

ABSTRACT

CRANDALL, REBECCA ELAINE. Cool, Calm, and Competitive: An Exploration of Student-Athlete Equanimity and its Role in Academic and Psychological Well-Being. (Under the direction of Dr. Joy Gaston Gayles and Dr. Alyssa N. Rockenbach.)

Although research on intercollegiate athletes is abundant, exploration of student-athlete spirituality is notably absent from the scholarly record. Informed by a framework combining Astin's (1993) Input-Environment-Outcome (I-E-O) model and Chandler, Holden, and Kolander's (1992) Holistic Wellness Model, this study expands existing research by providing a more comprehensive analysis of student-athlete equanimity—a spiritual measure reflecting “the extent to which an individual is able to find meaning in times of hardship, feels at peace or centered, sees each day as a gift, and feels good about the direction of his or her life” (Lindholm, 2013, p. 13). Using student-athlete data collected during the 2004-07 Higher Education Research Institute (HERI) study of college student spirituality, the project employed structural equation modeling (SEM) to determine how pre-college variables and college experiences affect equanimity for intercollegiate athletes, as well as the subsequent influence of equanimity on athletes' academic and psychological well-being. In order to account for distinctions related to sport and demographic group membership, the study also tested the applicability of the proposed model across sport profile status, sex, and race/ethnicity.

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Cool, Calm, and Competitive: An Exploration of Student-Athlete Equanimity and its Role in
Academic and Psychological Well-Being

by
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DEDICATION

For my parents, Rick and Mary Crandall—the ones who first planted the seeds of this outrageous dream and whose unwavering love and support helped made it a reality

James 1:17

BIOGRAPHY

Rebecca (Becky) E. Crandall grew up in West Monroe, Louisiana. After earning a B.A. in Mass Communication and a minor in Speech Communication from Louisiana State University in 2000, she attended New Orleans Baptist Theological Seminary, where she completed a M.Div. with a specialization in Christian Education in 2005. Becky worked in higher education for nearly a decade before starting her doctorate, first as a Baptist campus minister/chaplain at public and private institutions across the Southeastern United States and then as the Director of Student Involvement at Houston Baptist University. Upon arriving at North Carolina State University in 2012, she continued to expand her higher education professional experience, serving as a graduate research assistant for the Office of Assessment in the Division of Academic and Student Affairs (DASA) for two-and-a-half-years before accepting her current position as a research associate for a project entitled "Cooperation in a Pluralistic World: A National Study of College Students' Engagement with Religious Diversity."

Shaped profoundly by her professional experiences, namely the students with whom she was privileged to work, Becky's research interests include intercollegiate athletics; student-athlete development, well-being, and spirituality; religion and spirituality in higher education; religious and worldview diversity in colleges and universities; identity; and LGBTQ issues in higher education. When she is not engrossed in some scholarly pursuit, Becky can usually be found laughing with friends, eating at one of her favorite fast-food restaurants, or trying to remind herself why she signed up for another half marathon.

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TABLE OF CONTENTS

LIST OF TABLES	xi
LIST OF FIGURES	xii
CHAPTER ONE: INTRODUCTION	1
Spirituality as an Underexplored Component of Student-Athlete Wellness	3
Statement of the Problem	7
Definition of Terms	8
Purpose of the Study	10
Research Questions	10
Overview of Conceptual Framework	11
Overview of Methodological Approach	13
Significance of the Study	14
Chapter Summary and Organization of the Study	16
CHAPTER TWO: REVIEW OF THE LITERATURE	17
Framing the Study	18
Astin’s (1993) Input-Environment-Outcome model	19
Chandler, Holden, and Kolander’s (1992) Holistic Wellness Model	19
Summary of the conceptual framework	21
Research on Student-Athlete Academic Well-Being	22
GPA	23
Role conflict and its impact on academic self-concept	24
Research on Student-Athlete Psychological Well-Being	25
Barriers to Student-Athlete Academic and Psychological Welfare: The “I”s	27
Sex	27
Race/Ethnicity	29
Educational preparation	30
Barriers to Student-Athlete Academic and Psychological Welfare: The “E”s	31
Social engagement outside of sport	31
Experiences with faculty	33
Sport profile and the student-athlete experience	35
<i>Time in sport</i>	<i>35</i>
<i>Challenges related to identity</i>	<i>36</i>
Why Consider Student-Athlete Spirituality?	37
Equanimity: The Intermediate Outcome	39
Demographic differences	41
Scholarship on Equanimity and Well-Being: Making the Connection	42

Chapter Summary	44
CHAPTER THREE: METHODOLOGY	45
Research Design	46
Data Source and Instrument	47
Student-Athlete Sample	49
Hypothesized Model	51
Input variables	51
Environment variables	53
Equanimity	56
Academic and psychological well-being	56
Evaluation of the Factors' Psychometric Properties	57
Approach to Missing Data	59
Parameter Identification	60
Parameter Estimation	60
Structural Equation Modeling	62
Tests of Invariance for the Sex, Race/Ethnicity, and Sport Profile Groups	62
Addressing Potential Ethical Issues	64
Limitations of the Study	65
Chapter Summary	68
CHAPTER FOUR: FINDINGS	70
Evaluation of the Factors' Psychometric Properties	70
Reliability of the factors	71
Item-factor relationships	74
Confirmatory factor analyses	75
<i>Pre-college academic well-being</i>	<i>76</i>
<i>Pre-college equanimity</i>	<i>78</i>
<i>Pre-college psychological well-being</i>	<i>80</i>
<i>Faculty support of students' spiritual/religious development</i>	<i>81</i>
<i>Religious engagement</i>	<i>82</i>
<i>Charitable involvement</i>	<i>84</i>
<i>Equanimity</i>	<i>85</i>
<i>Academic well-being</i>	<i>86</i>
<i>Psychological well-being</i>	<i>87</i>
Structural Equation Modeling of the Composite Model	88
Measurement phase	89
Structural phase	90
Model adjustments	92
The Influence of Input and Environment Variables on Equanimity	97

Equanimity as a Mediator.....98

Multi-Group Analysis: Male and Female Student-Athletes106

Multi-Group Analysis: Student-Athletes of Color and White Student-Athletes110

Multi-Group Analysis: High-Profile and Low-Profile Sport Athletes.....114

Chapter Summary118

CHAPTER FIVE: CONCLUSION.....119

Implications for Theory and Research126

Implications for Policy and Practice129

Directions for Future Research135

Conclusion137

REFERENCES.....141

APPENDICES.....174

Appendix A: Table 7 – *Table of Factors, Items, and Coding*.....175

Appendix B: Table 8 – *Table of Factors, Items, Cronbach’s α Values, and Factor Loadings*.....181

Appendix C: Table 9 – *Table of Completely Standardized Direct, Indirect, and Total Effects for the Hypothesized Model*184

Appendix D: Table 10 – *Table of Completely Standardized Direct, Indirect, and Total Effects for the Revised Model*186

LIST OF TABLES

<i>Table 1.</i> Characteristics of the Student-Athlete Sample	50
<i>Table 2.</i> Comparison of Cronbach’s Alpha Coefficients	72
<i>Table 3.</i> Final Fit Indices for Each Factor in the Final Model.....	76
<i>Table 4.</i> Table of Completely Standardized Direct, Indirect, and Total Effects of Predictors on <i>Equanimity, Academic Well-Being, and Psychological Well-Being</i>	96
<i>Table 5.</i> Structural Path Differences by Student-Athlete Race/Ethnicity	114
<i>Table 6.</i> Structural Path Differences by Sport Profile Level	118
<i>Table 7.</i> Table of Factors, Items, and Coding.....	175
<i>Table 8.</i> Table of Factors, Items, Cronbach’s α Values, and Factor Loadings.....	181
<i>Table 9.</i> Table of Completely Standardized Direct, Indirect, and Total Effects for the Hypothesized Model	184
<i>Table 10.</i> Table of Completely Standardized Direct, Indirect, and Total Effects for the Revised Model	186

LIST OF FIGURES

<i>Figure 1.</i> Combined Conceptual Framework	12
<i>Figure 2.</i> Combined Conceptual Framework	22
<i>Figure 3.</i> Combined Conceptual Framework	46
<i>Figure 4.</i> Hypothesized Structural Model	51
<i>Figure 5.</i> Hypothesized Structural Model	71
<i>Figure 6.</i> Revised Hypothesized Structural Model.....	74
<i>Figure 7.</i> Final Model for the <i>Pre-College Academic Well-Being</i> Factor	78
<i>Figure 8.</i> Final Model for the <i>Pre-College Equanimity</i> Factor	79
<i>Figure 9.</i> Final Model for the <i>Pre-College Psychological Well-Being</i> Factor	81
<i>Figure 10.</i> Final Model for the <i>Faculty Support of Students' Spiritual/Religious Development</i> Factor	82
<i>Figure 11.</i> Final Model for the <i>Religious Engagement</i> Factor	83
<i>Figure 12.</i> Final Model for the <i>Charitable Involvement</i> Factor	84
<i>Figure 13.</i> Final Model for the <i>Equanimity</i> Factor.....	85
<i>Figure 14.</i> Final Model for the <i>Academic Well-Being</i> Factor	87
<i>Figure 15.</i> Final Model for the <i>Psychological Well-Being</i> Factor.....	88
<i>Figure 16.</i> Statistically Significant Standardized Path Coefficients.....	91
<i>Figure 17.</i> Revised Structural Model.....	93
<i>Figure 18.</i> Statistically Significant Standardized Path Coefficients for the Revised Model..	95
<i>Figure 19.</i> Paths Among the Pre-College Variables, <i>Equanimity</i> , and <i>Academic Well-Being</i>	101

<i>Figure 20. Paths Among the College Environment Variables, Equanimity, and Academic Well-Being</i>	102
<i>Figure 21. Paths Among the Pre-College Variables, Equanimity, and Psychological Well-Being</i>	104
<i>Figure 22. Paths Among the College Environment Variables, Equanimity, and Psychological Well-Being</i>	106

CHAPTER ONE: INTRODUCTION

“Colleges are presenting themselves to the public, educated and uneducated alike, as places of mere physical sport and not as educational training institutions” (Intercollegiate sports, 1991, p. 103). This statement made by Harvard president Charles W. Eliot in the latter part of the 19th century continues to resound today. While current headlines scream of widespread student-athlete academic fraud (e.g., Powers, 2007; Stripling, 2014) and public debate highlights questions surrounding the exploitation of student-athletes (e.g., Berri, 2014; Chavez, 2014), the personal and academic welfare of these students has been a matter of contention since the earliest days of intercollegiate athletic competition. Even the history of the National Collegiate Athletic Association (NCAA) itself is steeped in concern over the ways in which intercollegiate sport participation impedes overall student-athlete welfare. Established in 1906, after President Theodore Roosevelt called for measures to protect student-athletes (NCAA, n.d.-k; Smith, 2000), the NCAA today stands as an institution grounded in the belief that intercollegiate athletes “deserve a safe and healthy college experience” (NCAA, n.d.-b). Ultimately, governing agencies like the NCAA have come to recognize the importance of holistic student-athlete development, declaring: “Student-athlete success on the field, in the classroom and in life is at the heart of our mission” (NCAA, n.d.-c).

