reading	.467 (.218)		.356	7.332	.000
	Church Attendance		.000	.231	4.756	.000
3	Devotional Bible Reading	.485 (.235)	.006	.339	6.983	.000
	Church Attendance			.207	4.220	.000
	Spiritual Family Life			.135	2.783	.006
4	Devotional Bible Reading	.492 (.242)	.446	.345	6.095	.000
	Church Attendance			.217	4.060	.000
	Spiritual Family Life			.135	2.495	.013
	Gender			-.081	-1.611	.108
	Parents in Christian Service			.050	.973	.332
	Parents are Christian			-.053	-.987	.324
	Professed Christian			-.078	-1.548	.123
	International Student			-.049	-.940	.348
	BJU Press Use in HS			-.054	-1.056	.292

Hypothesis H₀₄

There is no statistical significant difference between men and women (survey item 28) in their views for the right to an abortion as measured by survey item 11 on the BWOS. Implications of this finding will be discussed in Chapter 5.

A one-way ANOVA was calculated to assess male (n=138, M=1.33, SD=. 794) and female (n=225, M=1.21, SD=. 661) support for a woman's right to an abortion. The analysis was

not significant, $F(1,361) = 2.133, p = .145$ (see Table 4.6). The researcher failed to reject null hypothesis four.

Hypothesis H₀₅

There is no statistical significant difference between men and women in their views for sexual relations before marriage as measured by survey item 21 on the BWOS.

A one-way ANOVA was calculated to assess male ($n=138, M=1.45, SD=.846$) and female ($n=225, M=1.21, SD=.597$) support for sexual relations before marriage. The analysis was significant, $F(1,361) = 2.133, p = .002$ (see Table 4.6). Null hypothesis five was rejected.

Hypothesis H₀₆

There is no statistical significant difference between men and women in their views on same-sex marriage as measured by survey item 9 on the BWOS.

A one-way ANOVA was calculated to assess male ($n=138, M=1.41, SD=.941$) and female ($n=225, M=1.36, SD=.887$) support for same sex marriage. The analysis was not significant, $F(1,361) = 1.78, p = .664$ (see Table 4.6). The researcher failed to reject null hypothesis six.

Hypothesis H₀₇

There is no statistical significant difference between men and women's views on the Harm Principle as measured by survey item 20 on the BWOS.

A one-way ANOVA was calculated to assess male ($n=138, M=2.01, SD=1.372$) and female ($n=225, M=1.69, SD=1.199$) support for the Harm Principle. The analysis was significant, $F(1,361) = 5.49, p = .02$ (see Table 4.6). null hypothesis seven was rejected.

Hypothesis H₀₈

There is no statistical significant difference between men and women (survey item 28) in their total biblical worldview as measured by the BWOS.

A one-way ANOVA was calculated to assess the Biblical worldview of males ($n=126$, $M=28.49$, $SD=.936$) and females ($n=199$, $M=28.23$, $SD=1.258$). The analysis was significant, $F(1,323) = 4.01$, $p = .046$ (see Table 4.6). Null hypothesis eight was rejected.

Implications of the findings for null hypotheses 4-8 will be discussed in Chapter 5.

Table 4.6

ANOVA: Differences between Genders in attitudes toward Sex Before Marriage, Same-Sex Marriage, Abortion Rights, Harm Principle, and Biblical World View.

		ANOVA					95% Confidence Interval for Mean		Homogeneity of Variances	
		N	Mean	S.D.	F	Sig.	Lower Bound	Upper Bound	Levene Statistic	Sig.
Sex Before Marriage	Female	225	1.21	.597			1.13	1.29		
	Male	138	1.45	.846	9.662	.002**	1.31	1.59	24.009	<.001
	Total	363	1.30	.710			1.23	1.38		
Same-Sex Marriage	Female	225	1.36	.887			1.25	1.48		
	Male	138	1.41	.941	.178	.674	1.25	1.56	.771	.381
	Total	363	1.38	.907			1.29	1.47		
Harm Principle	Female	225	1.69	1.199		.	1.54	1.85		.
	Male	138	2.01	1.372	5.493	.020*	1.78	2.25	6.379	.012
	Total	363	1.82	1.275			1.68	1.95		
Abortion Rights	Female	225	1.21	.661			1.13	1.30		
	Male	138	1.33	.794	2.133	.145	1.19	1.46	5.859	.016
	Total	363	1.26	.714			1.18	1.33		
Biblical World View	Female	199	28.23	1.258			3.11	4.23		
	Male	126	28.49	.936	4.012	.046*	3.36	3.77	8.051	.005**
	Total	325	28.33	1.149			3.66	3.87		

ANOVA is built on the premise that the spread in data for men and woman with respect to each of the societal questions should be the same. In analyzing the ANOVA, the homogeneity of variance was violated in items 1, 3, 4, and 5 $F(1,323) = 4.01, p = .046$ with a spread that was clearly different for men and women. Although ANOVA is quite robust in handling these

violations, a t-test was performed since it allows a variance test where variances with equal variances are assumed and unassumed. Galls, Gall, and Borg (2007) advised that if the F value is significant, a t-test should be pursued. The t-test satisfied the assumptions and confirmed Levene's findings (See Table 4.7).

Table 4.7

t-Test: Differences between Genders in attitudes toward Sex Before Marriage, Same-Sex Marriage, Abortion Rights, and Biblical World View.

		t	Sig.	95% Confidence Interval for Difference		Homogeneity of Variances	
				Lower Bound	Upper Bound	Levene Statistic	Sig
Sex Before	Equal Variances Assumed	-3.196	.002**	-.387	-.092		
Marriage	Equal Variances Not Assumed	-2.943	.004**	-.400	-.079	27.509	<.000**
Harm	Equal Variances Assumed	-2.142	.033*	-.534	-.023		
Principle	Equal Variances Not Assumed	-2.077	.039*	-.542	-.015	6.379	.012
Same-Sex	Equal Variances Assumed	-.718	.473	-.262	.122		
Marriage	Equal Variances Not Assumed	-.699	.485	-.268	.128	2.323	.128
Abortion	Equal Variances Assumed	-1.816	.070	-.307	.012		
Rights	Equal Variances Not Assumed	-1.717	.087	-.317	.022	9.716	.002**
Biblical	Equal Variances Assumed	-2.003	.046*	-.517	-.005		
Worldview	Equal Variances Not Assumed	-2.137	.033*	-.501	-.021	8.051	.005**

Additional Analysis

To further describe the sample and differentiate between groups, a univariate analysis of variance (ANOVA) was performed to determine if there were any differences in the mean scores of the predictor variables between TWV or AoV that might have resulted in the predictor variables yielding significant differences among data subsets. A post hoc Tukey test was conducted on three survey items that provided sufficient range in the data (items 30, 31, 35). The findings for each item will be discussed.

Item 30. Not including chapel, discipleship groups, classroom assignments, or church services, how often do you devotionally read your Bible each week? (Choose the answer that best describes your Bible-reading habits.)

Those who read their Bibles three or more times a week ($p < .001$) had a significantly higher TWV score than those who read it less or never. The same held true when compared to their Acts of Volition.

Table 4.8

*Daily Bible Reading and Acts of Volition*Tukey HSD^{a,b,c}

Daily Bible Reading	N	Subset		
		1	2	3
Never	35	25.74		
One time a month	43		28.28	
1 to 2 times a week	66		28.76	
3 or 4 times a week	88		29.81	29.81
Daily	82			30.76
5 to 6 times a week	69			30.88
Sig.		1.000	.082	.410

Item 31. Do you consider your home/family life to be spiritual?

Overall there was significance in the mean scores so a post hoc test was performed to determine if there were differences in the mean scores in the subsets of each statement. Those who disagreed had a significantly less TWV than those who strongly agreed. This was also consistent with their Acts of Volition. Students who were neutral or unsure of the spirituality of their homes had lower scores on their Acts of Volition subset (See Table 4.9).

Table 4.9

Post Hoc on Family Life and Total Worldview

Tukey HSD^{a,b,c}

Do you consider your home/family life to be spiritual?	N	Subset	
		1	2
Disagree	10	12.8000	
Strongly Disagree	13	13.2308	13.2308
Unsure	16	14.2500	14.2500
Agree	155	15.2710	15.2710
Strongly Agree	183		16.2295
Sig.		.272	.113

Item 35. During your high school years (Grades 9-12), did you use any textbooks from the BJU Press?

In the post hoc analysis, those who knew that they used BJU textbooks in high school ($n=233$, $M=1.39$, $p=.009$) had higher TWV scores.

Conclusion

This chapter discussed the research findings with descriptive statistics and frequencies. Next, each null hypothesis was tested. A correlated study was performed for null hypothesis One. Multiple Linear Regression was used to analyze Null Hypotheses Two and Three. ANOVA and the Independent variables t-test were used to analyze Null Hypotheses Four, Five, Six, Seven, and Eight. Null Hypotheses One, Two, Three, Five, Seven, and Eight were rejected. Null Hypotheses Four and Six were not rejected. Chapter Five will summarize the study and discuss the research findings, along with implications for practice and recommendations for future research.

CHAPTER FIVE: DISCUSSION

Chapter Five reviews the purpose and problem statements of the study, summarizes the findings, and discusses theoretical and practical implications, study limitations, recommendations for future research, and concluding thoughts.

Statement of the Problem

Chapter Two's review of the literature revealed possible inconsistencies between Christian young people's biblical worldview knowledge and their acts of volition. This study was designed to examine this relationship among college freshman. The goal of the findings was to equip Christian school personnel and Christian textbook writers with empirical research to assist them in addressing this issue. By determining possible predictor variables and linking worldview knowledge to worldview actions, these entities would be better able to guide and disciple Christian young people in internalizing a biblical worldview.

Review of the Methodology

The researcher administered the BWOS in an online and anonymous format and received 374 useable responses from first-year college students at a liberal arts Christian university in the southeast region of the United States. Research Question One was evaluated with Pearson's correlation. Linear regression tested Research Questions Two and Three. Research Questions Four through Eight were evaluated with ANOVA, along with an independent variable t-test to satisfy assumptions violated and to verify the homogeneity of variance (Levene Statistic).

Summary of the Findings and Discussion

A survey was developed to explore factors/predictors in the development of a biblical worldview among freshman in Christian schools and to assist Christian educators in teaching biblical worldview. The three research questions and eight null hypotheses are found below.

Research Questions

RQ 1: Is there a correlational between the biblical worldview, general or non-biblical worldview, and acts of volition of incoming freshmen as measured by the Biblical Worldview Outcome Scale (BWOS)?

RQ 2: Is there predictive strength of the variables of gender, church attendance, home environment, and Bible reading relative to university freshmen's biblical worldview, general worldview, and acts of volition as measured by the Biblical Worldview Outcome Scale (BWOS)?

- a. What is the measure of strength of the prediction?
- b. Which variables are necessary to find a measurable prediction?

RQ 3: Based on Carol Gilligan's Theory (1977) of Moral Development, is there a difference in the mean scores on the BWOS between as related to biblical worldview and culturally related societal issues as measured by the Biblical Worldview Outcome Scale (BWOS)?

Null Hypotheses

Null Hypothesis One (H_{01}): There will be no statistically significant difference between university freshmen's biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26), general (non-biblical) worldview (survey items 2, 5, 8, 11, 14, 16, 20, 24), and acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) as measured by the Biblical Worldview Outcome Scale (BWOS).

Analysis of research question one and hypothesis one revealed statistically significant correlations between the BWOS's three components, 'biblical worldview,' 'general worldview,' and 'acts of volition.' Component 1, biblical worldview, contained eight items that were

measured by levels of agreement (Yes, I believe this statement; No, I do not believe this statement; and I am unsure whether or not I agree with this statement). All items were designed to measure propositional statements consistent with biblical doctrine, knowledge, major sections of biblical worldview curriculum, and the divisions of systematic theology. For example, the authority of God and the Bible is observed in item 1, “As the Word of God, the Bible is trustworthy, without error, and authoritative for all of life,” and item 10, “God is absolute and unchanging.” The creation and cultural mandate was observed in item 4, “God blessed mankind with the ability to rule over God's creation and develop cultures;” item 7, “The Creator God is active in the world today, sustaining and providing for His creation;” and item 26, “Man is created by a direct act of God in His image.” Item 13 covered salvation, “Salvation comes only through repentance of sin and faith in Jesus Christ who sacrificially died for the sins of the world and rose again bodily the third day”; and Item 21 covered the marriage covenant, “God intends that marriage be a covenant only between a man and a woman for life.” Item 15 observed the conclusion of history, “History will conclude with God establishing a kingdom of redeemed sinners to be ruled by His Son.” These components of Bible knowledge covered material students would most likely receive in church, at home during a family devotional/instructional time, or through the material integrated throughout Christian textbooks. Through indoctrination, students are instructed what to believe and have possibly assimilated this information into their own personal belief systems.

Component 2 measured General Worldview or non-biblical worldview with eight reversed coded propositional statements inconsistent with biblical doctrine. Humanism and existentialism were seen in items 2, 8, 16—“Man is basically good”; “A person has the right to marry whomever they love even if it is someone of the same sex”; and “It is up to individuals to

determine what religion works best for them.” Utilitarianism was explored in item 14, “Government's role is to determine what is best for the majority of the people.” Existentialism and The Harm Principle were observed in Item 20, “People ought to be free to do what they wish as long as they don't harm anyone else.” Moral relativism was observed in item 11, “A woman has the right to abort her fetus”; and item 24, “If two people love each other, it is okay to live together and/or have sex (intimate relations) before marriage.” Item 5, “Science provides the most reliable means for establishing the facts about our world and ourselves” exposes the tenets of modernity. These statements are learned from a variety of settings, such as the media, secular literature, or public school textbooks.