In an attempt to ensure the development of student-athletes across all domains, intercollegiate athletics governing bodies (e.g., the NCAA and the National Association of Intercollegiate Athletics [NAIA]) and postsecondary institutions alike have enacted a host of

policies and programmatic efforts intended to foster student-athlete well-being. Myriad measures such as academic eligibility requirements, constraints on the amount of time spent weekly in sport, and student-athlete support services have become an entrenched part of college sports; yet, clear threats to student-athlete well-being remain.

Starting in 1869 with the inaugural intercollegiate football game—a game in which three Rutgers freshmen competed in spite of having failing grades in their algebra course—leaders in higher education have been concerned about the interplay between athletic participation and academic performance (Zimbalist, 2001). In 1889, Harvard president Charles W. Eliot initiated a two-year effort to assess the impact of athletic participation on the academic performance of freshmen football players (Thomas, 2006; Zimbalist, 2001). The results of that study were harrowing, revealing that those athletes earned nearly four times as many poor academic performance marks (D's and F's) as they did A's and B's (Zimbalist, 2001, p. 21). Recent research echoes Eliot's principal study, exposing the negative academic implications of participating in college sports (e.g., Comeaux, 2008; Eitzen, 1987; Eitzen, 2009; Gaston-Gayles, 2004; Lucas & Lovaglia, 2002).

More than a threat to student-athletes' academic welfare, research also illustrates the potential psychological repercussions of participation in intercollegiate athletics. Of particular concern in recent years is the mental health of student-athletes (Burnsed, 2013). Whereas recent analysis of multi-year data from American College Health Association (ACHA) surveys suggests that intercollegiate athletes are less apt to report struggling with depression and anxiety than other college students (Davoren & Hwang, 2014), student-

athletes do suffer from issues related to mental health. Exact figures on the rates at which college sport participants face challenges to psychological well-being are “lacking” (NCAA, 2013b). However, extant research shows that more than 20% of student-athletes experience signs of depression (Davoren & Hwang, 2014; Yang et al., 2007). Anxiety is more prevalent, with ACHA descriptive data indicating notable differences between female and male college athletes (48% and 31%, respectively) (Davoren & Hwang, 2014).

Scholars commonly agree that the college athletics experience presents unique obstacles to sport participants’ mental welfare (e.g., Carodine, Almond, & Gratto, 2001; Greer & Robinson, 2006; Davoren & Hwang, 2014). For student-athletes, sport-related stressors such as time demands, coach pressures, and injuries compound the traditionally stressful aspects of being a college student (e.g., Kroshus, 2014; NCAA, 2011a; Parham, 1993; Putukian, 2014). Additionally, existing research points to psychological barriers to well-being for student-athletes, including identity issues and having to manage negative stereotyping from faculty members (e.g., Beamon, 2012; Harrison, Sailes, Rotich, & Bimper, 2011; Harper, Williams, & Blackman, 2013; Engstrom, Sedlacek, & McEwen, 1995; Simons, Bosworth, Fujita, & Jensen, 2007). Underscoring the pervasiveness of mental health problems for the intercollegiate athlete population, mental health has, as of late, emerged as a preeminent student-athlete health and safety focus for the NCAA (Burnsed, 2013).

Spirituality as an Underexplored Component of Student-Athlete Wellness

Although the student-athlete wellness approaches of both the NCAA and the NAIA have become increasingly more comprehensive, gaps remain in the amount of attention that

is placed on the spiritual dimension of student-athletes' lives. Whereas the NCAA includes spiritual wellness in its seven-dimension focus on student-athlete wellness (NCAA, 2013a), this facet of life is rarely mentioned in directives or resources on how to ensure athletes' success and overall welfare. Similarly, the NAIA has instituted a values-focused program, Champions of Character, in aims to counter declines in "moral reasoning skills" that take place over time as one participates in athletic competition (NAIA, n.d.-a); yet, the organization has not specifically accounted for spirituality in their student-athlete development efforts. In the same way, researchers have not devoted much attention to the role that spirituality plays in other aspects of student-athlete well-being.

In general, issues related to spirituality in higher education were relatively unexplored until recent years (Love, 2001). An ever-growing body of research, studies on college student spirituality reveal that the majority of college students, though they may not be actively engaged in religious practice, care about spiritual matters. Nearly 80% of the 14,527 respondents in the Higher Education Research Institute (HERI) longitudinal, national study of college student spiritual development ("Spirituality in Higher Education: Students' Search for Meaning and Purpose") indicated that they "have an interest in spirituality" (Astin, Astin, & Lindholm, 2011b, p. 3). Even more, college students are concerned with the deeper questions of life, a quality reflected in the overwhelming number of incoming freshmen (84%) in the HERI study who reported that "find[ing] my purpose in life" is at least a "somewhat important" reason for attending college (HERI, 2011, p. 3).

The value that college students place on spirituality is documented in several studies (e.g., Barry, Nelson, Davarya, & Urry, 2010; Bryant, A. N., Choi, J. Y., & Yasuno, M., 2003), albeit most notably in the HERI study on the spiritual development of undergraduates. Highlighting the need for postsecondary institutions to integrate spirituality into the overall scope of student development efforts, extant research on college student spirituality provides evidence of positive relationships between spiritual growth and critical college outcomes. Specifically, researchers have noted positive relationships between college student spiritual development and measures of academic success, psychological well-being, personal growth, and the college experience (e.g., Astin et al., 2011b; Park & Millora, 2010). The relationships between measures of spirituality (*Spiritual Quest*, *Equanimity*, *Ethic of Caring*, *Charitable Involvement*, and *Ecumenical Worldview*) and college outcomes are not consistent, however, warranting further analysis of both the changes that take place in student populations and the effect of those changes on various outcomes.

Intercollegiate athletes are a unique student population for whom clear distinctions in spiritual development appear. HERI's analysis of college effects on equanimity—a spiritual measure reflecting “the extent to which an individual is able to find meaning in times of hardship, feels at peace or centered, sees each day as a gift, and feels good about the direction of his or her life” (Lindholm, 2013, p. 13)—revealed notable differences between revenue sport athletes (i.e., football and men's basketball players) and the rest of the student population. Compared to all other students, with their 3% increase in high scorers on equanimity from the first to third years of college, researchers observed a 15% increase in the

number of football and men's basketball players who qualified as high scorers on the measure (Astin et al., 2011b). This distinction is of particular interest, given equanimity's status as the only spiritual or religious measure found to positively affect college GPA (Astin et al., 2011b) and the well-documented academic inequities between student-athletes and their non-athlete peers (e.g., Eitzen, 2009; Gaston-Gayles, 2004; Lucas & Lovaglia, 2002; Pascarella, Truckenmiller, Nora, Terenzini, Edison, & Hagedorn, 1999).

More than a positive predictor of grade point average (Astin et al., 2011b), equanimity is also related to growth in other areas of potential academic challenge for student-athletes. In the HERI study, growth in equanimity was accompanied by increases in academic self-esteem (Astin et al., 2011b). Since student-athletes often experience role conflict between the *student* and *athlete* aspects of their life, the potential implications of the relationship between equanimity and academic self-esteem are noteworthy. For many intercollegiate athletes, particularly Black males in high-profile sports, the product of the athlete and student role divergence is a complete embracing of one's athletic identity to the detriment of any other view of self (Adler & Adler, 1987; Linnemeyer and Brown, 2010; Murphy, Petitpas, & Brewer, 1996; Stevenson, 1999). Adding to the value of equanimity as a potential means to enhance student-athletes' academic self-esteem is the reality that intercollegiate athletes are often called upon to navigate negative academic-related stereotypes put forth by faculty members and other students (Adler & Adler, 1987; Baucom & Lantz, 2001; Comeaux, 2011a, 2011b; Engstrom & Sedlacek, 1991; Engstrom et al., 1995; Simons et al., 2007).

Beyond the scope of academics, equanimity also has positive implications for the psychological/emotional well-being of college students (Astin et al., 2011b). In the HERI study of college students in general, undergraduates who grew in equanimity during college also had higher levels of psychological well-being (Astin et al., 2011b). The relevance of this construct, reflected in items indicating that students do *not* experience feelings of depression or being overwhelmed, do *not* sense that life is stress-filled and anxiety-ridden, and *do* perceive themselves as emotionally healthy (Astin et al., 2011b), for student-athletes is clear.

Statement of the Problem

Intercollegiate athletes have been the subject of scores of studies, covering topics across a number of developmental domains. However, the spiritual lives of student-athletes have rarely been explored. While spirituality in higher education is the focus of a growing body of literature, gaps remain in understanding the development of equanimity for the student-athlete population. Even more, no studies have investigated the impact that equanimity has on other aspects of student-athlete wellness, notably academic and psychological well-being. Without investigation of the role that student characteristics and college experiences play in student-athlete equanimity development and analysis of equanimity's influence on noted areas of deficiency, understanding of student-athlete development is left incomplete. Ultimately, the lack of spirituality research on the student-athlete population also hinders higher education professionals as they seek to ensure that

student-athletes receive an education and become “prepared for increased and life-long achievement and success” (NCAA, n.d.-h).

Definition of Terms

Scholarship on student-athletes and spirituality involves the use of specific terms that are not always familiar to readers. To aid in understanding and to maintain consistency across scholarship, key terms and their definitions mirror those used in prior research on student-athletes and college student equanimity.

- 1) *Division I*: The highest level of NCAA competition, comprised of approximately 350 institutions that “generally have the biggest student bodies, manage the largest athletics budgets and offer the most generous number of scholarships” (NCAA, n.d.-e)
- 2) *Division II*: The smallest NCAA division, consisting of only 300 schools that have smaller financial allotments for athletics and thus utilize a “partial-scholarship” model (NCAA, n.d.-f)
- 3) *Division III*: The largest NCAA division, consisting of 450 institutions that place academics at the forefront of their student-athletes’ college experience (NCAA, n.d.-g)
- 4) *Equanimity*: “The extent to which an individual is able to find meaning in times of hardship, feels at peace or centered, sees each day as a gift, and feels good about the direction of his or her life” (Lindholm, 2013, p. 13)

- 5) *High-profile sports*: In this study, this term refers solely to men's football and basketball.
- 6) *National Association of Intercollegiate Athletics (NAIA)*: "...a governing body of [more than 260] small athletics programs that are dedicated to character-driven intercollegiate athletics" (NAIA, n.d.-b)
- 7) *National Collegiate Athletic Association (NCAA)*: The governing body of intercollegiate athletics for 1,299 active member institutions in the United States (NCAA, n.d.-a)
- 8) *Revenue sport*: Although other sport teams may generate revenue for an institution, in this study, this term refers solely to men's football and basketball.
- 9) *Spirituality*: As defined by Love and Talbot (1999), spirituality/spiritual development involves the following: (a) "...an internal process of seeking personal authenticity, genuineness, and wholeness as an aspect of identity development" (p. 364); (b) "...the process of continually transcending one's current locus of centrality" (p. 365); (c) "...developing a greater connectedness to self and others through relationships and union with community" (p. 365); (d) "...deriving meaning, purpose, and direction in one's life" (p. 366); and (e) "...an increasing openness to exploring a relationship with an intangible and pervasive power or essence that exists beyond human existence and rational human knowing" (p. 367). The present study acknowledges that spirituality and religion are not always distinct constructs for individuals, nor are they always synonymous (e.g., Astin et al., 2011b; Bryant et al., 2003). For some college

students, religion is the “primary means for expressing their spirituality” (Astin et al., 2011b, p. 5), whereas for others, their spirituality is altogether separate from religion.

10) *Student-athlete*: “Men and women who are enrolled in a college or university and who participate in intercollegiate sports” (Howard-Hamilton & Watt, 2001, p. 2)

Purpose of the Study

The purpose of this study was to build upon existing research both on student-athletes and college student spirituality by providing a more comprehensive analysis of student-athlete equanimity and its impact on aspects of well-being. Using structural equation modeling (SEM), this study was designed to determine the effects that pre-college characteristics and the college environment have on equanimity for student-athletes as well as the influence that equanimity has on student-athlete academic and psychological well-being. In light of the body of scholarly work related to gender and race differences in college student equanimity and the disparities across race, sex, and sport-profile group membership for student-athletes, this project also analyzed whether the relationships differ according to sport profile, sex, and race.

Research Questions

Utilizing student-athlete data collected during HERI’s 2004-07 national study of college student spirituality, I sought to answer the following research questions:

- 1) How do pre-college equanimity, pre-college academic and psychological well-being, and non-sport college experiences impact equanimity for intercollegiate student-athletes?

- 2) To what extent does equanimity mediate the relationship between those pre-college and experience variables and student-athletes' psychological and academic well-being?
- 3) Do the paths differ according to student-athletes' sex, race/ethnicity, and sport profile (i.e., high-profile/revenue sport team athletes vs. low-profile/non-revenue sport team athletes), or are they invariant?

Overview of Conceptual Framework

In seeking the answers to these questions, I drew from two existing conceptual frameworks (see Figure 1 for the combined framework): Astin's (1993) Input-Environment-Outcome (I-E-O) model and Chandler, Holden, and Kolander's (1992) Holistic Wellness Model. Accounting for the role that both student pre-college characteristics (inputs) and college experiences (environment) play in producing postsecondary outcomes (Astin, 1993; Astin & Antonio, 2012), Astin's model stands as one of the most formative college impact models (Pascarella & Terenzini, 2005). Advantageous for the scope of this study, I-E-O has underpinned earlier research on college student spirituality (e.g., Astin et al., 2011b; Bryant & Astin, 2008; Bryant et al., 2003; Park & Millora, 2010), and it allows for the testing of relationships between student-athletes' characteristics prior to college, their experiences during their postsecondary years, and outcomes such as equanimity.

Appearing first in literature on counseling, Chandler et al.'s (1992) model of holistic wellness provides a contrasting perspective to more traditional wellness frameworks (e.g., Hettler, 1976). Rather than viewing spirituality as a separate dimension of health, Chandler

et al.'s (1992) model uniquely positions spiritual health as a critical component of each of the other five "interrelated and interactive" (p. 171) dimensions of wellness: intellectual, physical, emotional, social, and occupational. Essential to understanding spiritual wellness within Chandler et al.'s framework is the acknowledgment that spiritual health is reflected in those who pursue "harmony between that which lies within the individual and the forces that come from outside the individual" (Opatz, 1986, p. 61). Defined as such, the tie between Chandler et al.'s notion of spiritual wellness and equanimity is clear.

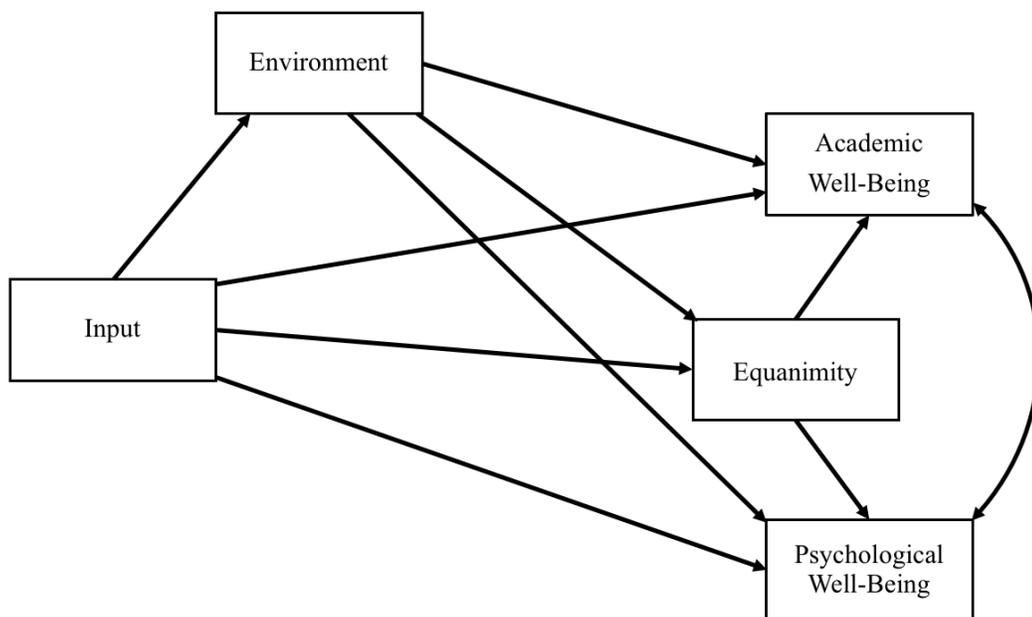


Figure 1. Combined Conceptual Framework. This figure illustrates the combination of Astin's (1993) Input-Environment-Outcome (I-E-O) model and relevant aspects of Chandler et al.'s (1992) Holistic Wellness Model.

Overview of Methodological Approach

The documented positive outcomes of equanimity for college students at-large, the evidence highlighting disparities between intercollegiate athletes and their non-athlete peers, and the unique challenges of this student population make evident the need for investigation of student-athlete equanimity. With a hypothesized model shaped by Astin's (1993) I-E-O model and Chandler et al.'s (1992) model of holistic wellness (see Figure 1), I utilized structural equation modeling (SEM) of student-athlete data collected through the "College Students' Beliefs and Values" (CSBV) questionnaire during HERI's 2004-07 study of college student spirituality. SEM made possible the testing of the aforementioned theoretical model (Schumacker & Lomax, 2004). Applied through latent variable path analysis (LVPA), the methodological technique also permitted the testing of both the direct and indirect effects of observed and latent (construct) variables (Hancock, 2015; Schumacker & Lomax, 2004).

In order to explore the relationships between intercollegiate athletes' characteristics upon entering college, their college environmental variables, and their equanimity, and in turn, equanimity's effect on the academic and psychological well-being of student-athletes, I employed a process that allowed me to individually test the model's measurement and structural portions. Doing so added an additional layer of protection against structural errors affected by measurement misspecifications and also made more apparent any challenges to data-model fit (Mueller & Hancock, 2008).

For the third research question, I conducted analysis using the same general two-phase LVPA approach, but I made adjustments to permit the comparison of males and

females, student-athletes of color and White student-athletes, and high- and low-profile sport athletes. To begin with, I evaluated the factorial invariance of the model by testing the patterns and values of factor loadings (“configural invariance” [Wang & Wang, 2012, p. 208] and “weak measurement invariance” [Wang & Wang, 2012, p. 209], respectively). Due to the hierarchical nature of factorial equivalence testing, additional assessments were rendered unnecessary once I discovered that the factor loadings for the scales were not equivalent across any of the groups.

To test whether or not the observed structural paths differ according to sex, race, and the profile level of the sport in which the student-athlete participates, I started, as with tests of factorial invariance, by examining the fit of the full model for each subgroup separately. Consequent on good data-model fit for both baseline models, I then developed a configural model for each pair of groups by freeing all path coefficients across the two populations. Finally, I used the *MODEL TEST* command in Mplus Version 7.31 (Muthén & Muthén, 1998-2012) to compare the configural and restricted models. This approach, with its Wald test, determined whether or not the model’s direct and indirect effects were invariant across the sex, race, and sport profile groups.

Significance of the Study

The number of NCAA student-athletes remains a small percentage of the total population of students enrolled in postsecondary institutions (National Center for Education Statistics, 2014); yet, the past thirty years have been marked by steady growth in the numbers of college athletes who compete on intercollegiate sport teams. In 2011-12 alone, the

number of student-athletes on the rosters of sports for which the NCAA conducts championships exceeded 450,000—a record-breaking figure reflecting a 12.6% increase in five years (NCAA, 2012b). More than 60,000 additional student-athletes compete for athletic programs governed by the National Association of Intercollegiate Athletics (NAIA) (NAIA, n.d.-b).

The myriad ways in which intercollegiate athletes differ from non-athletes are well-documented (e.g., Comeaux & Harrison, 2011; Davoren & Hwang, 2014; Hyatt, 2003). Simply put, student-athletes are a group distinct from every other campus population, and as increasing numbers of students participate in college sports, institutions must take aims to understand the fullness of student-athlete development. Spurred by heightened concerns over student-athlete welfare and reports of academic scandals, public scrutiny of intercollegiate athletics has increased (Knight Commission on Intercollegiate Athletics, 2014). Accordingly, the ramifications of neglecting efforts to understand and support student-athletes' development and welfare are no longer limited to the athletes themselves.

By offering insight into student-athlete equanimity, this study addresses critical gaps in college student spirituality scholarship and student-athlete research. Previous research on student-athlete spirituality was limited, with no studies investigating the role of equanimity in student-athlete welfare. In addition, little was known about equanimity for student-athlete subpopulations, including any differences in the relationship between equanimity and either academic or psychological well-being.

More than an addition to the scholarly record, this study has implications for future research, laying a foundation for further study of outcomes related to student-athlete spirituality. Furthermore, by bringing to the forefront this underexplored aspect of student-athletes' lives, student-athlete support service professionals, coaches, and athletic department administrators are provided greater understanding of a key facet of athlete development. Ultimately, the study presents opportunities for institutional adjustments to current intercollegiate athlete wellness interventions and support services, efforts that, to-date, do not consistently account for student-athlete spirituality in any substantive way.

Chapter Summary and Organization of the Study

This chapter highlighted critical barriers to intercollegiate athlete well-being and offered a basic overview of gaps in research on student-athlete spirituality, an underexplored facet of intercollegiate athlete well-being. I outlined the purpose, focus, and significance of the study as well as the theoretical framework and the methodological approach that I used in answering the study's three research questions. To avoid reader confusion, I included a set of key terms that will be utilized throughout the study. In Chapter Two, I introduce readers to existing literature relevant to intercollegiate athlete welfare and spirituality. Chapter Three offers an in-depth description of the project's methodology, including the research design, data source, variables, and means of analysis. In that chapter, I also discuss the way in which I addressed potential ethical issues. Chapters Four and Five detail the results of the data analysis, providing readers with a description of the findings and their implications for practice and future research.