Component 3 contained seven items exploring personal beliefs, which were designed to assess the participants' behavior by targeting what they love and inwardly desire. These seven statements on the BWOS (3, 6, 9, 12, 17, 19, 22, 23, 25) were intended to compare volition/personal beliefs with worldview and were designed to explore if biblical worldview has an impact on decision-making or convictions. Each question was assessed on a 5-point Likert scale that ranged from Strongly Disagree to Strongly Agree. Pianalto (2011) stated that convictions have a significant role in a person's decision-making process and are expressed as “practical commitments” (p. 382) as seen in item 3, “My two closest friends show clear evidence of a love for God and a desire to serve Him”; item 6, “I make decisions on what I read, watch, or listen to based on my desire to be more like Christ;” item 9, “I go to church even if it means missing a sporting/entertainment event;” and “What I wear says nothing about who I really am” (item 23-reversed coded). Kim, McCalman, and Fisher (2012) further explained that convictions reveal and are consistent with a person's faith, which is foundational to worldview. This was seen in items 12, 17, 22, 19; item 12, “I love the Lord more than I love anyone or anything”; item

17, “Knowing God's will for my life is important to me”; and “I find keeping the rules of the Bible a burden” (item 22-reversed coded). Moreover, item 19 explored The Great Commission (“In the six months BEFORE coming to college, I told an unbeliever about Jesus Christ”) by analyzing the frequency in which one has told an unbeliever about Jesus Christ. According to Pianalto (2001), a person’s convictions produce boldness and a willingness to speak about their beliefs. Additionally, The Great Commission is a cornerstone of biblical worldview because it propels the good news of redemption and the building of Christ’s kingdom. Its inclusion in all four of the gospels, Acts, and in various other texts throughout the New Testament accentuates its importance. According to Kang (2011), a biblical worldview must include the active participation in the advancement of the kingdom and the reconciliation and redemptive message. Ryken (2006) hailed it as is the mandate to teach biblical worldview; it puts feet to belief. According to Wheaton (2010), the Great Commission is Christians’ opportunity, “to take part in God’s overarching redemptive plan for mankind” (para 10) and is the only hope of suppressing and combating all of the non-biblical worldviews.

The mean scores of BWV, GWV, and AoV were calculated and displayed using histograms (Figures 3.4, 6). BWV was highly skewed to the right, and GWV was skewed to the left but reflected more moderate responses. AoV responses moved toward a normal distribution, indicating that GWV had an impact on students’ acts of volition, even with their strong biblical worldview. Based on the literature, this might represent the dichotomy between the sacred and secular that Pearcey (2004) discussed. Another influence may be the overbearing media-driven pop culture that is immediately accessible through the Internet, smart phones, iPads, and other media outlets (Browne, 2004).

A Pearson's correlation was used to analyze if a relationship existed between GWV, BWV, and AoV. A moderately negative correlation ($r=-.47$, $p<.001$) existed between GWV and Acts of Volition. In the area of decision-making, students are still leaning how to incorporate their biblical worldview. BWV and AoV had a weak positive correlation ($r=.257$, $p<.001$). Additionally, a statistically significant negative correlation existed between BWV and GWV ($r=-.19$; $p<.001$); however, Patten (2009) stated that though the two are not strongly related, there seems to be a tenuous connection. To summarize, as discussed in Chapter One, the researcher proposed that students' biblical worldview was not impacting their actions. GWV was found to influence acts of volition, and there were significant statistical correlations between GWV, BWV, and AoV.

Null Hypotheses Two (H_{02}): There will be no predictability of worldview (survey items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14-16, 18, 20, 21, 24, 26) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), and parents' in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

Regarding research question two and hypothesis two, analysis indicated that there were four predictor variables for worldview. The predictor values comprised component four of the BWOS, which included nine demographic items. Students responded to items 28, 32, 33, which assessed gender, international student status, and whether or not parents were in full-time Christian services with a yes or no response. Items 35 and 36 (use of BJU Press textbooks and

their own profession of Christ) added “unsure” as a third choice to yes or no. Statements regarding church attendance and Bible reading (items 29 and 30) provided frequency charts from Never to Daily and Never to Every Time the Doors Were Opened. Item 31, “Do you consider your home/family life to be spiritual?” was based on a 5-point Likert scale that ranged from Strongly Disagree to Strongly Agree. Next, Biblical worldview and general (non-biblical) worldview were combined to create Total Worldview (TWV). An analysis using linear regression and stepwise resulted in a predictor model with an over all statistical significance ($r=.361$, $B=.994$, $p<.001$). Of the nine predictor variables, four had a p value of $<.05$ —spiritual family life, devotional Bible reading, international students, and the use of BJU Press textbooks in high school. Based on R, the model had an overall predictability of 11%, which accounted for 11% of the variance. Since the model represented a high-end slice of the population of Christian young people, it was not as strong of a predictor as it would have been with a dynamic range.

Using post hoc analysis, the homogeneous subsets of the four-predictor values were examined. On item 31, “Do you consider your home/family life to be spiritual?,” those who strongly agreed showed a higher BWV value. Additionally, the higher the responses on items 29 and 30, church attendance and devotional Bible reading, the higher the total BWV score. Parker (2104) found similar results in a study of biblical worldview. On item 35, if a student knew that they used BJU Press textbooks, their BWV score was higher than those that did not use the BJU curricula. International students (item 33) scored low on BWV and high on GWV. Even with this highly stratified population, the model (Table 4.4) still had predictive capacity with Model 4 being the most parsimonious. According to Russell (personal conversation, January 3, 2015), to have predictors is better than guessing the average.

Null Hypothesis Three (H₀₃): There will be no predictability of acts of volition (survey items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14-16, 18, 20, 21, 24, 26) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), and parents' in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

Continuing with research question two, analysis revealed there were three predictor variables for Acts of Volition (AoV) (hypothesis three). Multiple-linear regression without stepwise was used to create a predictor model. The overall predictive value of AoV ($R^2=.24$, $R^2a=.23$, $p<.001$.) had an overall predictability of 23%, which Augemberg (2011) confirmed was acceptable in the social sciences, where an R^2 of .30 is considered baseline. Following the completion of the initial analysis, stepwise was added and four models were created (see Table 4.5). Models 1, 2, and 3 each created significant additional predictive value; however, the change provided by Model 3 made the significant predictors of Acts of Volition the most parsimonious with the variables of Devotional Bible Reading, Church Attendance, and Spiritual Family Life. In the Post Hoc analysis, the homogeneous subsets revealed a significant difference in their AoV scores between those who never read their Bibles devotionally and those who read their Bibles five or more times a week. In spiritual home life, the differences were between those who Strongly Agreed, Agreed, and were Unsure. Interestingly, church attendance was not a factor in predicting worldview, but it was significant in acts of volition. Throughout the literature review, research findings on church attendance were varied; therefore, they were included in this study to

add to the body of literature. This study found church attendance was not a predictor of worldview, but was a predictor for acts of volition. To summarize, a predictor model was found for AoV ($R^2 = .24$), which accounted for 24% of the variance. All four models were significant at the .00 level, but model three (Table 4.5) was the most parsimonious, with the three factors of devotional Bible reading, church attendance, and spiritual home life.

Null Hypotheses Four-Eight

For the analysis of research question three and hypotheses four through eight, a univariate analysis (ANOVA) was used to test the mean differences between genders on the key societal issues that are distinctively in conflict with biblical worldview.

Gilligan (1997) posited that male and females develop morals differently. The researcher chose these social items along with biblical worldview to test Gilligan's theory. Among this sample population, there was a strong bias in opposition to these positions with the differences in opinions mainly between Strongly Disagree and Disagree. However, even in this obviously non-normalized sample, all but abortion and same-sex marriage registered a statistically significant difference in the mean based on gender. Many of these issues involved vocal segments and acceptance of a majority population and have become recognized by sociologists as variants in the family unit and are significant in changing definition of the traditional family (Henslin, 2014). These issues (abortion, same-sex marriage, sexual relations before marriage, and a person's right to express his or her individuality) have mainstream support and are often protect by law. Christian young people are exposed to these issues throughout the culture and are pressured to adapt to these "politically correct" ideas.

Null hypothesis four (H₀₄): There is no statistical significant difference between men and women (survey item 28) in their views for the right to an abortion as measured by survey item 11 on the BWOS.

Hypothesis four analyzed item 11, “A woman has the right to abort her fetus,” based on gender. The mean difference between males and females did not prove to be significant ($F(1,361) = 2.133, p = .145$). Within this population there was strong disagreement, with 86% strongly disagreeing and 95% at least disagreeing. In the mean scores, however, the women were more fervent in their disagreement than the men.

Null hypothesis five (H₀₅): There is no statistical significant difference between men and women (survey item 28) in their views for sexual relations before marriage as measured by survey item 21 on the BWOS.

Regarding hypothesis five, there was a statistically significant difference in the mean scores for men and women on item 24($F(1,361) = 2.133, p = .002$), “ If two people love each other, it is okay to live together and/or have sex (intimate relations) before marriage.” The percentages were closely aligned with abortion with 81% strongly disagreeing and 96% at least disagreeing. Again, the females were more adamant in the persuasion than the males.

Null hypothesis six (H₀₆): There is no statistical significant difference between men and women’s (survey item 28) in their views on same-sex marriage as measured by survey item 24 on the BWOS.

Hypothesis six was tested with item 9, “A person has the right to marry whomever they wish even if it is someone of the same sex,” and revealed that there was not a mean difference in male and female students’ views on same-sex marriage; however the females were slightly more fervent in their opposition. Interestingly, same-sex marriage had slightly softer strongly disagrees

and disagrees (91%,) compared to sex before marriage (96%) and abortion (95%). The BWV counterpart to this question, item 21 “God intends that marriage be a covenant only between a man and a woman for life,” did reveal a statistically significant difference in the mean scores of male and female students ($F(1,369) = 3.498, p=.028$), with 94% at least agreeing. An inference is that marriage and what constitutes a marriage is being more influenced by society than some other current issues. This could be because the media and sociologists have had more of a prominent say in the legal definitions of marriage. In 1974, Coser, a prominent Jewish sociologist, defined family as consisting of “husband, wife, and children born in their wedlock...united by moral, legal, economic, religious, and social rights and obligations (including sexual rights and prohibitions as well as such socially patterned feelings as love, attraction, piety, and awe) (1964, p. xiv). This is far-removed from Newman’s (2009) claim that today a family can be whatever you want it to be, which is consistent with media portrayals of marriage and family in as many combinations imaginable. According to the Centers for Disease Control and Prevention (n.d.), divorce rates, though still high at 46 %, have leveled off and shown some decline, yet the number of single-parent homes is growing. Another reason for the leveling off of divorce rates is cohabitation—assuming the responsibilities of marriage to include bearing and rearing children without the legal commitment—is becoming an accepted societal lifestyle. According to Macionis (2011), cohabitation has risen 40% in the last 40 years, and in 2010, the U.S. Bureau of the Census Population Survey, 2005-2009, reported more than 7.5 million unmarried couples living together, an increase of 41.1% since 2000. Additionally, Akerlof and Yellen (2014) reported for the Brookings Institute and stated that the American society was approaching the point where half of all births will be to persons not in a marital relationship. Scommegna (as cited by Henslin, 2011) suggested that 40% of American children

would at some time live in a cohabitated situation. The magnitude of these statistics, along with the prevalence of divorce, single-parent homes, and cohabitation arrangements have the potential of personally impacting the Christian school student population in some form. This is illustrated by the student who during the field study agreed with the statement, “If two people love each it is okay to live together and/or have sex before marriage,” and then added the following comment: “Eye-witness account. Two Christians who love God and love each other can live together under the man’s protection and provision of a single mother with no job.” Because the student knew someone who was in or experienced this situation, the student was persuaded that the situation allowed a setting contrary to God’s Word. Additionally, with the Supreme Court’s 2013 decision to legalize same-sex marriages, over half of Americans now accept gay marriage. According to Pew Research Center (2010, 2013, 2014), in 2000, 57% of Americans opposed same sex marriage; however in 2013, 51% of Americans reported acceptance of homosexuality and same-sex marriages. By September 2014, acceptance had risen to 52%, a trend set in their 2010 report where all groups (Silent, Baby Boomers, GenX, and Millennials) and even conservatives had increased in their support. This research also reflected these findings as same-sex marriage had the softest opposition of the societal issues.

Null hypothesis seven (H_{07}): There is no statistical significant difference between men and women’s (survey item 28) in their views on the Harm Principle as measured by survey item 20 on the BWOS.

Continuing with research question three, an analysis of hypothesis seven revealed that a statistically significant difference existed between men and women’s views on the Harm Principle ($F(1,361) = 5.49, p = .02$). Again females were more fervent in their disagreement, however, overall responses were more diverse with only 63% strongly disagreeing and 79% at

least somewhat disagreeing, yielding the lowest scores yet. Alarming, this population has been impacted by Mill's Harm Principle, which provides the foundational underpinning for each of the other societal statements (abortion, cohabitation, and same-sex marriage). Mill (2011b), influenced strongly by Bentham's utilitarian views, intertwined a personal Harm Principle with Bentham's Happiness Principle. Mill (2011b) stated, "Actions are right in proportion as they tend to promote happiness; wrong as they tend to produce the reverse of happiness" (p.11). Individuals should be free to exercise their will and happiness to the fullest extent in whatever brings them pleasure; as long as it does not inflict physical, emotional, or economic harm to another individual. Interestingly, offensive actions, according to Mill, do not constitute harm whether they are performed privately or publicly. Additionally, government should not regulate people's "choice of amusements, use of alcohol, or their consensual sexual practices" (Mill, as cited by Turner, 2014, p. 31). Nationally and culturally, America has adopted Mill's trenchant views and has an accentuated emphasis on the individual and individual rights and freedoms. This sample population has an emergent dichotomy between their statements on Creation (item 7, $M=2.98$), God's immutability (item 10; $M=2.98$), the authority of God's Word (item 1, $M=2.98$), and the Harm Principle (item 20, $M=1.81$).