CHAPTER TWO: REVIEW OF THE LITERATURE

With each passing year, increasing numbers of college students spend at least a portion of their postsecondary years participating in intercollegiate athletics (NCAA, 2012b; NCAA, n.d.-h). At the time of this study, over 500,000 student-athletes were enrolled in postsecondary institutions across the United States (NAIA, n.d.-b; NCAA, n.d.-h), an all-time high. While this number is but a small percentage of the 17.7 million undergraduate students enrolled in U.S. colleges and universities (NCES, 2014), college athletics—especially football and men’s basketball—“has...become woven into the fabric of many American universities” (Clotfelter, 2011, p. 7).

Notwithstanding its status as a staple of American higher education, intercollegiate athletics has long been the subject of public discourse, with much of the debate centered on issues related to student-athlete welfare. A college student population unlike any other, intercollegiate athletes are called upon to juxtapose their student and athlete roles, resulting in considerable challenges for both the athletes and the higher education professionals who seek to serve them. Reflecting these challenges, scholars (e.g., Comeaux, 2011a; Harrison et al., 2006; Hyatt, 2003; Sedlacek & Adams-Gaston, 1992) often place student-athletes along other “non-traditional” or “special needs” student populations (Hyatt, 2003, p. 263).

This study sought to expand the conversation on student-athlete welfare to a previously underexplored aspect of student-athlete wellness. Within the scope of existing research on intercollegiate athletes and their welfare, spirituality has rarely been studied. More specifically, scholarship on student-athlete equanimity is limited, with no studies

examining the role that equanimity plays in student-athlete academic and psychological well-being. In all regards, this study aims to fill those gaps.

Throughout this chapter, I will further contextualize the study by providing an overview of existing research connected to the topic. I will begin by detailing Astin's (1993) I-E-O model and Chandler et al.'s (1992) model of holistic wellness, the frameworks on which this study is grounded. Upon doing so, I will use those models as a means by which to organize and present a summary of research relevant to the study of student-athlete equanimity. From a general synopsis of research on student-athlete academic and psychological well-being, I will transition into college student and student-athlete spirituality-related research, including current scholarship on equanimity. To conclude the chapter, I will detail available studies connected to equanimity as a potential influence on intercollegiate athletes' academic and psychological health.

Framing the Study

At its core, structural equation modeling is about testing theory-driven models (Mueller & Hancock, 2008; Schumacker & Lomax, 2004). In spite of an abundance of research on intercollegiate athletes and the relatively recent increase in studies related to college student spirituality (Love, 2001), no single theoretical or conceptual framework fully captures both the process whereby student-athletes develop equanimity and the subsequent influence that equanimity has on student-athlete wellness. For that reason, this study and its models are derived from two frameworks: Astin's (1993) I-E-O model and Chandler et al.'s (1992) model of holistic wellness.

Astin's (1993) Input-Environment-Outcome model. Regardless of debate over whether or not it can be considered a theory, Astin's I-E-O model stands as one of the most fundamental and well-known college impact models (Pascarella & Terenzini, 2005). Appearing in literature as early as 1962 (Astin, 1962), the model has served as the conceptual framework for numerous studies in higher education (see, for example, Pascarella & Terenzini, 2005). A relatively straightforward approach, Astin's (1993) framework underscores the reality that student outcomes are dually shaped by (a) the personal characteristics and experiences with which students begin their undergraduate career (inputs) and (b) the experiences that college students have during college (environment).

Because no individual begins his or her college career as a blank slate, Astin (1993) maintained that assessments of postsecondary experiences or outcomes must account for student inputs. Demographic characteristics, prior educational experiences, and pre-college measures of the college outcome being assessed all combine to influence the outcomes of higher education. Not simply directly affecting postsecondary outcomes, these pre-college attributes also shape the ways in which students engage in and are changed by the college environment. For that reason, the inclusion of these pre-college variables as controls allows researchers to obtain a more accurate measurement of college outcomes as influenced by features of the undergraduate experience (Astin, 1993; Pascarella & Terenzini, 2005).

Chandler, Holden, and Kolander's (1992) Holistic Wellness Model. Emerging from the field of counseling, Chandler et al.'s (1992) Holistic Wellness Model began as an attempt to account for what the authors referred to as "the allusiveness of 'spiritual health'"

(Kolander & Chandler, 1990, p. 2). Spiritual wellness had long been a commonly accepted feature in traditional models of holistic health (e.g., Hettler, 1976); yet, Chandler et al. maintained that vague definitions of spiritual well-being and concerns about the construct's potential ties to religion prevented educators and mental health practitioners from wholly addressing spirituality as a dimension of health. Thus, in an effort to counter the lack of focus on spirituality within the scope of wellness, the authors began by constructing more concrete definitions of *spirituality* and *spiritual wellness*.

Drawing from earlier psychological models in which spirituality was a feature (e.g., Assagioli, 1965; Grof, 1976, 1985, & 1988; Maslow, 1971), Chandler et al. (1992) defined that which is *spiritual* as “pertaining to the innate capacity to, and tendency to seek to, transcend one’s current locus of centrality, which transcendence involves increased knowledge and love” (Chandler et al., 1992, p. 169). By intentionally incorporating inclusive language, their definition makes space for individuals of all worldviews and does not make requisite any specific religious identification. Correspondingly, *spiritual health* is described as “a balanced openness to or pursuit of spiritual development” (Chandler et al., 1992, p. 170).

Although equanimity is not specifically mentioned in Chandler et al.’s (1992) framework, ties to equanimity are clear. Chandler et al. asserted that life circumstances have the potential to shift people from spiritual wellness either to a place of “spiritual emergency” (p. 171), in which one becomes overly fixated on spirituality, or to a point of repressing spirituality altogether. Akin to Astin and Keen’s (2006) description of equanimity as

involving a “process of pause, reflection, and self-transcendence” (p. 5), the “ultimate goal” (p. 172) according to Chandler et al. is “to work toward maintaining or regaining balance in a state of spiritual wellness while also striving to develop spiritually to higher levels” (p. 172).

Not only more clearly defined, Chandler et al.’s (1992) concept of spiritual wellness deviates from the position that it holds in more traditional wellness frameworks (e.g., Hettler, 1976). Rather than a distinct dimension of health positioned among the five other wellness domains (intellectual, physical, emotional, social, and occupational), Chandler et al. maintained that spiritual wellness infuses all other dimensions of wellness. Accordingly, without attention to this aspect of self, one cannot achieve true overall well-being or sustain efforts toward positive personal change (Chandler et al., 1992, p. 171).

Summary of the conceptual framework. Because no single appropriate framework exists, the conceptual framework for this study combined elements of Astin’s (1993) I-E-O model with components of Chandler et al.’s model (see Figure 2). Of initial interest was the way in which pre-college inputs and college experiences shape equanimity for student-athletes. Taking things a step further, I drew upon Chandler et al.’s premise that spiritual health, measured in this study as equanimity, is a critical aspect of other dimensions of well-being. In light of the evidence highlighting the barriers to academic well-being encountered by student-athletes and heightened concerns over the mental welfare of these individuals, I focused solely on the domains of academic and psychological well-being.

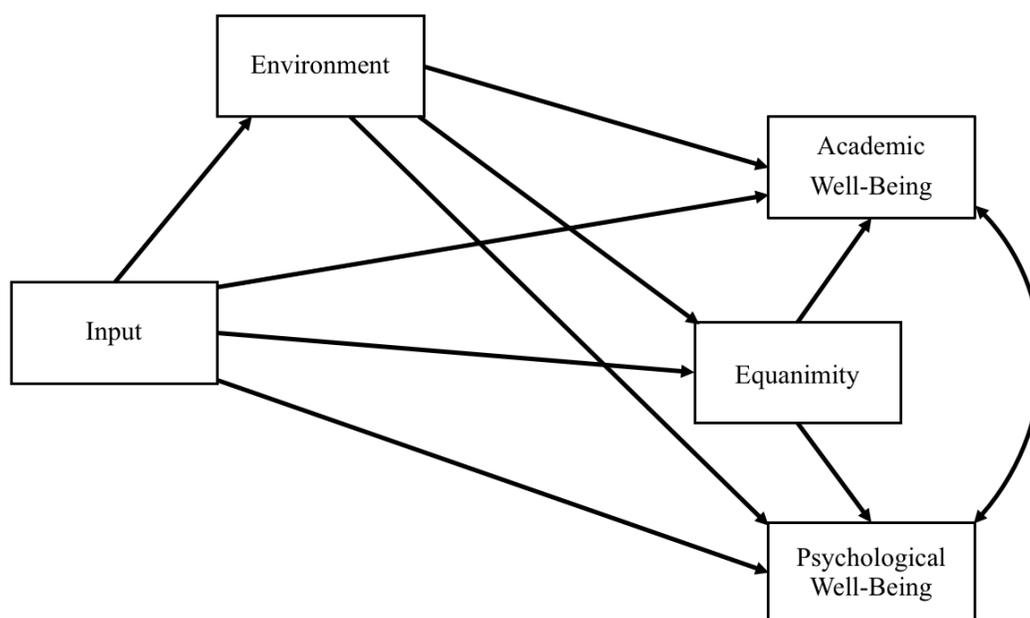


Figure 2. Combined Conceptual Framework. This figure illustrates the combination of Astin’s (1993) Input-Environment-Outcome (I-E-O) model and relevant aspects of Chandler et al.’s (1992) Holistic Wellness Model.

Research on Student-Athlete Academic Well-Being

“There are more than 400,000 NCAA student-athletes, and most of them go pro in something other than sports” (NCAA, 2012a). Since 2007, this statement has been the central tag line for a series of commercials sponsored by the National Collegiate Athletic Association (NCAA) in an attempt to spotlight the emphasis that it places on student-athlete educational achievement for all three of its divisions. More than a marketing ploy, student-athlete academic success has been a reoccurring theme throughout the NCAA’s one-hundred-year-plus history (Petr & Paskus, 2009, p. 77). Similarly, the NAIA places a heavy focus on the academic welfare of its student-athletes, declaring that the Association is “serious about

college success” (NAIA, n.d.-c). Despite these agencies’ focus on academic success, research highlights ways in which participation in college athletics impedes student-athletes’ academic well-being.

GPA. Criticized for their “relativistic quality” (Astin & Antonio, 2012, p. 12) and inability to truly gauge student learning, course grades are not an ideal measure of academic success; yet, GPA stands as a common assessment of academic performance (Astin & Antonio, 2012). Measured in this way, the academic well-being of student-athletes appears often in existing research, with seemingly contradictory results. Richards and Aries’ (1999) did not find a statistically significant difference between the grades of student-athletes and non-athletes in their study of seniors from a single Division III institution, nor did Aries, McCarthy, Salovey, and Banaji (2004) in their longitudinal study of student-athletes at highly selective institutions. Analysis of multi-year data from a single land grant institution indicated that student-athletes actually fare better than non-athletes in terms of GPA (Hildenbrand, Sanders, Leslie-Toogood, & Benton, 2009). Research utilizing large national datasets contradicts these findings, however, suggesting that participation in intercollegiate athletics does have negative repercussions for grades (Routon & Walker, 2014; Umbach, Palmer, Kuh, & Hannah, 2006).

Consistently, analysis of national datasets indicates that participation in intercollegiate athletics takes a toll on the grades of male student-athletes (Routon & Walker, 2014; Umbach et al., 2006), although recent quasi-experimental research (Routon & Walker, 2014) reveals that competing in college sports academically disadvantages both males and

females. Using data from The National Survey of Student Engagement (NSSE) to study student-athlete engagement in effective educational practices, Umbach et al. (2006) found that male student-athletes reported earning lower grades than other male students (p. 723). Similarly, Routon and Walker's (2014) use of propensity score matching on HERI longitudinal data showed that participation in intercollegiate athletes causes a decline in GPA for males. Unlike earlier studies of student-athlete grades, however, Routon and Walker's work indicates that while the degree to which being a student-athlete negatively affects grades is different according to sex and sport profile, no student-athlete is exempt from the negative effect of sport participation on GPA (Routon & Walker, 2014).

Role conflict and its impact on academic self-concept. Beyond studies of traditional measures of academic performance, scholars have also directed attention toward student-athletes' view of self. Research on the identity of intercollegiate athletes highlights the challenges that student-athletes face when navigating the dual roles of *student* and *athlete* (e.g., Bimper, 2014; Brewer, Van Raalte, & Linder, 1993; Settles, Sellers & Damas, 2002; Yukhymenko-Lescroart, 2014). Often, these complexities leave the student-athletes identifying as *athlete*, not *student*. Frequently, student-athletes commit to their athletic sense of self "without engaging in exploratory behavior" (Murphy et al., 1996, p. 240), a phenomenon known as *identity foreclosure* (Marcia, 1980).

Because all intercollegiate athletes are simultaneously engaged in contexts that require them to manage two roles (Sturm, Feltz, & Gilson, 2011; Yukhymenko-Lescroart, 2014), identity foreclosure is a risk common to all student-athletes. However, high-profile

male athletes are the most prone to problems related to their athlete sense of self. While engaged in “intensive participant observation” (p. 443) with male athletes on revenue sport teams for four years, Adler and Adler (1987) noted the way in which the student-athletes’ position as an athlete began to overshadow all other aspects of their life and college experience. In general, they found that the male revenue-sport student-athletes identified primarily as an athlete (Adler & Adler, 1987). Accordingly, when role conflict arose, the student-athletes often resorted to “realigning, reducing, or, in extreme cases, dropping their academic role” (Adler & Adler, 1987, p. 451).

Recognizing that other student subpopulations are in positions that may require them to navigate roles that compete with academics, Linnemeyer and Brown (2010) embarked on a study to compare student-athletes, fine arts students, and college students who were not a part of either of the other two groups. Upon comparing student-athletes to the fine arts students—a student population that, like athletes, is required to navigate dual roles—Linnemeyer and Brown (2010) found that student-athletes had higher levels of identity foreclosure. The student-athletes in their sample also had higher levels of identity foreclosure than general college students. Though limited to data from students at a single institution, Linnemeyer and Brown’s (2010) findings reinforce the larger body of research on student-athlete identity and further underscore the uniqueness of the intercollegiate athlete student population.

Research on Student-Athlete Psychological Well-Being

As evidenced by the NCAA’s heightened focus on the mental health of student-athletes (Burnsed, 2013), these individuals are not immune to challenges in the area of psychological

well-being. Davoren and Hwang's (2014) analysis of American College Health Association survey data from over 170,000 non-athletes and nearly 20,000 student-athletes reveals that intercollegiate athletes are less likely to report issues with depression and anxiety than other students (p. 39). These findings parallel earlier scholarship on student-athlete mental health, which depicts student-athletes as seeking help for mental health issues less than non-athletes (e.g., Etzel, Watson, Visek, & Maniar, 2006; Watson, 2006).

Even though they underutilize mental health services and are less likely to report challenges to psychological well-being, a substantial number of student-athletes do suffer from issues related to mental health. No comprehensive figure exists, but multiple reports indicate that more than 20% of student-athletes experience signs of depression (Davoren & Hwang, 2014; Yang et al., 2007). Additional studies estimate that 10-15% of student-athletes have psychological issues that warrant professional services (e.g., Broughton & Neyer, 2001; Heird & Steinfeldt, 2013; Hinkle, 1999; Parham, 1993; Watson, 2005; 2006).

As is the case with student-athlete academic well-being, scholars often point to the distinct challenges of participating in intercollegiate athletics as barriers to student-athlete psychological health (Broughton & Neyer, 2001; Davoren & Hwang, 2014; Etzel et al., 2006; Parham, 1993). Beyond the traditional set of college stressors, intercollegiate athletes are called upon to navigate sport-specific pressures and a host of accompanying demands. Parham (1993), while describing student-athletes in the 1990s, outlined the additional challenges that student-athletes face. Over two decades later, the description continues to ring true. Unlike non-athletes, student-athletes must also (a) navigate competing academic and

athletic efforts; (b) adjust to the way in which athletics infringes on opportunities for social integration and leisure; (c) handle athletic success or failure; (d) consistently focus on maintaining physical health; (e) manage a wide network of relationships with people ranging from coaches and the community to parents and friends; and (f) end an athletic career and find other satisfying pursuits (Parham, 1993, p. 412).

Barriers to Student-Athlete Academic and Psychological Welfare: The “I”s

As seen in the previous two sections, literature on differences in college outcomes between student-athletes and their non-athlete peers is abundant. However, scholars have also directed attention to distinctions among student-athletes. Often, these studies have revealed ways in which pre-college variables and college experiences influence outcomes related to academic and psychological well-being for different types of student-athletes. In the sections below, I provide a summary of that research, concentrating on the variables for which the CSBV dataset makes study possible.

Sex. Within the scope of student-athlete research, studies have revealed notable disparities between males and females. While these differences often overlap with race and sport profile, evidence also suggests that male and female student-athletes are distinct academically and psychologically, regardless of other factors. The gaps between males and females are also tied to other pre-college variables, as male and female student-athletes exhibit distinctions in pre-college academic preparation.

In general, female student-athletes begin college more prepared for college than their male counterparts. Although limited to a single institution, Purdy, Eitzen, and Hufnagel’s

(1982) analysis of student data from ten years showed statistically significant differences between male and female student-athletes on combined SAT score, high school class standing, and high school GPA. Additional research (Eitzen, 1987; Lombardi, Downs, Downs, & Conley, 2012; NCAA, 2001) also describes female student-athletes as being more college-ready than males. These patterns continue throughout college as female student-athletes academically outperform their male counterparts.

Upon reviewing data from sources such as the NCAA and single institutions, Eitzen (1987) found that female student-athletes surpassed male student-athletes in measures of academic success. Reports produced within the past few years echo Eitzen's findings and seem to indicate that the trend is not specific to any one NCAA division. Both Dilley-Knoles, Burnett, and Peak's (2010) analysis of the grade point averages of 379 student-athletes at a single, small Division II institution and the NCAA's (2013d) report on the 1995-2006 graduation rates of Division I student-athletes reveal the same thing: female student-athletes outperform male student-athletes academically. Routon and Walker's (2014) quasi-experimental study of the effects of intercollegiate athletics also signified academic performance distinctions between males and females, as did Umbach et al.'s (2006) research using NSSE data.

The differences between male and female intercollegiate athletes are not limited to measures of academic success. In multiple regards, male and female student-athletes have a distinct sense of self. In the research on student-athlete identity, males, more so than the females who compete in college sports, primarily identify as *athlete* (Brewer et al., 1993;

Melendez, 2010; Sturm et al., 2011). Although limited to the results of a single study of freshmen Division I student-athletes, male intercollegiate athletes also report lower levels of *positive self-concept* than females, a construct reflecting individuals' sense of worth, recognition of having good qualities, and positive view of self (Gayles & Hu, 2009b).

Finally, male and female student-athletes battle mental health challenges at different rates. Paralleling mental health trends in the college student population at-large (e.g., Eisenberg, Hunt, & Speer, 2013), challenges to psychological well-being are a more common occurrence for females who participate in college sports. This pattern has been noted in single-institution studies of intercollegiate athletes (e.g., Storch, Storch, Killiany, & Roberti, 2005; Yang et al., 2007), as well as analysis of national datasets (e.g., Davoren & Hwang, 2014).

Race/Ethnicity. Race/ethnicity is another theme common to research on student-athletes. In general, African Americans are overrepresented in college athletics (Bimper, 2014; Harper, 2016; Harper et al., 2013; Lapchick, Augusta, Kinkopf, & McPhee, 2013), and while clear academic gaps have been noted between White and minority athletes, the disparities are greatest for African American males (Comeaux, 2008; Eitzen, 1987; Sellers, 1992; NCAA, 2013d; Paskus, 2012). Research indicates that African American male athletes begin college less academically prepared than other race/ethnic groups (e.g., Sellers, 1992; Harrison et al., 2006). Additionally, Black male athletes have higher levels of athletic identity salience than White athletes (Beamon, 2012), with minority males in football and basketball having the highest rates of identity foreclosure (Beamon, 2012; Harrison et al.,

2011; Scales, 1991). Accordingly, these student-athletes are the most prone to place all focus on their athlete role, to the detriment of their role as student (Adler & Adler, 1987).

Contrasting research on minority male athletic identity does exist (Melendez, 2010; Williams, 2007), highlighting athletic identity as a struggle common to athletes of all races/ethnicities. However, even with seemingly conflicting data on identity, multiple studies detail the heightened level of negative stereotyping that Black male student-athletes face in academic contexts (e.g., Harper et al., 2013; Engstrom et al., 1995; Simons et al., 2007). Undoubtedly impacting the outcomes of their educational experience, Black males also do not often have the same degree of interaction with faculty members as their White counterparts (Comeaux & Harrison, 2006, 2007, 2011).

Educational preparation. Within the scope of academic performance research for intercollegiate student-athletes, several studies have indicated a relationship between pre-college educational experiences and student-athlete academic welfare (e.g., Comeaux, 2005; Hildenbrand et al., 2009; Sellers, 1992). Far too often, the most talented high school athletes graduate from high school under-prepared for the rigors of college course work (Bowen & Levin, 2003; Hildenbrand et al., 2009; Knight Foundation, 2001; Shulman & Bowen, 2001). Underscoring the ramifications of this trend, high school GPA has, in multiple studies, emerged as a key predictor of college academic performance for student-athletes (Baumann & Henschen, 1986; Comeaux, 2005; Sellers, 1992; Lang et al., 1988; Purdy et al., 1982).