Null hypothesis eight (H_{08}): There will be no statistical significant difference between men and women (survey item 28) in their total biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26) as measured by the BWOS.

Hypothesis eight's analysis revealed a statistically significant difference in the mean scores of male and female students on biblical worldview ($F(1,323) = 4.01, p = .046$ (see Table 4.6). Females had a slightly lower BWV than males. The statistical significance was barely there, but there were enough data points to distinguish a real difference, which an independent t-test

confirmed ($p=.033$). Parker (2014), using the P.E.E.R.S. worldview survey, found similar results, with the males' ($n=44$, $M=24$) mean score higher than the females' ($n=52$, $M=20.54$). Also, using the P.E.E.R.S., Oppman (2014) found that males had a higher overall biblical worldview score on questions with political implications. These findings supported Gilligan's (1977) theory that men are more logical in the formation of their moral development; therefore, a facts, knowledge, and critical thinking based ideal would tend to yield a higher mean average. The moral development of women progresses along relational predispositions, which corresponds with the higher female mean scores on those questions that require more emotive, reflective, and intuitive responses, along with those that involve relational encounters.

To summarize, this population adamantly rejected abortion; however, there was some movement regarding same-sex marriage, intimate relations outside of marriage, and personal freedoms. Men scored higher on BWV than women.

The researcher's recommendations for rejecting or failing to reject the eight null hypotheses are listed below:

Research Hypothesis One

H₀₁: There will be no statistically significant difference between university freshmen's biblical worldview (survey items 1, 4, 7, 10, 13, 15, 18, 21, 26), general (non-biblical) worldview (survey items 2, 5, 8, 11, 14, 16, 20, 24), and acts of volition (survey items 3, 6, 9, 12, 17, 19, 22, 23, 25) as measured by the Biblical Worldview Outcome Scale (BWOS).

Based on the findings, the researcher rejected the first null hypothesis. There is a significant correlative strength between the three components of worldview.

Research Hypothesis Two

H₀₂: There will be no predictability of worldview (survey items 1, 2, 4, 5, 7, 8, 10, 11, 13, 14-16, 18, 20, 21, 24, 26) based on the variables of gender (survey item 28), church attendance (survey item 29), parents' profession of faith (survey item 34), spiritual home environment (survey item 31), and parents' in full-time Christian service (survey item 32), devotional life (survey item 30), devotional Bible reading (survey item 30), personal profession of Christ (survey item 36), international student (survey item 33), and the use of BJU Press textbooks (survey item 35) as measured by the Biblical Worldview Outcome Scale (BWOS).

Based on the findings, null hypothesis two is rejected. Predictor variables for worldview were found.

Research Hypothesis Three

H₀₃: There will be no predictability of the acts of volition based on the variables of gender (survey item 28), church attendance, parents' profession of faith, spiritual home environment, and parents' in full-time Christian service, devotional life (survey item 30), devotional Bible reading, personal profession of Christ, international student, and the use of BJU Press textbooks as measured by the Biblical Worldview Outcome Scale (BWOS).

Based on the findings, null hypothesis three is rejected. Predictor variables for acts of volition were found.

Research Hypothesis Four

H₀₄: There is no statistical significant difference between men and women in their views for the right to an abortion as measured by survey item 11 on the BWOS.

Based on the findings, null hypothesis four was not rejected. There is no statistical significant difference between men and women on the issue of abortion.

Research Hypothesis Five

H₀₅: There is no statistical significant difference between men and women in their views for sexual relations before marriage as measured by survey item 21 on the BWOS.

Based on the findings, null hypothesis five was rejected. There is a statistical significant difference between men and women on the issue of sexual relations before marriage.

Research Hypothesis Six

H₀₆: There is no statistical significant difference between men and women's in their views on same-sex marriage as measured by survey item 24 on the BWOS.

Based on the findings, null hypothesis six was not rejected. There is no statistical significant difference between men and women on the issue of same-sex marriage.

Research Hypothesis Seven

H₀₇: There is no statistical significant difference between men and women's in their views on the Harm Principle as measured by survey item 20 on the BWOS.

Based on the findings, null hypothesis seven was rejected. There is a statistical significant difference between men and women on the issue of the Harm Principle.

Research Hypothesis Eight

H₀₈: There will be no statistical significant difference between men and women in their total biblical worldview as measured by the BWOS.

Based on the findings, null hypothesis eight was rejected. There is a statistical significant difference between men and women in their biblical worldview.

Limitations

Several limitations existed within this study. The first was the homogeneous population—students for most part self-selected to attend a Christian university; therefore, it

could be assumed that the majority of students had a biblical worldview. A better group would be high school seniors because most attend a school of their parents' choosing and they will not all desire to attend a Christian college. Therefore, responses would be more diverse, as represented in the field study.

A second limitation of the study was the length of time students were enrolled in the university setting before the survey was administered. Ideally, the survey was to be administered within the first two weeks of enrollment; but due to delays beyond the researcher's control, the survey was administered two months after the students had been immersed in a Christian environment. To account for internal validity and maturation, some questions were adapted by adding such phrases as, "Before coming to college" to try to prompt the students to remember their dispositions before arriving on campus.

A third limitation was the generalizability of results (Rovai, Baker, & Ponton, 2013). The target population for this research was first-year students attending a liberal arts, Christian university; therefore, results may only be generalized to a similar population (Gall, Gall, & Borg, 2007). A non-random convenience sample of all 604 first-year freshmen was also used, which limited the generalization of the study to this population. This limitation would be avoided if a random sample had been extracted from the entire freshman class.

A fourth limitation was the possibility of self-report bias. According by Morales (2014), self-report bias occurs when participants may be self-deceived regarding their own presuppositions and unable to answer accurately or may wish to please the researcher. To minimize this limitation, the researcher conducted the study in an online and anonymous format as recommended in the literature (Bates & Cox, 2008; Rockinson-Szapkiw & Szapkiw, 2011; Sinkowitz-Cochran, 2013; Wright & Schwager, 2008). In addition, their sense of truth may have

been aspirational—what they wished they were or what they hoped to be, rather than objective answers of what they actually are. One means to counteract this is by asking more frequency questions to obtain a better picture of what they are doing on a regular basis rather than their optimum goal or feeling.

Since 100% of the 604 freshmen did not complete the survey, a nonresponse error needs to be addressed (Gall, Gall, & Borg 2007; Lindner, 200). Instrumentation nonresponse could not be avoided since participants had the option of participating and the right to opt out at anytime once the survey started (Dillman, 2007). Initially, 604 surveys were electronically sent. According to the online Sample Size Calculator provided by the University of Connecticut, to obtain a level of 99% with a confidence interval of ± 5 , a sample size of 301 was needed; 374 or 62% of the participants completed the survey (Siegle, 2014). According to Lindner, Murphy, and Briers (2001), a response rate of 20% or less is considered at risk. With a 62% response rate, the ability to generalize the findings for this population was strong.

A final identified limitation of the study was human error. Originally, “type of high school attended” was one of the predictor variables, along with gender, home environment, frequency of church attendance, use of BJU Press textbooks, international status, personal and parent profession of faith, and Bible reading. Since the field study was conducted at a Christian school, the question regarding type of high school attended was not needed and was removed. After the field study and in the transfer of the survey to SurveyMonkey®, the question was inadvertently omitted; therefore, no data was collected on the variable. In a review of the literature, Brickhill (2010), Moore (2006) Smithwick (2008), and Wood (2008) found no significant statistical difference in the worldviews of students attending public high schools and those in religious-based schools. Additionally, Meyer (2003) found that the length of time in a

Christian school had no statistical significance in students' worldview. Taylor's (2009) study of twelfth graders active in a youth group ministry also found no statistically significant difference between the biblical worldviews of public and Christian school students until the students had attended a Christian school seven or more years. When analyzing the National Survey of Youth and Religion (NSYR), Smith and Denton (2005) and Uecker (2008) dissected factors impacting religious devotion in high school students from varying educational structures, and no distinction between public and Christian schools existed. Based on these studies, the literature has shown that type of high school attended is not a statistically significant indicator of biblical worldview.

Implications

Theoretical Implications

Since one purpose of this study was to measure worldview knowledge and acts of volition of Christian university freshmen, this study was distinctly Christian and has theoretical implications for 18- to 20 year-old Christian students.

Piaget, Kohlberg, Fowler. Based on the findings of Hypotheses 1-8, it is apparent that students who are of college age are able to discern their beliefs and have reached Piaget's (1967) formal operational stage. In Components One and Two of the survey (BWV and GWV), the students were able to reason through the statements and respond according to their cognitive biblical knowledge.

Kohlberg (1981) expanded on Piaget's (1967) theories and developed six progressive stages of moral development. In Component Three, the students were asked to reflect and choose their responses based on their own individual convictions or along their own moral development. In this study, Kohlberg's theory held that the students were able to match their beliefs along principled guidelines and their own commitment to values (Level 3 Post-Conventional, Stage 5

Social Contract Orientation and Stage 6 Universal Ethical Principles). Additionally, Fowler (1981) added faith to Kohlberg's (1980, 1981) theories, and posited six stages of faith development. The survey population registered between Fowler's Stage Four (Critiquing Faith) and Stage Six (Universalizing Faith) as they project beyond a set of rules and commit to principles of serving, accepting, and loving others. Table 5.1 provides statements that depict Stage 6 and reveals that this population has moved into the Universalizing Faith stage. The findings are in agreement with Gorman's (1982), Morales' (2013), and Van Meter's (2009) findings that indicated students in late high school and early college have developed and applied faith and morals to worldview.

Table 5.1

Stage 6 Fowler's Faith Development

Item	N	Response % Often/Agree or above
3. My two closest friends show clear evidence of a love for God and a desire to serve Him.	372	83.1
6. I make decisions on what I read, watch, or listen to based on my desire to be more like Christ.	373	62
9. Before coming to college, I would go to church even if it meant missing a sporting/entertainment event.	373	87.1
12. I love the Lord more than I love anyone or anything.	373	85.1
17. Knowing God's will for my life is important to me.	374	92.8

Gilligan-Female Moral Development. In response to Kohlberg's (1980, 1981) exclusively male studies on moral development, Gilligan (1977) posited that females develop values differently than males. When applying Kohlberg's moral development stages to females, Gilligan discovered females scored lower than males although they were cognitively and academically equal. This study's findings corroborated those discussed in Chapter 2. For example, Kalsoom, Muhammad, and Kaini's (2012) study suggested that men tend to be more traditional, a finding that held true in this research. Ameen, Faffey, & McMullen's (1996) findings suggested that females tend to be morally more aware than males, which corresponded to the findings of this study with the female participants registering more fervency in their responses on the items of abortion, covenant marriage, abstaining from intimate relations until marriage, the Harm Principle, and same-sex marriage. Conclusively, this study's findings demonstrated men and women do process worldview differently.

Practical Implications

This study began with a three-fold purpose. The first was to explore a dichotomy between biblical worldview and practice—Is Bible knowledge making a difference in students' choices and their acts of volition, or is a non-biblical worldview eroding their biblical thinking? The second purpose was to provide insight for Christian textbook authors as they continue to integrate biblical worldview within all content-area textbooks. The third purpose was to provide a means whereby Christian organizations could evaluate their mission of instilling in students a biblical worldview. The findings of this study produced five practical implications relative to the purpose.

The first implication was that teenagers and young adults are being influenced by various non-biblical worldviews; therefore, the proposition present in sociological trends needs more

awareness. The histogram (Figure 4.1) portrays that students seem to grasp the tenets of biblical knowledge, but Figure 4.2 reveals that there is movement to the center in both the non-biblical worldview and acts of volition (Figure 4.4). Decisively, as non-biblical worldviews permeate the spiritual realm of thought, Christian leaders must be keenly aware of cultural and social trends. Berger (1963) described worldview as fluid and merely providing a system in which “one’s biography can be located” (p. 60). Each system moves through culture, leaving its footprint as a new era emerges. Having traversed through existentialism, utilitarianism, individualism, modernity, postmodernity, and globalization, the literature is now examining what will come next—pseudo-modernism (Kirby, 2007, 2010) or reflexive-postmodernity (Heiskala, 2011, Powell, 2013). What new strands will develop? What trends will be established? Socially, through postmodernity, the marriage rate has declined, cohabitation has increased, single-parent homes have increased, and the advancement of the homosexual agenda has prevailed. Sociologists are now attesting that polygamy will be the next test case (Basirico, Cashion, & Eshleman, 2014). These are issues and philosophies that must be considered, debunked, and replaced solidly with a biblical worldview. This was seen in the range and diversity of responses in five of the general worldview statements. In these questions, the participants’ answers were not as cogent, which may imply a subtle influence by the culture or a lack of exposure to these concepts (See Table 5.2). These are areas for Christian textbook publishers to target and intentionally expose these ideas.

Table 5.2

General Worldview Percentages

Item	% Unsure or Agreed
5. Science provides the most reliable means for establishing the facts about our world and ourselves.	36
14. Government's role is to determine what is best for the majority of the people.	28
16. It is up to individuals to determine what religion works best for them.	23
20. People ought to be free to do what they wish as long as they don't harm anyone else.	21

A second implication is the difference in mean scores for male and female students on overall biblical worldview and social issues. Christian textbook authors and church leaders need to examine this issue and determine how to focus the content to reach both male and female students.

A surprising find, which leads to a third implication, was that international freshman students lack a biblical worldview foundation as registered on the BWOS. Christian colleges and universities need to target their international population and provide foundational information for them. The professors of first year Bible classes also need to be aware that these students are entering their classes with anemic basic knowledge of Christian doctrine.