Barriers to Student-Athlete Academic and Psychological Welfare: The “E”s

Numerous studies have highlighted the positive outcomes of purposeful engagement within the college environment (Astin & Antonio, 2012; Gayles & Hu, 2009b; Hu & Kuh, 2002; Kuh, 2001; Pascarella & Terenzini, 2005). When examined broadly, “the environment encompasses everything that happens to a student during the course of an educational program that might conceivably influence the outcomes under consideration” (Astin & Antonio, 2012, p. 87). Academic-specific variables (e.g., curriculum and pedagogy) are included within the environment, as well as social (e.g., relationships with other students) and climate-specific characteristics (e.g., facilities) (Astin & Antonio, 2012).

Much insight into student-athlete welfare can be gained through analysis of the ways in which athletes become socially and academically integrated. Although the CSBV dataset precludes exploration of the impact of sport-specific experiences, such as student-athletes’ relationship with coaches and teammates, the dataset does account for a number of academic and social experiences. Below, I provide a review of research on two key areas of environment-related student-athlete research: engagement with students outside of the student-athlete population and faculty-athlete interactions. In this section, I will also give an overview of scholarship related to the experiences of intercollegiate athletics that are distinct to sport profile.

Social engagement outside of sport. Student-athletes spend the vast majority of their time with other student-athletes, a reality that appears in research as having potential to limit skill development, affect positive self-concept, and further solidify athletes’ sense of

athletic identity (e.g., Gayles & Hu, 2009a; Pascarella et al., 1999; Watt & Moore, 2001).

Gayles and Hu (2009a, 2009b), in their analysis of NCAA Basic Academic Skills Study (BASS) data, found that student-athletes interact with non-athlete students more so than any other type of educationally purposeful activity (such as those outlined in Chickering and Gamson's [1987] *Seven Principles for Good Practice in Undergraduate Education*).

However, for a substantial number of student-athletes, close friendships with non-athletes are rare.

Although the majority of NCAA student-athletes report that they have close friends outside of their team (NCAA, 2011a), high numbers of intercollegiate athletes remain socially isolated to their sport. Between 19% and 36% of Division I student-athletes (men's basketball and baseball, respectively) do not have close relationships with students other than their teammates. The figures for Divisions II and III are similar. While these figures describe the majority of student-athletes as having diverse social circles that extend beyond their immediate team setting, these data present only a limited picture of student-athlete social engagement. Focused only on same-team friendships, these data do not indicate whether or not student-athletes have friends outside of athletics altogether.

Extending beyond educationally purposeful interactions and close friendships with non-athletes, research also reveals the infrequency with which student-athletes join student organizations. Of all of the ways to engage in educationally purposeful activities, Gayles and Hu (2009a) discovered that student groups and organizations were a less common occurrence for intercollegiate athletes. Although not directly reflecting the prevalence of this type of

engagement, between 11% and 21% of NCAA GOALS survey respondents across all three NCAA divisions indicated that their coaches or other athletic department personnel had discouraged them from taking part in extracurricular activities (NCAA, 2011a).

Experiences with faculty. In addition to interactions with non-athlete peers, researchers have directed attention to student-athlete relations with faculty members. The body of research on athlete-faculty engagement indicates that this aspect of the college environment has general meaning for athletes' academic and psychological welfare (e.g., Comeaux, 2011b; Engstrom et al., 1995; Gayles & Hu, 2009b; Simons et al., 2007). Nonetheless, extant literature on athlete-faculty interactions shows that the outcomes of these contacts are not consistent across all types of student-athletes (Comeaux, 2008, 2011b; Comeaux & Harrison, 2011).

Comparison of student-athletes to their non-athlete peers using NSSE data reveals that intercollegiate athletes are no less likely to have exchanges with faculty members than non-athletes (Umbach et al., 2006). The nature of the faculty contact matters, however (Comeaux 2005, 2008, 2011a). For example, Comeaux (2005), when using revenue-sport athlete data from the Cooperative Institutional Research Program (CIRP) 2000 Freshman Survey and 2004 College Student Survey, found faculty members providing help with professional goals to be a positive predictor of GPA. In contrast, other athlete-faculty interactions such as faculty members providing encouragement for graduate school, advice about an education program, and assistance with study skills were not statistically significant predictors of GPA for revenue-sport athletes (Comeaux, 2005).

Additional studies reveal that athletes of different races respond distinctly to various types of faculty engagement. White students appear to respond better academically to encounters with faculty members that include assistance with study skills and guidance in accomplishing future goals (Comeaux & Harrison, 2006). Analysis of CIRP data on Black male revenue-sport athletes revealed that faculty members' encouragement of graduate school is the only type of athlete-faculty interface to foster academic performance for Black males who compete on intercollegiate football and basketball teams (Comeaux, 2008).

Much of the research on athlete-faculty engagement centers on the perceptions that faculty members have of student-athletes. Often, faculty members hold negative attitudes about intercollegiate athletes, attitudes tied, in part, to stereotypes about student-athletes' academic ability and motivation (Engstrom et al., 1995; Harrison et al., 2009). Stereotyping them as "dumb jocks," faculty members perceive student-athletes as caring only about academics inasmuch as they meet eligibility requirements to play their sport. As such, many faculty believe that intercollegiate athletes will "put in minimum effort, do little academic work, take easy classes and have others do their work for them" (Simons et al., 2007, p. 251). Studies underscore the prevalence of stigmatization for Black male student-athletes, particularly those who compete in revenue sports (e.g., Adler & Adler, 1985; Engstrom et al., 1995; Harper et al., 2013; Simons et al., 2007). However, the "dumb jock" stereotype is one that Simons et al. (2007) found haunts all intercollegiate athletes on some level, regardless of sex, race, or sport profile.

Sport profile and the student-athlete experience. In addition to major distinctions between the sexes and racial/ethnic groups, researchers have noted differences between all other athletes and the males who compete in revenue-producing sports (Murphy et al., 1996; Pascarella et al., 1999). Upon comparison of the average hours spent per week on athletic activities while in-season, disparities between the two types of athlete become evident. Revenue sport athletes also differ from their student-athlete peers in the degree to which they identify as an athlete.

Time in sport. Despite NCAA regulations intended to limit the amount of time that student-athletes devote to their sport each week, the commitment level that student-athletes express toward their sport often overshadows efforts directed toward academic obligations. While an issue for all student-athletes, the discrepancy between time spent on academics and athletics is most evident when examining the behavior patterns of male athletes on high-profile sports teams.

During season, college athletes in men's high-profile sports report devoting more hours to their athletic activities than academic pursuits (NCAA, 2011b). Further, recent NCAA (2011b) research on the student-athlete experience shows that football players and men's basketball players exceed every sport except for baseball in the average amount of time that is devoted to athletics each week while in-season. Across all three divisions, Football Bowl Subdivision (FBS) players spent an average of 43.3 hours/week on their sport during season, more than any other sport (NCAA, 2011b). Compared to low-profile sport

competitors, student-athletes from high-profile sports also have limited social circles, spending the majority of their time with other student-athletes (Gayles & Hu, 2009b).

Challenges related to identity. As Curtis (2006) notes, “If intercollegiate student-athletes in Divisions I and II appear to the world to be more like ‘athlete-students,’ it is not without just cause” (p. 1). Research on the identity of college athletes highlights the complexities that student-athletes face when navigating the dual roles of *student* and *athlete* (e.g., Bimper, 2014; Brewer et al., 1993; Settles et al., 2002; Yukhymenko-Lescroart, 2014). While a potential issue for any student-athlete, studies (e.g., Adler & Adler, 1987) afford insight on the prevalence of identity issues for male athletes who play football and basketball. More so than any other athlete, these individuals identify primarily as *athlete*, not *student*. Further, Black football and basketball players are the most prone to identity issues related to conflict between their athletic and academic roles (Beamon, 2012; Harrison et al., 2011).

Disproportionately large numbers of African American males make up the rosters of intercollegiate football and men’s basketball teams, compared to the number of Black males enrolled in higher education (Beamon & Bell, 2006; Harper, 2016; Harper et al., 2013). As such, the issues of negative athlete stereotyping that are tied to race/ethnicity also manifest more commonly for revenue sport athletes. Revenue sport athletes often encounter marginalization due to the “dumb jock stereotype” (Simons et al., 2007, p. 252) more so than female athletes or male athletes on low-profile teams (Simons et al., 2007). Subsequently, because much of the research on athlete stereotyping is also linked to race/ethnicity and

gender, Simons et al. (2007) conclude, “It appears that the closer athletes are to the archetypal African American football or basketball player, the more they are stigmatized and more likely they are to receive negative treatment” (p. 267).

Why Consider Student-Athlete Spirituality?

Spiritual development is a critical aspect of college student development that should be addressed both in practice and research (Love & Talbot, 2005); yet, studies on topics related to the inner lives of college students are a relatively new phenomenon. For a fifteen-year span starting in the mid-1980’s, the topic was all but absent from all of the major student affairs journals (Love & Talbot, 1999; 2005). By 2001, however, “a surge of interest in the spiritual development of college students” (Love, 2001, p. 7) had taken place as scholars began to recognize the value of incorporating spiritual development within the scope of student affairs.

In general, college students are actively interested in and pursuing the answers to questions related to spirituality (Astin et al., 2011b; Dalton, Eberhardt, Bracken, & Echols, 2006). The majority of them care about spiritual matters (HERI, 2005), and they experience spiritual growth throughout the time that they spend in undergraduate education (HERI, 2011). Studies on college student spirituality also stress the positive outcomes of spirituality in various domains (e.g., Astin et al., 2011b; Park & Millora, 2010), paralleling spirituality scholarship in psychology (e.g., Nelson, 2009; Gall et al., 2005) and counseling (e.g., Chandler et al., 1992). Of particular relevance to this study, equanimity has positive meaning for students’ academic and psychological welfare (Astin et al., 2011b; Park & Millora, 2010).

Similar to research on general college student spirituality and religiosity, the body of research on the inner lives of intercollegiate athletes has increased in recent years. Even so, this aspect of student-athletes remains underexplored (Gayles, 2009). The intersection of sport and religion dates back to the earliest days of ancient Olympic competition (Raikes, 2010), and while the manifestation of religion in sport rituals may have shifted from overt acts of worship devoted to Greek gods, spirituality is no less a part of modern athletic competitions. Like their non-athlete student peers, spirituality and religion are key facets of the lives of many intercollegiate athletes. Numerous athletes incorporate spiritual practices into their sport (Czech & Bullet, 2007). Many also utilize their sport as an opportunity to share their faith (Stevenson, 1991), a phenomenon dubbed “Sportianity” (Deford, 1976, para. 17).

Despite the historical connection of sport and religion and the current expressions of faith by athletes, little is known of “the essence of spirituality among student-athletes” (Raikes, 2010, p. 2). To date, the vast majority of research has overlooked student-athlete spirituality, focusing more on connections between sport and religion. Accordingly, studies on topics related to religiosity comprise the bulk of research on this aspect of student-athletes’ lives.

The degree to which athletes express their strength of faith appears to be fairly nuanced, with differences appearing according to NCAA Division and institution type. NCAA Division I student-athletes at one non-religious institution reported higher levels of religious faith than other students (Storch, Roberti, Bravata, & Storch, 2004). In contrast,

NCAA Division III student-athletes at a non-religious institution were not significantly different than other students in their strength of religious faith (Bell, Johnson, & Petersen, 2009). When shifting the focus of research to intercollegiate athletes at a religiously affiliated NCAA Division III institution, Bell et al. (2009) discovered that student-athletes were not as strong in their religious faith as other students. While these studies seem to present contradictory results, they are limited by their analysis of cross-sectional data from a single institution of each type.

While limited, existing research on the inner lives of student-athletes does highlight positive psychological and behavioral outcomes of religion for the athlete population (Bell et al., 2009). Storch and Storch's (2002) single-institution, cross-sectional study of intrinsic religiosity, or "internal commitment to personal religious beliefs" (Storch & Storch, 2002, p. 1041) revealed a weak negative relationship between that aspect of student-athlete religiosity and both attitudinal and verbal aggression. Comparable research also shows a negative relationship between "religious beliefs" (Moore, Berkley-Patton, & Hawes, 2013, p. 930) and both alcohol use and sexual activity. These athlete-specific studies, combined with extant research on the equanimity of college students in general, raise questions about additional ways in which spirituality—rather than religion—may enhance the lives of intercollegiate athletes outside of competition.

Equanimity: The Intermediate Outcome

In 2006, Astin and Keen mused on the conversations that culminated in the HERI study on college student spirituality. As "one of the first constructs that came to mind"

(Astin & Keen, 2006, p. 1) when trying to determine the qualities that a “highly developed spiritually” (p. 1) person would possess, equanimity was central to their conversations about college student spirituality. Exemplified by individuals such as the Dalai Lama, “equanimity involves the capacity to frame and reframe meaning under stress while maintaining a sense of deep composure and centeredness” (Astin & Keen, 2006, p. 4).

Little research has been done on college student equanimity, with the majority of the existing studies drawing from the HERI longitudinal dataset. Defining it as “the extent to which an individual is able to find meaning in times of hardship, feels at peace or centered, sees each day as a gift, and feels good about the direction of his or her life” (Lindholm, 2013, p. 13), Astin et al. (2011b) report that college students generally grow in equanimity during college. Their research indicates that introspective activities such as meditation, prayer, and self-reflection (Astin et al., 2011b, p. 54) produce the most notable gains in equanimity. In addition, reading religious and spiritual materials and engagement in “charitable activities” (Astin et al., 2011b, p. 58) also foster increases in equanimity.

Astin et al.’s (2011b) research also explored the impact of extracurricular and academic activities on measures of equanimity. Academic variables including course-required group activities, time spent studying, and engagement with faculty who are open with their own spirituality are all associated with equanimity development (Astin et al., 2011b). Extracurricular involvement in leadership training and campus clubs/organizations are both also positively related to equanimity development, as is participation in intercollegiate football and men’s basketball (Astin et al., 2011b). Within the scope of the

present study, the increases in equanimity that Astin et al. (2011b) observed for football players and men's basketball players were most striking.

Demographic differences. Expanding earlier research on college student equanimity, additional studies of college student spirituality (Bryant, 2007, Gehrke, 2013) reveal specific gender and racial/ethnic distinctions for the construct. When comparing spirituality between genders, Bryant (2007) found higher levels of equanimity for women than men. Moreover, Gehrke (2013) observed clear differences in equanimity across racial/ethnic groups. These findings align with Astin's (1993) I-E-O model and underscore the importance of accounting for pre-college characteristics when attempting to measure the way in which college affects student-athlete equanimity

Regardless of the time in which the data were collected (i.e., pre-college or after the junior year), Gehrke (2013) found that Black students exhibit higher levels of equanimity than other races/ethnicities. Upon entry to college, these students surpass Asian American/Pacific Islanders, Hispanics/Latinos, and Whites/Caucasians; however, after their junior year, the difference between Black students and Latinos is no longer significant (Gehrke, 2013). Despite the degree to which African American students display equanimity, Gehrke (2013) discovered that they do not change in equanimity throughout college. White students are the only other racial/ethnic group that does not experience college gains in equanimity (Gehrke, 2013).

Scholarship on Equanimity and Well-Being: Making the Connection

Literature on spirituality and aspects of well-being often address the connection between spirituality/religion and the way in which individuals cope with challenging situations (e.g., Pargament, Falb, Ano, & Wachholtz, 2013; Weber & Pargament, 2014). In their review of current research on the implications of religion/spirituality for mental health, Webber and Pargament (2014) discussed the prevalence with which individuals use religion as a means of coping. When doing so, they also examine the positive means of religious coping that are tied to overall psychological well-being. Analogous to equanimity, these include “positive religious reframing of stressors” (Webber & Pargament, 2014, p. 359).

Although researchers in multiple fields (e.g., medicine, psychology, counseling) have come to recognize spirituality as a facilitator of positive outcomes related to well-being (e.g., Chandler et al., 2011; Ridnour & Hammermeister, 2008; Scales, Syvertsen, Benson, Roehlkepartain, & Sesma, 2014; Weber & Pargament, 2014), the relationship between spirituality and facets of well-being have not been as explored for college students. Even less research exists on the ways in which specific measures of spirituality influence student welfare. Equanimity is no exception.

Although relatively few in number, the studies that do explore equanimity make a clear case for its value in fostering student-athletes’ academic success. The HERI study of college student spirituality found “significant growth in equanimity” (p. 119) to be a positive predictor of students’ increased academic success as measured by their GPA (Astin et al., 2011b). Interestingly, no other religious/spiritual measure predicted college GPA (Astin et

al., 2011b). When presenting the academic implications for equanimity, however, Astin et al. (2011b) made mention of their inability to determine whether students' equanimity improved students' grades by boosting their intellectual self-esteem, or if it increased their intellectual self-esteem by facilitating better grades (p. 119). *Intellectual Self-Esteem*, a construct comprised of students' self-assessment of their academic, mathematics and writing abilities, along with their intellectual self-confidence and their drive to achieve, like GPA, is positively related to growth in equanimity (Astin et al., 2011b, p. 117).

Not limited to academic well-being, equanimity also plays a role in students' psychological well-being. *Psychological Well-Being*, as examined in the HERI study, accounts for students' symptoms related to depression and anxiety, as well as students' self-evaluated "emotional health" (Astin et al., 2011b, p. 121). Constructed as such, psychological well-being is positively influenced by equanimity, a relationship that parallels extant literature on general spirituality and mental health for populations outside of higher education (e.g., Chandler et al., 1992; Scales et al., 2014; Weber & Pargament, 2014). Park and Millora (2010), using the CSBV dataset, also found equanimity to be a statistically significant positive predictor of psychological well-being for students in general. This relationship remained even when the researchers examined the measures by race/ethnicity.

By and large, the research on equanimity's role in facilitating students' academic and psychological well-being leaves no question as to the potential value of equanimity as a means of helping to ensure the welfare of intercollegiate athletes. Further, scholarship on equanimity's ties to managing difficult situations underscores the relevance of this topic, as

student-athletes are constantly called upon to navigate stressors distinct from those encountered by their non-athlete peers (Parham, 1993). Since all of the current research on equanimity outcomes is limited to study of postsecondary students in general, specific investigation of the student-athlete population was needed.

Chapter Summary

Research on the spiritual lives of college students is an ever-increasing focus of study within higher education; yet, scholarship on the equanimity of intercollegiate athletes is entirely absent from the scholarly record. In an attempt to position the present study of student-athlete equanimity within the scope of extant research, this chapter began with an overview of the guiding framework for the study, one based upon Astin's (1993) I-E-O model and Chandler et al.'s (1992) Holistic Wellness Model. Using the structure of that framework as a means of organization, I detailed existing research on intercollegiate athletes, including scholarship on pre-college characteristics and college experiences that exist as barriers to these individuals' academic and psychological well-being. I then transitioned to a summary of studies on the intermediate outcome of interest, equanimity, starting with a synopsis of research on college student and student-athlete spirituality more broadly. To conclude the chapter, I made the connection between equanimity and wellness, helping to lay a foundation for the explanation of the hypothesized model and data analysis in the chapter that follows.

CHAPTER THREE: METHODOLOGY

As a student population unlike any other, intercollegiate athletes have been the focus of scores of studies, many of which emphasize the challenges to academic and psychological welfare that these individuals face. Notwithstanding the substantial body of research on student-athletes, little is known about the spiritual lives of student-athletes or the ways in which spirituality affects aspects of their well-being. Equanimity is an especially underexplored spiritual measure for student-athletes, given the construct's relationship with GPA, intellectual self-esteem, and psychological well-being for students in general (Astin et al., 2011b) and the distinctive growth patterns in equanimity that Astin et al. (2011b) found for revenue sport student-athletes.

Through this study, I expand the existing bodies of research on college student spirituality *and* intercollegiate athletes by providing greater insight into student-athlete equanimity and its influence on aspects of their welfare. Using structural equation modeling (SEM) of a framework combining Astin's (1993) I-E-O model and Chandler et al.'s (1992) Holistic Wellness Model (see Figure 3), I specifically sought to determine the following: (1) how specific pre-college variables (i.e., academic well-being, equanimity, and psychological well-being at college entry) and college experiences (i.e., religious engagement, charitable involvement, faculty support of students' spiritual/religious development, campus involvement, and academic engagement) influence equanimity for intercollegiate athletes and (2) the mediational role of equanimity on athletes' academic and psychological well-being. By testing whether the factors and structural paths are conditioned by student-athletes' sex,

race/ethnicity, and sport profile level, I was able to gain understanding of the model's applicability for different student-athlete populations.

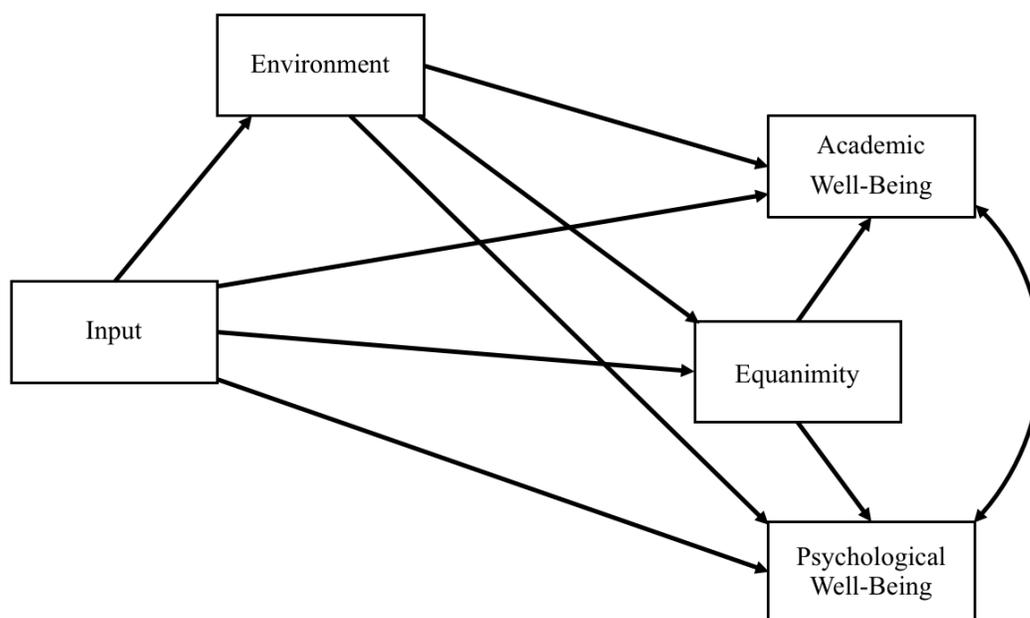


Figure 3. Combined Conceptual Framework. This figure illustrates the combination of Astin's (1993) Input-Environment-Outcome (I-E-O) model and relevant aspects of Chandler et al.'s (1992) Holistic Wellness Model.