The predictor variables for worldview and acts of volition provided parents, Christian educators, and youth group leaders with something to contemplate. Students must be encouraged to read their Bibles devotionally and attend church regularly. Additionally, parents should be encouraged to highly regard and guard the spiritual atmosphere of the home. Item 34 ("Please

choose the one statement below that best describes your parents' (or guardians') spiritual condition) also considered spiritual home environment, although it did not prove to be a significant predictor; however, the item did allow for the participants to comment on their answers. Of the 12 students who commented to the OTHER option, eight were negative and most targeted fathers (Table 5.3). It is difficult to make statements or generalizations based on a small inset of the population, but parents do need to realize the impact they have on their children's spiritual development. Interestingly, these students' mean BWV scores ($M=22$) were lower than the overall population's BWV scores ($M=28$); other factors may have also influenced the mean scores.

Table 5.3

"Other" Responses to Item 34 on the BWOS.

Gender	Responses to the Item 34--"Please choose the one statement below that best describes your parents' (or guardians') spiritual condition." Please choose the one statement below that best describes your parents' (or guardians') spiritual condition.
Male	One is saved, but I'm not sure about the other.
Female	My parents are divorced. My mother and step-father are Christians, but my step-mom and my father are unbelievers.
Female	My mother is a strong believer, but my father has rejected Christianity and left the family last year.
Male	My father is now passed but professed to be Christian. But his life did not serve God. My mother is not Christian nor professes.
Female	My dad often doesn't control his temper at my mom.
Female	My both my parents profess to be saved but my dad does not act like it.
Female	dysfunctional, never peace [sic]
Female	Both parents are ""Christians"" but they don't act like it . They're morally good people individually, but their marriage is headed toward divorce. They bring out the worst in each other.

(Emphasis added).

These disciplines of a Christian life—devotional Bible reading, church attendance, a spiritual home environment, the use of Christian textbooks—might be considered ostensible outcomes, but this study has provided empirical evidence that for this population, it indeed made a statistically significant difference in their biblical worldviews.

One of the goals of this study was to provide empirical data for Christian textbook publishing companies. The data show that students who used the BJU Press textbooks had a higher mean score for their overall worldview. In addition to devotional Bible reading and home environment, textbooks may impact and at a minimum, reinforce biblical worldview.

Recommendations for Future Research

The review of the literature and analysis of data revealed that future research opportunities are limitless. The first and possibly most obvious is to examine biblical worldview from a qualitative perspective. Throughout this process, the researcher felt the study would be enhanced with interviews and querying the thought processes of the mind and heart. It is difficult to know someone's true heart unless it comes out of his or her mouth. Garben (1998) correctly stated that "we begin to understand how a worldview becomes a way of life; how belief becomes behavior," upon studying what one loves (para. 15). Iselin and Meteyard (2010) aptly concluded that the things "which we truly love will be the incarnational foundation ... of worldview, faith, learning and lifestyle ..." (p. 45). The intriguing task of examining worldview in a qualitative arena would be to look for common themes of worldview development through students' expression of what they love. This would provide for a robust, enlightening, and rich undertaking, which would complement the body of quantitative worldview literature.

Though this study had an international component, an examination of biblical worldview cross-culturally would provide research on possible cultural differences. Hughes (2008) and Abel (2103) studied culture and worldview generally, but more in-depth research would be useful. Does faith in Christ transcend culture when it comes to biblical worldview? Does culture

impact the lens in which the spiritual world is viewed? Does worldview impact social issues regardless of cultural setting? The Great Commission speaks to the Gospel impact across the nations (Matthew 18:19), and John wrote “men from every tribe and tongue and people and nation” have been purchased with Christ’s blood (Revelation 5:9). To what extent does the Christological, biblical lens extend to cultures outside of the western civilized world? The findings of this research also indicated that biblical worldview has not penetrated the minds of international students. The impact of this phenomenon deserves further attention.

In reviewing the literature, the role of faculty in the integration of biblical worldview surfaced (Campo, 2010; Downey & Porter, 2009; Eisenbarth & Van Treuren, 2004; Kanitz, 2005). In two studies, the faculty also completed the PEERS instrument (Abels, 2013; Parker, 2014). Inslin and Meteyard (2010) and Garber (1998) emphasized the relational impact of a professor on a student’s worldview of both transparent love for God and academic content. Although paradigms have been examined on how to best integrate worldview and content (Campo, 2010; Downey & Porter, 2009; Eisenbarth & Van Treuren, 2004; Kanitz, 2005), empirical studies of faculty worldviews are needed, including studies that actually delve into the hearts and minds of the faculty regarding their own worldviews and explore if secular strains have infiltrated their content or limited their scope (Abels, 2013; Wood, 2008). Do faculty understand the biblical worldviews of their own content areas? Are they embracing “the task of identifying the faith assumptions of their own disciplines, so they can then challenge their students to do likewise” (Quinn, Foote, & Williams, 2012, p. 164)? Are they articulately stating the presuppositions of their field and how they interact and intersect with biblical worldviews (Campo, 2010; Downey & Porter, 2009; Eisenbarth & Van Treuren, 2004; Kanitz, 2005; Welch, 2008)?

Quinn, Foote, & Williams (2012) stated the need best:

Christian educators are ... challenged to reflect a biblical worldview and integrate faith and learning in their curricula. Deliberate attention must be focused on this responsibility in order to lead students to a thorough understanding of biblical worldview in their fields of study and the integration of faith in their courses. This requires Christian instructors to reflect deeply on their own faith assumptions and how those faith assumptions influence their instruction and development of courses. Instructors must also facilitate and model the kind of reflection necessary for a fully integrated transformational learning experience that merges biblical faith assumptions with academic rigor and curriculum formation and delivery. (p. 173)

Further research is needed to determine if faculty are equipped to deliver this type of instruction.

This research study examined biblical worldview in the context of Kohlberg's (1980) Stages of Development Theory and Fowler's (1981) Faith Development Theory in determining an appropriate age to examine worldview development, and Gilligan's (1977) Theory of Moral Development to illustrate differences in worldview based on gender. However, other theories might give insight into different aspects of human behavior. This study could be replicated using the following theories: Aizen (b. 1942) and Fishbein's (1936-2009) Theory of Planned Behavior, Erikson's (1930-1994) Identity Theory, and Bandura's (b. 1925) Social Theory.

A comparative, longitudinal study encompassing the four years of the college experience as recommended by Combs (2009), Morales (2013) and Powell (2010) would provide significant insight regarding the impact of biblical worldview formation at the college level. The Higher Education Research Institute (HERI) utilized a similar sample with their research at UCLA, and they are currently engaged in a longitudinal research study on this topic. King and Mayhew (2002) posited that four years in college should evidence strong gains in moral

development; therefore, it would be reasonable to also assess growth in biblical worldview. Powell (2012) and Turi (2012) conducted research on the faith development of seniors; however, a comparative study using Fowler's (1981) Faith Development Theory would be helpful in examining if seniors had reached the FDT Stage 6-Universalist Stage. Schraw (2001) postulated that as a person's beliefs change and become more mature, so do their critical thinking and problem solving skills. One overall purpose of longitudinal studies would be to measure how biblical worldview develops in college students. This would provide useful for accountability/measurability of the mission of a university or Christian school.

As discussed in the Practical Implications section, more emphasis is warranted in creating worldview materials to reach both genders and then providing the empirical data to redeliver these strategies as researched best practices. Males need to interpret and navigate the complexities of social issues and how the issues are rooted in various worldviews of the day. Equally, females need to comprehend how the underpinnings of these worldviews affect government, politics, and economics.

Future research on worldview should be conducted. Much time has been spent studying modernity and postmodernity; however, a forward look and a keen awareness of reflexive modernity and pseudo-modernity should be considered. With veritable intentionality, research for the development of materials to combat any worldview that is elevated "against the knowledge of God" (1 Corinthians 10:5) must commence.

Concluding Thoughts

The purposes of this study were to provide empirical data to evaluate the manifestations of behavior (acts of volition) as compared to students' cognitive biblical worldview, to study gender as it relates to worldview, to study relationships between worldview and acts of volition, and to observe predictor variables for worldview. The results revealed predictor values for both worldview and acts of volition. Furthermore, the findings supported Kohlberg's (1980) and

Fowler's (1981) moral development theories and demonstrated that 18- to 20-year-olds are capable of developing Scriptural convictions. In addition, the findings revealed mean differences based on gender for biblical worldview and societal issues, which verified Gilligan's (1977) gendered moral development theory. Implications for Christian textbook publishers and Christian schools and universities were included, as well as recommendations for future research. The study also provided a scale for Christian schools to quantitatively evaluate their mission statements. In tracing worldviews, it is evident that non-biblical worldviews define fluctuating thought and attempt to describe culture as it evolves. In contrast, biblical worldview is solid, static, and transcends all of life's experiences and all culture, defining how one navigates through life. The story of Creation, the Fall, and Redemption remains solid not only across time, but throughout all of eternity.

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APPENDIX A

October, 2014

Welcome BJU Freshman,

I am Sharon Wilkie, a doctrinal candidate, and I need your help as I pursue my Ed.D. The purpose of my research is to study biblical worldview and determine how biblical worldview impacts your everyday life. This survey has the potential to allow faculty and institutions to more fully understand the worldview presuppositions of their incoming students so that teaching methods and curricula can reflect those understandings. The study will also give insight to the authors of Christian school textbooks in their future development of materials.

You are asked to complete the survey before you return to your Freshman Seminar class next week. The survey is completely anonymous; however, at the end of the survey, you will need to print the completion screen shot, place your name on the paper, and hand it in to your Freshman Seminar teacher at your next class period. This way your instructor has a record of those who completed the assignment. The survey can be accessed by the hyperlink below and will be open from September 3-10.

[Biblical Worldview Outcome Scale](#)

I value your thoughts and answers and appreciate your participation. (Remember make sure you print the last page of the survey to give to your teacher!)

Thank you!

Sharon Wilkie

If you have any questions about the survey or the purpose of this research, please contact me at [EMAIL REMOVED].

APPENDIX B

Consent Form

LIVING FOR ETERNITY: A PREDICTIVE ANALYSIS OF THE MANIFESTATIONS OF BIBLICAL WORLDVIEW OF ENTERING UNIVERSITY FRESHMEN

Sharon Wilkie

Liberty University

Department of Education

You are invited to be in a research study of that has significant potential to contribute to the study of worldview research. You were selected as a participant because you are currently enrolled in Freshman Seminar at [Research Institution]. I ask that you read this form and ask any you may have before agreeing to be in the study.

This study is being conducted by Sharon Wilkie and the Department of Education at Liberty University.

Background Information

The purpose of this study is to determine if there are any factors that predict a person's worldview..

Procedures

If you agree to be in this study, I would ask you to simply click on the hyperlink to the study and answer all the questions truthfully. There are ten (10) demographic questions at the beginning of the survey to give me some information about you (all anonymous, of course) and then 27 questions in the survey and all responses are measured on either a YES/NO scale or 3 or 5 Likert type scales. It should take approximately 15 minutes to complete.

Risks and Benefits of Being in the Study

No study is without risks, but the risks involved in this anonymous online survey are as minimal as possibly can be. The risks are no more than you would encounter in everyday life. The benefits to participation are the privilege of being part of cutting edge worldview research. This survey will significantly fill to the gap in worldview literature and give Christian colleges and universities a powerful tool for accurately assessing their students' worldview presuppositions.

Compensation

Participants will not be compensated for their participation

Confidentiality

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Any surveys that might have inadvertently included names or other identifying information will be immediately destroyed.

Hard copies and electronic storage devices will be stored securely and only the researcher will have access to the records. The researcher will create the survey in SurveyMonkey® and use SSL encryption to ensure the data's security. No e-mail addresses will be collected via SurveyMonkey® to assure complete anonymity. No names, addresses, or any other identifiable information will be collected. Data will be kept for three years in a locked cabinet at the researcher's resident in Greenville, SC. After three years, any hard copies of data will be shredded and all electronic data will undergo appropriate erasure procedures including multiple pass procedures if necessary to erase all data. If proper tools or expertise is lacking, the researcher will seek out aid from the research institution or from local professional services. After the three years, there is no anticipated use of the data.

Voluntary Nature of the Study

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

Contacts and Questions

The researcher conducting this study is Sharon Wilkie. You may ask any questions you have now. If you have questions later, you are encouraged to contact her at [EMAIL REMOVED]. The faculty advisor for this research is Dr. L. Thomas Crites who may be reached at [EMAIL REMOVED].

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24502 or email at irb@liberty.edu. You will be given a copy of this information to keep for your records.

Statement of Consent

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

IRB Code Numbers: [Risk] (After a study is approved, the IRB code number pertaining to the study should be added here.)

IRB Expiration Date: [Risk] (After a study is approved, the expiration date (one year from date of approval) assigned to a study at initial or continuing review should be added. Periodic checks on the current status of consent forms may occur as part of continuing review mandates from the federal regulators.)

APPENDIX C

COMMENTS: Microsoft Word document-unpublished; actual survey will be and electronic SurveyMonkey® document. The actual survey will not have the divisions and the questions will be randomly sorted. The survey consists of eleven demographic questions and 27 survey questions.

BIBLICAL WORLDVIEW OUTLOOK SCALE

SECTION A-BIBLICAL WORLDVIEW	SCALE
God is absolute and unchanging.	AGREE/DISAGREE/UNSURE
Man is created by a direct act of God in His image.	AGREE/DISAGREE/UNSURE
As the Word of God, the Bible is trustworthy, without error, and authoritative for all of life.	AGREE/DISAGREE/UNSURE
Salvation comes only through repentance of sin and faith in Jesus Christ, who sacrificially died for the sins of the world and rose again bodily the third day.	AGREE/DISAGREE/UNSURE
History will conclude with God establishing a kingdom of redeemed sinners to be ruled by His Son. *	AGREE/DISAGREE/UNSURE
God blessed mankind with the ability to rule over God's creation and develop cultures	AGREE/DISAGREE/UNSURE
All sorrow (ex: disease, pain, death, trouble) and natural disasters (ex: hurricanes, earthquakes, floods) are a result of the curse on the earth because of man's fall into sin.	AGREE/DISAGREE/UNSURE
God intends that marriage be a covenant only between a man and a woman for life.	AGREE/DISAGREE/UNSURE
The Creator God is active in the world today sustaining and providing for His creation.	AGREE/DISAGREE/UNSURE
SECTION 2: NON-BIBLICAL WORLDVIEW	
People ought to be free to do what they wish as	Likert 1-5 Strong Disagree to Strongly

long as they don't harm anyone else.	Agree
A woman has the right to abort her fetus.	Likert 1-5 Strong Disagree to Strongly Agree
Science provides the most reliable means for establishing the facts about our world and ourselves.	Likert 1-5 Strong Disagree to Strongly Agree
It is up to individuals to determine what religion works best for them.	Likert 1-5 Strong Disagree to Strongly Agree
Government's role is to determine what is best for the majority of the people.	AGREE/DISAGREE/UNSURE
Man is basically good.	AGREE/DISAGREE/UNSURE
A person has the right to marry whom they love even if it is someone of the same sex.	Likert 1-5 Strong Disagree to Strongly Agree
If two people love each other, it is okay to live together and/or have sex before marriage.	Likert 1-5 Strong Disagree to Strongly Agree
SECTION 3: ACTS OF VOLITION	
Knowing God's will for my life is important to me.	Likert 1-5 Not at all important to Extremely important.
What I wear says nothing about who I really am.	Likert 1-5 Strong Disagree to Strongly Agree
I go to church even if it means missing a sporting/entertainment event.	Likert 1-5 Strong Disagree to Strongly Agree
I love the Lord more than I love anyone or anything.	Likert 1-5 Strong Disagree to Strongly Agree
I have told an unbeliever about Jesus Christ in the last 6 months.	AGREE/DISAGREE/UNSURE
I regularly make decisions on what I read, watch or listen to based on my desire to be more like Christ.	Likert 1-5 Strong Disagree to Strongly Agree
My two closest friends show clear evidence of love for God and a desire to serve Him	Likert 1-5 Strong Disagree to Strongly Agree
I find keeping the rules of the Bible a burden.	Likert 1-5 Strong Disagree to Strongly Agree

	Agree
The more money I make, the happier I will be.	Forced-choice full binary measure AGREE/DISAGREE
DEMOGRAPHICS-ALL ABOUT ME!	
What is your gender?	Forced-choice full binary measure MALE/FEMALE
Before coming to college, how often did you attend church?	Never, 1 to 6 times a year. 1 or 2 times a month, 1 time a week, 3 or more times a week
Are you an international student (non-missionary child)	Forced-choice full binary measure YES OR NO
Before coming to college, how often did you devotionally read your Bible? (This does not include church or chapel services.)	Less than once a week, 1 or 2 times a week, 3 or 4 times a week, 5 to 6 times a week, Daily.
Do you consider your home environment/family life spiritual?	Forced-choice full binary measure YES OR NO
Are either of your parents in full-time Christian service?	Forced-choice full binary measure YES OR NO
Do your parents profess to be Christians?	Yes, both do. Only my mother does. Only my father does. Neither does. Unsure.
Do you profess to be a Christian?	YES/NO/UNSURE
During your high school years did you use any textbooks published by the BJU Press?	YES/NO/UNSURE

APPENDIX D

Classification of Instrument Questions

SECTION A- BIBLICAL WORLDVIEW	Biblical references	Worldview triad	Worldview Units	Systematic theology
God is absolute and unchanging.	Isa 45:5 Heb 13:8	Creation	Apologetics	Theology Proper
Man is created by a direct act of God in His image.	Gen 3	Creation	Christian worldview	Theology Proper
As the Word of God, the Bible is trustworthy, without error, and authoritative for all of life.	2 Tim. 3:16-17; 2 Pet 1:21	Creation Redemption	Apologetics	Bibliology
Salvation comes only through repentance of sin and faith in Jesus Christ, who sacrificially died for the sins of the world and rose again bodily the third day.	Acts 4:12; John 14:6	Creation Fall Redemption	Christian worldview	Soteriology Christology
History will conclude with God establishing a kingdom of redeemed sinners to be ruled by His Son.	Psa 110:1; Rev 11:15; Rev 21, 22	Redemption	History/ Christian worldview	Eschatology
God blessed mankind with the ability to rule over God's creation and develop cultures	Gen 1:28	Creation/ cultural mandate	Science Culture	Theology Proper Anthropology
All sorrow (ex: disease, pain, death, trouble) and natural disasters (ex:	Gen 3:16-19; Rom 8:22	Fall	Christian Worldview	Hamartiology

hurricanes, earthquakes, floods) are a result of the curse on the earth because of man's fall into sin.			Science	
God intends that marriage be a covenant only between a man and a woman for life.	Gen 2:18-25	Creation	Marriage & Family	Anthropology
The Creator God is active in the world today sustaining and providing for His creation.	Acts 17:8, Mat 5:45, Col 1:16	Creation Redemption	Christian Worldview	Theology Proper
Section 2: Non-biblical worldview				
People ought to be free to do what they wish as long as they don't harm anyone else.	Rom 14:7 Phil 2:3 Mat 7:12	Fall Individualism, Harm Principle	General worldview	Anthropology Hamartiology
A woman has the right to abort her fetus.	Job 31:15; Psa 139:13-16; Jere 1:5; Deu 20:13	Fall, social issue	Christian worldview/ Marriage & Family	Anthropology Hamartiology
Science provides the most reliable means for establishing the facts about our world and our self.	John 14:6; John 17:17; Psa. 119:160	Absolute truth	Science	Bibliology
It is up to individuals to determine what religion works best for them.	Luk 1:35; Mat 2:16, 17; Gen 1:26;	Religious tolerance, individualism. Pragmatism	World Religions General worldview	Theology proper Christology Hamartiology

	Deu 6:4			
Government's role is to determine what is best for the majority of the people.	Psa 2; Jere 10:23; Rom 3:17; Psa 130:7; Dan 7:14	Government	Government General Worldview	Anthropology
Man is basically good.	Gen 6:5 Jere 17:9 Rom 3:10, 11	Fall	Christian worldview	Hamartiology
A person has the right to marry whom they love even if it is someone of the same sex.	Gen 2:18-25 Lev. 18: 22 Rom 1:26-28; 1 Cor 6:9-10; 2 Cor 6:4; Eph 5:22-32	Creation Fall Redemption	General and Christian Worldview Marriage	Hamartiology Anthropology
If two people love each other, it is okay to live together and/or have sex before marriage.	Heb 13:4; 1 The 4:3-8; 2 Pet 2:2	Fall Societal issue	Marriage	Hamartiology
Section 3: Acts of volition				
Knowing God's will for my life is important to me.	Mar 12:30; 2 Pet 1:5, 6	Creation Redemption	Christian Worldview	Theology Proper
What I wear says nothing about who I really am.	I Cor 6:19 I Pet 3:3,4 I Tim 2:9	Redemption	Christian Worldview/ Application	Bibliology Christology
I go to church even if it means missing a sporting/entertainment	Heb 10:25;	Redemption	Christian Worldview/	Ecclesiology

event.	1 John 3:14; John 13:35		Application	
I love the Lord more than I love anyone or anything.	Mat 22:37	Redemption	Christian Worldview/ Application	Theology Proper
I have told an unbeliever about Jesus Christ in the last 6 months.	Mat 28:16-20; Rom 1:16	Redemption great commission	Application Apologetics	Soteriology Christology
I regularly make decisions on what I read, watch or listen to base on my desire to be more like Christ.	2 Cor 10:5; 1 Cor 10:31; Phi 4:8	Redemption	Culture	Christology Anthropology
My two closest friends show clear evidence of love for God and a desire to serve Him.	Pro 4:23; Mat 6:21,15:18; Phi 4:8; Eph 5:19	Redemption	Application	Anthropology Christology
I find keeping the rules of the Bible a burden.	Psa 119:97-120; Psa 19:7; 1 John 5:3	Redemption	Application	Bibliology
The more money I make, the happier I will be.	Heb 13:5; 1 Tim 3:3; 6:10, Mat 6:33	Redemption	Application	Anthropology Bibliology Christology Theology Proper

APPENDIX E

IRB Application # _____

I. APPLICATION INSTRUCTIONS

- To submit a protocol, complete each section of this form and email it and any accompanying materials (i.e. consent forms and instruments) to irb@liberty.edu. For more information on what to submit and how, please see our website at: www.liberty.edu/irb. **Please note that we can only accept our forms in Microsoft Word format.**
- In addition, please submit one signed copy of the fourth page of the protocol form, which is the Investigator's Agreement. Also submit the second page if a departmental signature is required for your study. Signed materials can be submitted by mail, fax (434-522-0506), or email (scanned document to irb@liberty.edu). Signed materials can also be submitted via regular mail or in person to our office: Green Hall, Suite 1837.
- Please be sure to use the grey form fields to complete this document; do not change the format of the application. You are able to move quickly through the document by using the "Tab" key.
- **Note: Applications with the following problems will be returned immediately for revisions: 1) Grammar/spelling/punctuation errors, 2) A lack of professionalism (lack of consistency/clarity) on the application itself or any supporting documents, 3) Incomplete applications. Failure to minimize these errors will cause delays in your processing time.**

II. BASIC PROTOCOL INFORMATION

Protocol Title: **LIVING FOR ETERNITY: A PREDICTIVE ANALYSIS OF THE
MANIFESTATIONS OF BIBLICAL WORLDVIEW OF ENTERING UNIVERSITY FRESHMEN**

Principal Investigator (PI): **Sharon Edge Wilkie**

Professional Title: **Doctoral Candidate**
Graduate School of Education

School/Department:

Mailing Address: **9 Fairway Lane, Greenville, SC 29609**

Telephone: **678-873-0997**

LU Email: **REMOVED**

Check all that apply: ☐ Faculty ☒ Graduate Student ☐ Undergraduate Student ☐ Staff

This research is for: ☐ Class Project ☐ Master's Thesis ☒ Doctoral Dissertation

☐ Faculty Research ☐ Other (describe):

Have you defended and passed your dissertation proposal? ☒ Yes ☐ No ☐ N/A

If no, what is your defense date?

Co-Researcher(s): N/A

Faculty Advisor: Dr. Larry Thomas Crites

School/Department: **Graduate School of Education**

Telephone: **678-576-3636**

LU Email:

Non-key Personnel: N/A

School/Department: **N/A**

Telephone: **N/A**

LU Email: **N/A**

Consultants: Dr. David Holder, Research Consultant

School/Department: **Education**

Telephone: **N/A**

LU Email:

Liberty University Participants:

Do you intend to use LU students, staff, or faculty as participants or LU student, staff, or faculty data in your study? If yes, please list the department and/or classes you hope to enlist, and the number of participants/data sets you would like to enroll/use. If you do not intend to use LU participants in your study, please indicate “no” and proceed to the section titled “Funding Source.”

☒ No

☐ Yes

N/A Number of participants/data sets

N/A

N/A

Department

Class(es)

In order to process your request to use LU participants, we must ensure that you have contacted the appropriate department and gained permission to collect data from them. Please obtain the original signature of the department chair in order to verify this.

N/A

N/A

Signature of **Department Chair**

Date

Funding Source: If research is funded please provide the following:

Grant Name (or name of the funding source): **N/A**

Funding Period (month/year): **N/A**

Grant Number: **N/A**

Anticipated start and completion dates for collecting and analyzing data: N/A

Completion of required CITI research ethics training courses:

Basic Course, (Ref # 10085299)

3/31/13

Course Name

Date

III. OTHER STUDY MATERIALS AND CONSIDERATIONS

Does this project call for (more detail will be required later):

Use of voice, video, digital, or image recordings?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Participant compensation?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Advertising for participants?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
More than minimal psychological stress?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Confidential material (questionnaires, surveys, interviews, photos, etc.)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Extra costs to the participants (tests, hospitalization, etc.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

The inclusion of pregnant women?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
More than minimal risk? *	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Alcohol consumption?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Waiver of Informed Consent?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of protected health information (obtained from healthcare practitioners or institutions)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
VO2 Max Exercise?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of blood?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Total amount of blood	N/A
Over time period (days)	N/A
The use of rDNA or Biohazardous materials?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of human tissue or cell lines?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of other fluids that could mask the presence of blood (including urine and feces)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
The use of an Investigational New Drug (IND) or an Approved Drug for an Unapproved Use?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Drug name, IND number, and company:
The use of an Investigational Medical Device or an Approved Medical Device for an Unapproved	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Use?	Device name, IDE number, and company: N/A
The use of Radiation or Radioisotopes ?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Minimal risk is defined as "the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests." [45 CFR 46.102(i)]*

4. The PI agrees to carry out the protocol as stated in the approved application: all participants will be recruited and consented as stated in the protocol approved or exempted by the IRB. If written consent is required, all participants will be consented by signing a copy of the approved consent form.
5. That any unanticipated problems involving risks to participants or others participating in the approved protocol, which must be in accordance with the Liberty Way (and/or the Honor Code) and the Confidentiality Statement, will be promptly reported in writing to the IRB.
6. That the IRB office will be notified within 30 days of a change in the PI for the study.
7. That the IRB office will be notified within 30 days of the completion of this study.
8. That the PI will inform the IRB and complete all necessary reports should he/she terminate the University Association.
9. To maintain records and keep informed consent documents for three years after completion of the project, even if the PI terminates association with the University.
10. That he/she has access to copies of 45 CFR 46 and the Belmont Report.

Sharon Wilkie

[SIGNATURE REMOVED]

Principal Investigator
(Printed) Date
10/6/14

Principal Investigator Signature)

FOR STUDENT PROPOSALS ONLY

BY SIGNING THIS DOCUMENT, THE FACULTY ADVISOR AGREES:

1. To assume responsibility for the oversight of the student's current investigation, as outlined in the approved IRB application.
2. To work with the investigator, and the Institutional Review Board, as needed, in maintaining compliance with this agreement.
3. To monitor email contact between the Institutional Review Board and principle investigator. Faculty advisors are ccced on all IRB emails to Pis.
4. That the principal investigator is qualified to perform this study.
5. That by signing this document you verify you have carefully read this application and approve of the procedures described herein, and also verify that the application complies with all instructions listed above. If you have any questions, please contact our office (irb@liberty.edu).

[SIGNATURE REMOVED]

***The Institutional Review Board reserves the right to terminate this study at any time if, in its opinion, (1) the risks of further experimentation are prohibitive, or (2) the above agreement is breached.**

PURPOSE

1. **Purpose of the Research:** Write an original, brief, non-technical description of the purpose of your project. Include in your description: Your research hypothesis or question, a narrative that explains the major constructs of your study, and how the data will advance your research hypothesis or question. This section should be easy to read for someone not familiar with your academic discipline.

This study is an effort to determine if Christian youth are graduating from Christian high schools with a true biblical worldview (one that is not only knowledge-based but also heart- and application-based. Additionally, I want to research whether or not there are any predictor variables for developing biblical worldview. In order to accomplish this, the study will compare biblical worldview of incoming freshmen at a Christian liberal arts university to the following predictor variables: acts of volition (thoughts, actions, and affections), social issues (homosexuality, premarital sexual relations, and abortion), gender, home

environment, type of high school attended, frequency of church attendance and bible reading. A careful examination of these factors will guide strategies for engaging Christian youth in connecting their biblical worldview with every aspect of their lives.

The Research Question is as follows:

Is there predictive strength of the variables of gender, church attendance, home environment, type of high school attended, and Bible reading relative to university freshmen's biblical worldview, general worldview, and acts of volition as measured by the Biblical Worldview Outcome Scale (BWOS)?

a. What is the measure of strength of the prediction? (If the P value from the test is close to zero then good predictability may be assumed.)

b. Which variables are necessary to find a measurable prediction?

The constructs will be tested through the use of the Biblical Worldview Outlook Scale to determine relationship and predictability.

Results may serve a three-fold purpose: First, as an assessment tool for Christian schools in keeping with their mission to instill biblical worldview into the lives of their students; secondly to guide the development of strategies to address the heart issues and disconnects between biblical worldview and acts of volition, and thirdly, for Christian textbook publishers to glean information from the study for the continued integration of biblical worldview.

IV. PARTICIPANT INCLUSION/EXCLUSION CRITERIA

1. **Population:** From where/whom will the data be collected? Address each area in non-scientific language. Enter N/A where appropriate.

- a. **Provide the inclusion criteria for the participant population—gender, age ranges, ethnic background, health status, and any other applicable information—and provide a rationale for targeting this population.** If you are related to any or all of your participants, please state that fact here. **This study will examine recent high school graduates/first semester freshmen before college has impacted their values and behaviors. By choosing this population, the information gained may be used past tense—developing curriculum and practices for the Christian school and future tense by developing curriculum needed for the students' tenure in a four-year institution. In addition, the study will also provide Christian universities baseline data of the status of the incoming freshman class and provide evaluative data for possible longitudinal studies to measure a specific group's growth in biblical worldview and its applications to their lives. According to Kohlberg, Gilligan, and Fowler's**

behavioral development theories, this population should be developmentally ready to reflect on their beliefs and actions.

- b. The exclusion criteria for participants: None**
- c. Explain the rationale for the involvement of any special population** (Examples: children, specific focus on ethnic populations, mentally retarded, lower socio-economic status, prisoners). **None**
- d. Provide the maximum number of participants you seek approval to enroll from all participant populations you intend to use and justify the sample size.** You will not be approved to enroll a number greater than this. If, at a later time, it becomes apparent you need to increase your sample size, you will need to submit a change in protocol form. **800**
- e. For NIH, federal, or state-funded protocols only:** Researchers sometimes believe their particular project is not appropriate for certain types of participants. These may include, for example: women, minorities, and children. If you believe your project should not include one or more of these groups, please provide your justification for their exclusion. Your justification will be reviewed according to the applicable NIH, federal, or state guidelines. **N/A**

2. Types of Participants: Check all that apply:

- ☒ Normal Volunteers (Age 18-65)
- ☐ Minors (under age 18)
- ☐ Over age 65
- ☒ University Students
- ☐ Active-Duty Military Personnel
- ☐ Discharged/Retired Military Personnel
- ☐ Inpatients
- ☐ Outpatients
- ☐ Patient Controls
- ☐ Fetuses
- ☐ Cognitively Disabled
- ☐ Physically Disabled
- ☐ Pregnant Women
- ☐ Participants Incapable of Giving Consent
- ☐ Prisoners or Institutional Individuals

- ☐ Other Potentially Elevated Risk Populations
- ☐ Participants related to the researcher(s)

V. RECRUITMENT OF PARTICIPANTS

1. **Contacting Participants:** Describe in detail *how* you will contact participants regarding this study. Please provide all materials used to contact participants in this study. These materials could include letters, emails, flyers, advertisements, etc. If you will contact participants verbally, please provide a script that outlines what you will say to participants. **Participants will be contacted via University email and their Freshman Seminar classes within the first nine weeks of the first semester. A consent waiver will be distributed to the students, which will direct them to theSurveyMonkey® link where they will commence and complete the survey.**
2. **Location of Recruitment:** Describe the location, setting, and timing of recruitment.

The incoming freshmen class (2014-2015) [Research Institution], during the first nine weeks of the semester. Students will be recruited through their on-campus university email accounts and their Freshman Seminar Class. TheSurveyMonkey® link will be open 10 days.

3. **Screening Procedures:** Describe any screening procedures you will use when recruiting your participant population.

Participants will be asked their date of birth on the survey instrument; data of students under 18 years of age will not be used for this study. No other screening will occur since all students enrolled in Freshman Seminar are freshmen.

4. **Relationships:** State the relationship between the PI, faculty advisor (if applicable), and participants. Do any of the researchers have positions of authority over the participants such as grading or professional authority (e.g., the researcher is the participants' teacher or principal)? If a position of authority exists, what safeguards are in place to reduce the likelihood of compromising the integrity of the research (e.g., addressing the conflicts in the consent process and/or emphasizing the pre-existing relationship will not be impacted by participation in the research, etc.)?

No relationship exists between the participants, PI, or the PI's faculty advisor.

5. **Safeguarding for Conflicts of Interest:** Are there any relevant financial relationships? What safeguards are in place to reduce the likelihood of compromising the integrity of the research (e.g., addressing the conflicts in the consent process and/or emphasizing the pre-existing relationship will not be impacted by participation in the research, etc.)?

The PI will not participate in the Freshman Seminar classes during first semester to avoid any conflict of interest or undue pressure to the participating students. Students will complete a confidential SurveyMonkey® instrument, which will provide confidentiality. Students will not be required to participate and will be assured that their responses are totally confidential and separate from the requirements of the class and cannot be traced to any disclosure on their Student Covenant issued by the University.

VI. RESEARCH PROCEDURES

1. **Description of the Research*:** Write an original, non-technical, step-by-step description of what your participants will be required to do during your study and data collection process. Do not copy the abstract/entire contents of your proposal. *(Describe all steps the participants will follow. What do the data consist of? Include a description of any media use here, justifying why it is necessary to use it to collect data).*

Students will be required to sign a waiver of consent before completing the survey. Students will log in to SurveyMonkey® using a provided link. They will complete the survey and submit. Once the survey has been submitted, the students will have no other requirements or contact with the PI. The students will not be involved in the data collection process. The Internet will be used to administer the survey and to collect data. This is a feasible means to ensure confidentiality and to allow the participants access to technology at a time convenient to them. It also eliminates the Freshman Seminar facilitator being involved in the handling of research documents.

***Also, please submit one copy of all instruments, surveys, interview questions or outlines, observation checklists, etc. to irb@liberty.edu with this application.**

2. **Location of the Study:** Please describe the location in which the study will be conducted (Be specific; include city and state). **The study will be conducted on the campus of [Research Institution], . Students will be recruited via their Freshman Seminar classes. All classes meet in the Alumni Building, which is the largest classroom building on campus. The classes are composed of 15-20 students each.**

VII. DATA ANALYSIS

1. **Estimated number of participants to be enrolled in this protocol or sample size for archival data: 800**
2. **Describe what will be done with the data and the resulting analysis: The data analysis will be used in my doctoral dissertation to support my hypotheses. The dissertation will be published. The data will be stored on an external drive for three years. At the end of the three years, all material will be destroyed..**

VIII. PROCESS OF OBTAINING INFORMED CONSENT

1. **Consent Procedures:** Describe in detail how you will obtain consent from participants and/or parents/guardians. Attach a copy of all informed consent/assent agreements. The IRB needs to ensure participants are properly informed and are participating in a voluntary manner. *Consider these areas: amount of time spent with participants, privacy, appropriateness of individual obtaining consent, participant comprehension of the informed consent procedure, and adequate setting.* For a consent template and information on informed consent, please see our [website](#). If you believe your project qualifies for a waiver of the signature requirement on the informed consent document, note that here and describe how you will provide participants with the informed consent document. Then go to section XV, and answer its questions. **Students will be provided with a consent document as a part of the survey instrument. They will be instructed that by proceeding forward into the survey that they are providing consent.**
2. **Deception:** Are there any aspects of the study kept secret from the participants (e.g. the full purpose of the study)?
 - a. ☒ No
 - b. ☐ Yes
 - i. If yes, describe the deception involved and the debrief procedures. Attach a post-experiment debriefing statement and consent form offering participants the option of having the data destroyed: **N/A**
3. **Is any deception used in the study?** (Are participants given false information about any aspect of the study?)
 - a. ☒ No
 - b. ☐ Yes
 - i. If yes, describe the deception involved and the debrief procedures. Attach a post-experiment debriefing statement and consent form offering participants the option of having the data destroyed: **N/A**
4. **Will participants be debriefed?**

- a. ☒ No
- b. ☐ Yes
 - i. Attach a copy of your debriefing statement. If the answer to protocol question IX (3) is yes, then the investigator must debrief the participant. If your study includes participants from a participant pool, please include a debrief statement.

IX. PARENTAL/GUARDIAN PERMISSION*

1. **Does your study require parental/guardian permission?** (If your intended participants are under 18, parental/guardian consent is required in most cases.)
 - a. ☐ Yes
 - b. ☒ No
2. **Does your study entail greater than minimal risk, without potential for benefit?**
 - a. ☐ Yes (If so, consent of both parents is required.)
 - b. ☒ No

***Please refer to the Office for Human Research Protections (OHRP) regulations ([45 CFR 46.408](#)) to determine whether your project requires parental consent and/or child assent. This is particularly applicable if you are conducting education research.**

X. ASSENT FROM CHILDREN AND WITNESS SIGNATURE

1. **Is assent required for your study?** Assent is required unless the child is not capable (age, psychological state, sedation), or the research holds out the prospect of direct benefit that is only available within the context of the research. If the consent process (full or part) is waived, assent may be also. See our [website](#) for this information.
 - a. ☐ Yes
 - b. ☒ No
2. **Please attach assent document(s) to this application.**

XI. WAIVER OR MODIFICATION FOR REQUIRED ELEMENTS IN INFORMED CONSENT PROCESS

1. Waiver or modification for required elements in informed consent is sometimes used in research involving a deception element. See Waiver of Informed Consent on the IRB website (link above). If requesting a waiver of consent, please address the following:
 - a. Does the research pose greater than minimal risk to participants (greater than everyday activities)? **N/A**

- b. Will the waiver adversely affect participants' rights and welfare? Please justify. **N/A**
- c. Why would the research be impracticable without the waiver? **N/A.**
- d. How will participant debriefing occur (i.e. how will pertinent information about the real purposes of the study be reported to participants, if appropriate, at a later date)? **N/A**

XII. CHECKLIST OF INFORMED CONSENT/ASSENT

1. **Attach a copy of all informed consent/assent documents.** Please see our [Informed Consent materials](#) and Informed Consent template to develop your document.

XIII. WAIVER OF SIGNED INFORMED CONSENT DOCUMENT

1. Waiver of signed consent is sometimes used in anonymous surveys or research involving secondary data. This does not eliminate the need for a consent document, but it does eliminate the need for a signature(s). If you are requesting a waiver of signed consent, please address the following (yes or no):
 - a. Does the research pose greater than minimal risk to participants (greater than every day activities)? **No**
 - b. Does a breach of confidentiality constitute the principal risk to participants? **No**
 - c. Would the signed consent form be the only record linking the participant and the research? **Yes**
 - d. Does the research include any activities that would require signed consent in a non-research context? **No**
 - e. Will you provide the participants with a written statement about the research (an information sheet that contains all the elements of the consent form but without the signature lines)? **Yes**

XIV. PARTICIPANT PRIVACY AND CONFIDENTIALITY

1. **Privacy:** Describe what steps you will take to protect the privacy of your participants. Privacy refers to persons and their interest in controlling access to their information. **Access to theSurveyMonkey® data will be password protected. The IP addresses will not be included in the report. Results will not be linked to individuals.**
2. **Confidentiality:** Please describe how you will protect the confidentiality of your participants. Confidentiality refers to agreements with the participant about how data are to be handled. Indicate whether the data are archival, anonymous, confidential, or confidentiality not assured and then provide the additional information requested in each section. The IRB asks that if it is possible for you to collect your data anonymously (i.e. without collecting the participants' identifiable information), please construct your study in this manner. Data collection in which the participant is not identifiable (i.e. anonymous) can be exempted in most cases.

- a. **Are the data archival (e.g. data already collected for another purpose)?***
- i. ☐ Yes (please answer b-e below)
 - ii. ☒ No (please skip to 3)

***Please note: if your study only includes archival data, answer no to 2-b, 2-c, 2-d, and leave 2-e blank.**

- b. **Are the data publicly accessible?**
- i. ☐ Yes (Please answer below)
 1. Please provide the location of the publicly accessible data (website, etc.).
 - ii. ☐ No (Please answer below)
 1. Please describe how you will obtain access to this data and provide the board with proof of permission to access the data.
- c. **Will you receive the data stripped of identifying information, including names, postal addresses, telephone numbers, email addresses, social security numbers, medical record numbers, birth dates, etc.?**
- i. ☐ Yes (see below)
 1. Please describe who will link and strip the data. Please note that this person should have regular access to the data and he or she should be a neutral third party not involved in the study.
 - ii. ☐ No (see below)
 1. If no, please describe what data will remain identifiable and why this information will not be removed.
- d. **Can the names of the participants be deduced from the data set?**
- i. ☐ Yes (see below)
 1. Please describe.
 - ii. ☐ No
 1. Initial the following: I will not attempt to deduce the identity of the participants in this study:
- e. **Please provide the list of data fields you intend to use for your analysis and/or provide the original instruments used in the study.**

3. **Are the data you will collect anonymous?** (Data do not contain identifying information including names, postal addresses, telephone numbers, email addresses, social security numbers, medical record numbers, birth dates, etc., and cannot be linked to identifying information by use

of codes or other means. If you are recording the participant on audio or videotape, etc., this is not considered anonymous data).

- a. ☒ Yes (see below)
 - i. Describe the process you will use to collect the data to ensure that it is anonymous. **Students will not give any identifying information on the survey. Students will login on a secure computer and complete the survey. The survey will not be traced back to them or to an IP address.**
 - b. ☐ No
4. Can the names of the participants be deduced from the data?*
- a. ☐ Yes (see below)
 - i. Please describe:
 - b. ☒ No
- *If you agree to the following, please type your initials: I will not attempt to deduce the identity of the participants in the study: sew**
5. Will your data contain identifying information and/or be linked to identifying information by use of codes or other means? Please note that if you will use participant data (such as photos, videos, etc.) for presentations beyond data analysis for the research study (classroom presentations, library archive, conference presentations, etc.) you will need to provide a materials release form to the participant.
- a. ☐ Yes (see below)
 - i. Please describe the process you will use to collect the data and to ensure the confidentiality of the participants. Verify that the list linking codes to personal identifiers will be kept secure by stating where it will be kept and who will have access to the data.
 - b. ☒ No
6. Will you handle and store the data in such a way as to prevent a breach in confidentiality? Please note that if you will use participant data (such as photos, videos, etc.) for presentations beyond analysis for the research study (classroom presentations, library archive, conference presentations, etc.) you need to provide a materials release form to the participant.
- a. ☒ Yes (see below)
 - b. ☐ No (see below)
 - i. Please describe why confidentiality will not be assured.
7. Please describe how you will maintain confidentiality of the data collected in your study. This includes how you will keep your data secure (i.e. password protection, locked files), who will have access to the data, and methods for destroying the data once the three year time period for maintaining your data is up. **The data will be available only to the PI; SurveyMonkey® will be protected by a password, my computer is password protected, and the files will be locked and password protected. No one will have access to data that any way links data back to a participant, including the IP.**

8. **Media Use:** If you answer yes to any question below, in question VI (1), [Description of Research](#), please provide a description of how the media will be used and justify why it is necessary to use the media to collect data. Include a description in the Informed Consent document under “What you will do in the study.”
- a. Will the participant be audio recorded? ☐ Yes ☒ No
 - b. Will the participant be video recorded? ☐ Yes ☒ No
 - c. Will the participant be photographed? ☐ Yes ☒ No
 - d. Will the participant be audio recorded, video recorded, or photographed without their knowledge? ☐ Yes ☒ No
 - e. If yes, please describe the deception and the debriefing procedures: Attach a post-experiment debriefing statement and a post-deception consent form offering participants the option of having their tape/photograph destroyed. **N/A**
 - f. If a participant withdraws from a study, how will you withdraw them from the audiotape, videotape, or photograph? **N/A**
 - i. Please add the heading *How to Withdraw from the Study* on the informed consent document and include a description of the removal procedures.

***Please note that all research-related data must be stored for a minimum of three years after the end date of the study, as required by federal regulations.**

XV. PARTICIPANT COMPENSATION

1. **Describe any compensation that participants will receive.** Please note that Liberty University Business Office policies might affect how you compensate participants. Please contact your department’s business office to ensure your compensation procedures are allowable by these policies. **Participants will receive no compensation.**

XVI. PARTICIPANT RISKS AND BENEFITS

1. **Risks:** There are always risks associated with research. If the research is minimal risk, which is no greater than every day activities, then please describe this fact. **The risk in this study is no greater than every day activities of sitting in class, chapel, or a church services. Students may undergo some conviction of the Holy Spirit as they read some of the biblical worldview questions.**
- a. Describe the risks to participants and steps that will be taken to minimize those risks. Risks can be physical, psychological, economic, social, legal, etc. **Students will be offered a statement at the end of the survey that if any questions have been raised in their mind regarding their personal spiritual status, then they may contact the Student Life Office or their Dormitory Counselor for counsel.**
 - b. Where appropriate, describe any alternative procedures or treatments that might be advantageous to the participants. **If students have questions about their own spiritual status after completing the survey, they would benefit from spiritual counsel, which is available through the Student Life Office.**

- c. Describe provisions for ensuring necessary medical or professional intervention in the event of adverse effects to participants or additional resources for participants. **Any participant that might be distressed after answering religious questions will have access to on-campus counseling to find answer their questions.**
- 2. **Benefits:** Describe the possible direct benefits to the participants. If there are no direct benefits, please state this fact. **There are no direct benefits to the participants.**
 - a. Describe the possible benefits to society. In other words, how will doing this project be a positive contribution and for whom (keep in mind benefits may be to society, the knowledge base of this area, etc.)? **This data will provide the university with baseline data of its freshman class to enable them to construct programs to address biblical worldview. It can also be used by Christian textbook publishing company to assess their effectiveness.**
- 3. **Investigator's evaluation of the risk-benefit ratio:** Please explain why you believe this study is still worth doing even with any identified risks. **The risks to this study are actually benefits because of its potential to cause a participant to examine their relationship with Jesus Christ.**

APPENDIX F

August 8, 2014

Mrs. Sharon Wilkie
[Research Institution] PO Box 34881

Dear Sharon:

Re: Dissertation Project

The Office of Institutional Effectiveness (OIE) reviewed your proposed dissertation prospectus entitled "Living for Eternity: A Predictive Analysis of the Manifestations of Biblical Worldview of Entering University Freshmen" dated June 2014 and conditionally approves the research through an Exempt Review based on minimal potential risk to research subjects. The following conditions apply:

1. Any deviations to the proposal must be submitted for review and approval by [research institution].
2. Liberty University's IRB or equivalent research management unit must approve the study prior to gathering data.
3. The project must be approved and supported by [Research Institution's] Director of First Year Experience.
4. [Research Institution's] Office of Institutional Effectiveness will administer the survey through SurveyMonkey® according to your instructions and then provide you with the appropriate data file. Once you provide the final survey questions and specifications, please allow one week before the release date. Data will be provided to you approximately one week after the close of the survey.
5. The completed dissertation must be sent the [Research Institution's] Office Institutional Effectiveness.

I look forward to working with you on this project.

[Signature removed]

Doug Garland
Director of Institutional Effectiveness

August 27, 2014

Mrs. Sharon Wilkie
Box 34881

Dear Sharon:

Based on the recommendation I received from the Office of Institutional Effectiveness at Bob Jones University, the Office of First-Year Experience approves and supports the research project as outlined in your dissertation prospectus in conjunction with the University's Office of Institutional Effectiveness.

I look forward to seeing the results of your study.

Sincerely,

Rebecca Waier, Coordinator
First-Year Experience

APPENDIX G

Appendix G is an analysis of the eight surveys examined before determining the need for a new instrument for this study.

Biblical Life Outlook Scale (BLOS). (M. Bryant, 2008): Bryant developed an 87-question survey to determine if the Bible curricula used by a Christian school significantly impacted a student's worldview. He included original questions regarding core doctrinal beliefs held by many conservative protestant Christians who accept a literal interpretation of the Bible. In his attempt to measure biblical worldview, he incorporated questions from three other surveys: the Christian Orthodoxy Scale by Fullerton and Hunsberger (1982), the Systems Belief Inventory by Holland, Kash, Passik, Gronert, Sison, Lederberg, & ... Fox, B.. (1998), and questions from Milevsky and Levitt's (2004) intrinsic and extrinsic religiosity study. Cronbach's alpha for the BLOS was .937. The instrument itself is long, extensive, and focuses more on the key doctrines of Scripture rather than on whether or not a person's biblical worldview impacts their behavior.

Christian Orthodoxy Scale. Fullerton and Hunsberger (1982) intentions were to create a document to test one aspect of religiosity-that of Christian orthodoxy as it pertains to the Apostle's and Nicene Creeds. They designed 24 questions around ten belief categories:

The existence of God; the trinity of the Father, Son and Holy Ghost; God created all things; Jesus of Nazareth was Divine; The virgin birth of Jesus; Jesus' mission was to save mankind; Jesus died but came back to life; Jesus has left earth, but shall return; God will judge men after their deaths; and there is life after death. (p. 318)

In addition, they added three other elements, which are not mentioned in the creeds but are accepted by orthodoxy: "the Divine inspiration of the Bible, miracles, and the efficacy of prayer"

(p.318). Their questions were compiled to reflect attitudes toward these beliefs. The Cronbach's Alpha was .97 to .98. The scale has since undergone multiple validity tests. Johnson & George, (1993), correlated the Christian Orthodoxy Scale with Allport & Ross's Religious Orientation Scale (1967) and found that the COS may be used as a valid index to the extent to which Christians hold to orthodox religious beliefs. Ji, Pendergraft, & Perry (2006) cite the COS as an influential study of "doctrinal orthodoxy whose unidimensional ideas on Christian orthodox beliefs have been well received by many scholars" (p. 158). Amid criticism of the COS's length, Hunsberger (1989) created a shorter version (SCO) by condensing the original COS to six questions (Cronbach's Alpha .94), but he feels some of the "breadth of coverage of basic Christian tenets" is sacrificed (p. 360).

This instrument, though it is in keeping with protestant creeds and is weighty in doctrine, is not a true worldview indicator. It does have value in that it distinctly and overtly covers many areas of Systematic Theology that are not covered in other surveys. M. Bryant (2008) borrows extensively from this survey for his Biblical Life Outlook Survey. This instrument, though thorough and academic in its content, was one-dimensional, therefore it was discounted for this study.

Systems Belief Inventory-15 Holland et al. (1998): This inventory is a briefer version of SBI-54, and is designed to measure religious and spiritual beliefs and practices (Questions 1, 2, 4, 6, 8, 10, 11, 12, 14, 15) and the support received through religious groups (Questions 3, 5, 6, 9, 13) (Holland et al., 1998; Ripamonti, Borreani, Maruelli, Proserpio, Pessi, Miccinesi, 2010). The developers state that the instrument is "validated for studies on quality of life issues, stress, and coping...The SBI-15 is highly correlated with version SBI-54 and—demonstrated convergent, divergent, and discriminant validity" (Holland et al., p. 460). Also, it had significant

correlation for “convergent validity with the Religious Orientation Inventory ($r=0.84$) and the INSPIRIT ($r=0.82$). Its test-retest correlation coefficient was 0.95 for both religious and lay groups” (Holland et al., p.465).

This instrument is suited more for a generic religious study and most questions are not specifically aimed toward biblical Christianity. Though M. Bryant (2008) borrowed from this instrument, no questions seemed suited for this particular worldview study.

New Indices Religious Orientation (NIRO). (Francis, 2007). Francis (2007) who designed the NIRO based his work on Alpert and Ross (1967) Personal Religious Orientation Scale (ROS), which defined, clarified and operationalized two religiosity constructs intrinsic and extrinsic. Both the ROS and NIRO were created for those who have some form of religiosity and both used the basic premise of whether a person is religious for self-serving personal gain to advance one’s self in life (extrinsic motivation) or if their religiosity is for the personal spiritual gain to develop a relationship with the God (intrinsic motivation). Francis also built on Batson & Raynor-Prince’s (1983) work, which added a third construct, quest, to capture research on those who are not outwardly religious, but who have spiritual/psychological questions and possible doubts regarding religion. Francis combined these works to form not only a shorter version of the ROS, but one that gives equal balance to the three component parts. In response to his own criticism of the vague language and “lack of clarity and simplicity” (p.589) of Allport and Ross (1967) and Batson & Raynor-Prince’s (1983) instruments, Francis (2007) states that in developing the NIRO, “Care has been taken to formulate the items in clear, direct, and accessible language” (p. 590).

Francis (2007) in his original validity tests found that persons who scored intrinsically high were defined by three elements:

First, they integrate their religious faith into all aspects of their lives...Second, they place a high priority on public religious practice as a sign of their commitment both to God and to the community of believers....Third, they value their personal religious practices as a way of developing their personal relationship with God....For them religion is an end in itself and not a means to other personal and social ends. (p. 596)

Also, according to Francis (2007), “The NIRO provides highly reliable measures of three clearly defined constructs. The three orientations have been re-operationalized in terms both of nine-item scales (full form) and of six-item scales (short-form)” (p. 597). In respect of each scale, the three components adhere to produce high alpha coefficients (.8493) with the intrinsic and extrinsic values in excess of .70. Confirming its internal consistent reliability, the internal validity has been established in additional studies by Francis, Lewis, & Robbins (2010); Francis, Robbins, Kaldor, & Castle (2009); Francis, Robbins, & Murray (2010); Kamble, Lewis, & Cruise, (2010); Robbins (2010); D. Walker (2012); Williams (2010).

A valid question in the field of biblical worldview would be whether this instrument might be used to determine the degree in which one’s biblical worldview shapes their choices, devotions, and actions leading to an assumption that the higher the intrinsic score, then the higher the degree of worldview. Could the extrinsic value represent a weak biblical worldview and the intrinsic a strong biblical worldview? The NIRO does include some questions of promise that might be suitable to incorporate into a worldview instrument; however a limitation is the use of the words “religious” and religion”. Since this study is specifically focused on relational Christianity and biblical worldview, this is not the instrument of choice.

College Student Beliefs and Values (CSBV). Through funding by the Templeton Foundation to the Higher Education Research Institute (HERI) and the Templeton Foundation,

Alexander and Helen Astin, co-researchers, along with Jennifer Lindholm, project director developed the College Student of Values and Beliefs (CSBV) to measure student's beliefs and values over a wide spectrum of value issues. The pilot study of 3,700 students enrolled at forty-six colleges and universities was conducted in spring 2003 (Astin & Astin, 2003; Astin, 2004), and a full-scale assessment of 98,593 entering first-year students attending 209 diverse colleges and universities across the country was initiated in the fall 2004 (A.W. Astin, H.S. Astin, Lindholm, A.N. Bryant, 2005). In conjunction with Astin's personal research (2003, 2004) and the national study (A.W. Astin, H.S. Astin, Lindholm, A.N. Bryant, 2005), the research team sought develop an instrument that would crossover any particular theological/metaphysical perspective or belief system, that would cover both spiritual beliefs/perspectives and spiritual practices/behaviors, that would accommodate those who define their spirituality primarily in terms of both conventional and unconventional religious beliefs and practices, and that would be of reasonable length and avoid ambiguous terminology.

Through a process of analysis and additional research, Astin & Astin (2003), Astin, (2004), and Astin, Astin, Lindholm, & Bryant (2005) identified twelve domains or outcomes and categorized into three broad categories. Cronbach's alphas were established for each category (Astin, Astin, & Lindholm, 2010):

1. Spiritual Factors: Spirituality ($\alpha=.88$) Spiritual Quest ($\alpha = .85$); Equanimity ($\alpha=.76$)
2. Religious Factors: Religious Commitment ($\alpha = .96$); Religious Struggle ($\alpha = .75$); Religious Engagement ($\alpha = .87$); Religious/Social Conservatism ($\alpha =.72$); Religious Skepticism ($\alpha = .83$)

3. Related Qualities: Charitable Involvement ($\alpha = .71$); Ethic of Caring ($\alpha = .79$); Ecumenical Worldview ($\alpha = .70$); Compassionate Self-Concept ($\alpha = .78$)

Based on an ERIC search, several studies have conducted additional analyses on specific aspects of the data collected in the HERI study (A. Bryant, 2007; Gray & Cidade, 2010; Jenney, 2012; Park & Millora, 2010, 2012). Two other studies were located that used the CSBV instrument for their own primary research, Combs, 2009; and Dougherty, 2011), each of which have confirmed the internal reliability of the CSBV.

This is a worthy study; however many questions were eliminated for the same reason as the New Indices Religious Orientation—the concept of religion was too broad for the limited scope of this study.

PEERS (Politics, Economics, Education, Religion, and Social Issues Test). The PEERS Test, developed in 1987 by the Nehemiah Institute (2104), is by far the most administered worldview instrument in evangelical circles, is highly respected, and statistically valid with internal reliability. As its name implies, it is comprised of “five key spheres of life” (Nehemiah Institute, 2014): Politics, economics, education, religion, and social issues. The 70-item test is classified into four worldview categories: Biblical Theism, Moderate Christian, Secular Humanism, or Socialism. Participants either affirm or reject the assertions. The Nehemiah Institute boasts of over 100,000 participants since the test was released in 1995. Thirty position papers have been written based on the 30 most missed questions.

Respondents answer the assessment using a five-point Likert scale (strongly agree; tend to agree; neutral; tend to disagree; strongly disagree). Scores are generated from each of the subcategories and an individual’s score is ranked into one of the four categories: biblical theistic

(70-100); moderate Christian (30-69); secular humanist (0- 29); and socialist (less than 0) (Smithwick, 2008). The composite score ranges from -100 to +100 and is used to indicate a person's basic worldview (Nehemiah Institute, 2014.; Smithwick, 2008).

In 1995, according to the Nehemiah Institute (2014), Dr. Brian Ray conducted validity and reliability tests on the PEERS. Using a panel of Christian biblical worldview experts and non-Christian worldview experts, his results revealed that 70% of the experts agreed that 83% of the 70 items identified a worldview construct. At least 60% of the experts agreed that 93% of the items would identify worldview. Ray concluded that the worldview experts supported the validity of the instrument. Analysis of reliability and internal consistency was determined using Cronbach's alpha. The PEERS has been the instrument of choice for evangelical worldview dissertation research (Abels, 2013; Anderson, 2009; Askew, 1998; Brickhill, 2010; Bruce, 2011; Dolan, 2011; Fyock, 2007; Moore, 2006; Randle, 2002; Ray, 2001; Rutledge, 2013; Wood, 2008).

According to Hembree (2007), "The PEERS test evidences a particular political right-wing perspective adopted by many leaders in the biblical worldview movement. Similarly, presuppositional perspectives tainted biblical interpretations in pneumatology, church leadership, and governance" (p. 104). B. Smith (personal communication, May 23, 2014), based on personal conversations with Smithwick, adds that the discriminating factor of the PEERS is limited government.

The Three-Dimensional Worldview Survey (Schultz, 2012). The Three-Dimensional Worldview Survey tests worldview along the following three dimensions: propositional, behavioral, and heart orientation. The 76 items includes a sub-scale for each dimension and were

reviewed by a panel of 11 content experts. For validation and reliability, the instrument was administered to Christian high school students (N=52), which produced a composite Cronbach's alpha of .919.

Schultz (2012) and Schultz & Swezey (2013) premise for the 3DWS was based on Sire's (2004) biblical worldview operational definition, which not only includes factual knowledge-based entries, but also heart-orientation and behavioral dimensions. A biblical worldview is only as deep as it impacts all three dimensions. According to Schultz (2012), Morales (2013), and Schultz & Swezey (2013), the three dimensions of worldview—propositional, behavioral, and heart-orientation—work together impeccably to provide the most holistic evaluation of a person's worldview; knowledge alone is not evidence of a true biblical worldview. The key points of Schultz (2012) and Morales's (2013) indication factors are described below:

- Propositional statements: Statements are not value neutral; they express beliefs of what is true; they are foundational of one's beliefs about God and reality; and are a part of a narrow and limited worldview definition and representing biblical knowledge.
- Behavioral dimension: Statements are designed to describe a person's behavior as it dictates their actions. This dimension gives worldview a visible component and provides action that is based off knowledge. Until knowledge produces action, truth has not been properly internalized. (Iselin & Meteyard, 2010; Morales, 2013; Schultz; 2012, Valk, 2007)
- Heart-orientation dimension: Statements are intended to reveal what motivates people to believe and act in certain ways. A person receives knowledge, then it is embraced or rejected it in their "heart", which in turn is reflected in their choices

and behaviors. Schultz (2012) suggests that the orientation of the heart will interpret beliefs, which will result in action. However, knowledge may be used to frame the heart-orientation, but the choice to believe or reject that knowledge will take place in the heart. Evans (2010) as cited by Morales (2013) writes, “One’s worldview is determined at the heart level; this is where a person defines reality and cultivates a belief and value system. (p. 19)

Since the Three-Dimensional Worldview Survey was designed and validated using a sample of high school students, Schultz adapted the survey for post-secondary use. The new form is the Three-Dimensional Worldview Survey-Form C, which was validated by Morales (2013). Since the population of this research is incoming university freshmen, this instrument is not suitable for this study.

Three-Dimensional Worldview Survey-Form C (3DWS-Form C)

In seeking to establish internal reliability and validity of Schultz’s (2012) Three-Dimensional Worldview Survey and to provide a post-secondary instrument, Schultz adapted the 3DWS to develop 3DWS-Form C (Morales, 2013). Morales (2013) then sought to validate the instrument among undergraduate university students. Morales’s statistical analysis of the 3DWS-Form C (N=427) incorporated the Principal Components Analysis (PCA) to examine the underlying factor structure and construct validity of the 3DWS-Form C; internal consistency and reliability were tested using Cronbach’s alpha ($\alpha = .784$), and the Spearman-Brown prophecy formula produced a coefficient of .694. Item loading for the 3DWS-Form C was reduced to 47 items. Morales found the 76-item instrument not a viable measure of worldview. Many items were measuring more than one dimension, which according to Morales, will always give inaccurate results. Morales also found that the 47-item survey had flaws also. She concludes a

quantitative study is not suitable to test heart-orientation because heart-orientation is an issue of motives. The only way, according to Morales, to determine motive is through qualitative research. She adds that the best use of this survey is to actually measure humanism. According to Morales, one flaw to this instrument is its length. Since SurveyMonkey® only accommodates ten questions per page, her survey spanned eight pages; consequently, the number of participants who completed the survey was significantly lower than those that started. One explanation of the participant dropout rate is the length of the survey, especially when people are voluntarily undertaking the endeavor (Bakla, Çekiç, & Köksal, 2013; Hoerger, 2010; Sinkowitz-Cochran, 2013; Ting, Conrad, Tourangeau, & Couper, 2011). In addition, Dolnicar, 2013 and Dolnicar & Grün, 2013 discuss respondent fatigue as another liability to a longer survey.

APPENDIX H

The following table provides internal reliability results for each item based on how participants in the pilot study responded. Calculations were performed with SPSS-21. Table H.1

Cronbach's Alpha by item: Reliability analysis for proposed items of the biblical worldview outcome scale

Variable	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
BW1	94.03	78.583	.534	.748
BW2	95.19	79.991	.141	.756
BW3	95.00	80.167	.547	.753
BW4	95.00	80.167	.547	.753
BW5	94.08	81.354	.062	.758
BW6	94.19	79.991	.141	.756
BW7	94.08	78.243	.490	.748
BW8	92.38	74.408	.426	.742
BW9	94.03	80.138	.393	.753
DM1	95.59	81.803	-.027	.761
DM2	95.46	85.144	-.385	.772
DM3	92.03	73.305	.363	.745
DM4	94.41	69.359	.530	.732
DM5	92.27	77.203	.389	.747
DM6	95.62	81.464	.012	.760

DM7	92.95	82.497	-.241	.761
DM8	94.05	79.386	.353	.751
GW1	95.16	76.251	.526	.742
GW2	93.89	78.599	.099	.763
GW3	93.24	78.078	.287	.751
GW4	93.19	78.435	.227	.753
GW5	95.03	83.860	-.192	.771
GW6	94.03	80.805	-.011	.770
GW7	92.84	76.695	.207	.756
GW8	92.46	73.589	.500	.738
PB1	95.51	73.646	.520	.737
PB2	93.46	72.755	.559	.735
PB3	94.30	71.826	.388	.743
PB4	94.05	73.053	.419	.741
PB5	92.68	71.225	.570	.732
PB6	96.03	79.249	.114	.759
PB7	94.70	75.381	.203	.759
PB8	94.14	71.898	.390	.743
PB9	95.05	80.886	.169	.756

Item-Total Statistics

Variable	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PB1	57.00	48.056	.479	.800
PB2	54.95	46.219	.620	.790
PB3	55.78	46.730	.344	.813
PB4	55.54	45.700	.520	.796
PB5	54.16	45.584	.575	.792
PB8	55.62	45.964	.396	.808
BW1	55.51	51.923	.481	.807
BW3	56.49	53.090	.498	.811
BW4	56.49	53.090	.498	.811
BW7	55.57	51.641	.445	.807
BW8	53.86	47.842	.457	.801
BW9	55.51	53.035	.367	.811
GW4	54.68	51.503	.225	.813
GW8	53.95	47.664	.490	.799
DM3	53.51	47.201	.365	.809
DM4	55.89	43.544	.566	.793
DM5	53.76	50.634	.375	.806
DM8	55.54	52.144	.388	.809

APPENDIX I

Demographic Data

Table I.1

Demographics Frequencies and Means-Gender and Age

Characteristic		N	Mean	Std. Deviation
Gender	Female	230	1.38	61.5
	Male	143	1.00	38.2
	Total	373		99.7
Age	18	226		60.4
	19	130		34.8
	20	18		4.8
	Total	374		100%

Table I.2

Demographics Frequencies and Means-Predictor Variables.

Characteristic	N	Mean	Std. Deviation
Church Attendance	370	5.94	1.046
Daily Bible Reading	371	3.91	1.577
Do you consider your home/family life to be spiritual?	373	4.28	.932
Are either of your parents in full-time Christian service?	372	1.34	.474

Are you an international student (non-missionary child)?	372	1.08	.264
Parents' (or guardians') spiritual condition	366	3.92	.380
BJU Textbook	373	2.37	.912
Do you profess to be a Christian?	373	2.97	.236