Research Design

The “preeminent multivariate method of data analysis” (Hershberger, 2003, p. 35), structural equation modeling makes possible the testing of predetermined theoretical models. For this reason, as well as SEM's capacity to explore the relationships between observed (indicators) and unobservable latent variables (constructs or factors) (Schumacker & Lomax, 2004), I decided that this analytical approach was best suited for this particular study. Further, SEM incorporates path analysis and factor analysis (Hancock, 2015; Schumacker &

Lomax, 2004; Weston & Gore, 2006), an advantage given the topic's inclusion of constructs (e.g., *Equanimity*, *Academic Well-Being*, and *Psychological Well-Being*) that are each represented by multiple measures

Data Source and Instrument

Due to the longitudinal structure of HERI's exploration of college student spirituality, "Spirituality in Higher Education: Students' Search for Meaning and Purpose," the present study included student-athlete data from three survey instruments: the 2004 Cooperative Institutional Research Program (CIRP) Freshman Survey, the 2004 College Students' Beliefs and Values (CSBV) Survey, and the 2007 CSBV follow-up survey. With their comprehensive scope, specific focus on tested measures of equanimity, and large sample size, the CIRP/CSBV data were optimal for this study. Analysis of this dataset also provided information from a broader student-athlete population than could have been reasonably collected through primary data collection (Vartanian, 2011). Additionally, HERI stripped the data of any institutional or individual identifiers (HERI, 2014), thus eliminating ethical concerns tied to the identification of subjects/student-athletes.

Initiated after multiple years of research into the spirituality and religiosity of college students—including a pilot administration in Spring 2003 (3,680 college juniors at 46 baccalaureate institutions) (Astin et al., 2011b)—collection of the full-scale HERI spirituality data began in Fall 2004. That semester, 112,234 first-year students from a diverse set of 236 U.S. baccalaureate-granting institutions completed the Cooperative Institutional Research Program (CIRP) Freshman Survey instrument, along with the additional 160-question

College Students' Beliefs and Values (CSBV) Survey (Lindholm, 2013). Whereas the Freshman Survey presented students with an opportunity to provide data on their background, pre-college experiences, college expectations, and views on social issues, the CSBV elicited information on first-year students' religious and spiritual attitudes and behaviors (Lindholm, 2013).

The research team expanded the CSBV instrument for the 2007 administration, incorporating new questions related to college experiences—both academic and non-academic—and college satisfaction (Lindholm, 2013). For the follow-up, the HERI team invited only a subsample of 207 colleges and universities from the 2004 survey administration to participate (Astin, Astin, & Lindholm, 2011a). HERI purposely selected the colleges and universities so as to ensure equal representation across institutional type, selectivity, and “control” (e.g., religiously-affiliated, public, etc.) (Astin et al., 2011b, p. 19).

From each of the 148 institutions that elected to participate, the research team randomly selected approximately 300 respondents from the 2004 survey administration who were still enrolled at their respective institution (Astin et al., 2011a). In addition, some institutions opted to follow-up with more than 300 of their students, a strategy for which they paid a fee (Astin et al., 2011a). Ultimately, participants came from 136 institutions, a number encompassing only the institutions that had at least a 30% response rate (Astin et al., 2011a). In total, 40% of the student sample from those 136 institutions responded, yielding a dataset of over 14,500 ($n = 14,527$) observations (Astin et al., 2011a; Astin et al., 2011b).

Student-Athlete Sample

Analyses in this study focused only on the HERI study participants who indicated that they participated in either “intercollegiate football or basketball” or “[an]other intercollegiate sport” since starting college (HERI, 2009, p. 20). Of the 3,393 individuals who denoted that they participate in intercollegiate athletics, 317 marked both sport questions. To remove the confounding influence of these uncharacteristic student-athletes who marked both sport types, I elected to remove them from the final analytic sample ($n = 3,076$).

Indicative of bias introduced by the institutions’ self-selection into the HERI study, the majority of student-athlete respondents attended colleges or universities that are affiliated with a religious entity ($n = 1,890$; percent of respondents = 61.44%). Similarly, the generalizability of findings is limited by possible non-response bias reflected in the proportion of respondents who identified with specific demographic or sport groups.

Paralleling intercollegiate athletics participation patterns at the time of the HERI study (Lapchick, 2004), the overwhelming majority of data came from White student-athletes ($n = 2,600$). In addition, the number of non-revenue sport respondents ($n = 2,575$) exceeded that of their revenue sport counterparts ($n = 501$), reflecting college sports nationally (NCAA, 2015). However, student-athletes of color and males were underrepresented. One-quarter of all NCAA athletics participants identified with a racial/ethnic minority group in the academic year immediately following HERI’s second survey administration (NCAA, 2008); yet, student-athletes of color only comprised 14.64% of the study’s sample. Likewise, more female student-athletes ($n = 1,888$) responded to the survey than male student-athletes

($n = 1,188$), even though the number of male student-athletes has historically exceeded that of females (NCAA, 2015). Table 1 displays the demographic characteristics, sport profile, and institutional religious affiliation of the respondents.

Table 1

Characteristics of the Student-Athlete Sample ($n = 3,076$)

Variable	Total	
	<i>n</i>	%
Race/Ethnicity		
White/Caucasian	2,600	84.53
African American/Black	72	2.34
American Indian/Alaska Native	6	0.20
Asian American/Asian	107	3.48
Native Hawaiian/Pacific Islander	6	0.20
Mexican American/Chicano	38	1.24
Puerto Rican	4	0.13
Other Latino	33	1.07
Other	29	0.94
More than One Race/Ethnicity	151	4.91
Missing	30	0.98
Sex		
Female	1,888	61.38
Male	1,188	38.62
Sport Profile		
Revenue Sport	501	16.29
Non-Revenue Sport	2,575	83.71
Religious Affiliation of College		
Religiously-Affiliated	1,890	61.44
Not Religiously-Affiliated	1,186	38.56

Hypothesized Model

As detailed in earlier chapters, this study centered on a framework derived from two existing conceptual frameworks: Astin's (1993) I-E-O model and Chandler et al.'s (1992) Holistic Wellness Model (see Figure 3). In the sections that follow, I describe the variables that comprise each part of the hypothesized model (see Figure 4) as well as the steps that I took to evaluate the factors' psychometric properties. When selecting the variables, I relied upon existing research on intercollegiate athletes, equanimity, and the relationship between spirituality and wellness. All factors, their corresponding items, and the coding scheme for each are displayed in Appendix A.

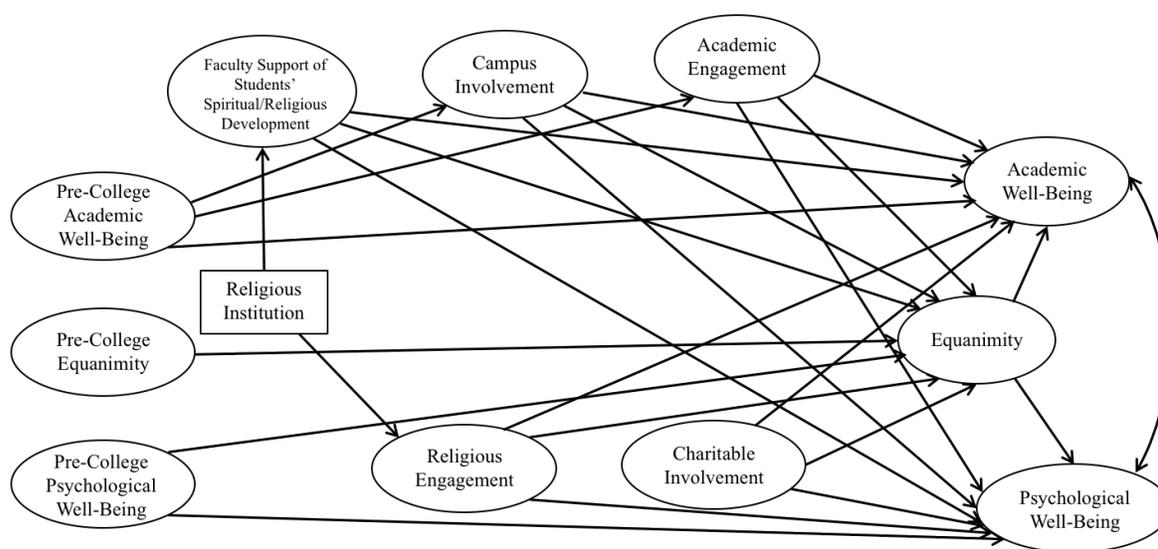


Figure 4. Hypothesized structural model. This figure illustrates the hypothesized paths among the variables of interest for this study.

Input variables. Student-athletes arrive at college having a wide range of previous educational experiences and outcomes. Of particular relevance for this study, they enter

college with a level of equanimity, academic well-being, and psychological wellness.

Because these pre-college variables were expected to have an influence on those aspects of a student-athlete's life three years later, the model included three factors—*Pre-College Academic Well-Being*, *Pre-College Equanimity*, and *Pre-College Psychological Well-Being*—each consisting of items taken from the 2004 administration of the CSBV.

High school GPA has emerged as a central predictor of intercollegiate athlete academic success (Baumann & Henschen, 1986; Comeaux, 2005, 2008; Sellers, 1992; Lang et al., 1988; Purdy et al., 1982). Accordingly, that measure, along with four of the academic-outcome related items from Astin et al.'s (2011b) intellectual self-esteem scale, comprised the *Pre-College Academic Well-Being* construct. Specifically, the variable included student-athletes' high school GPA selected from eight letter-grade response options, their self-reported drive to achieve as compared to the average person their age (measured on a five-point scale from "Lowest 10%" to "Highest 10%"), and their self-reported academic, mathematical, and writing abilities as compared to the average person their age (each also measured on a five-point scale from "Lowest 10%" to "Highest 10%").

To control for the level of equanimity that intercollegiate athletes have upon college entry, *Pre-College Equanimity* was included in the model. This factor consisted of student-athletes' pre-college responses to Astin et al.'s (2011b) five equanimity items. Participants reported on the frequency with which they had "been able to find meaning in times of hardship" and "felt at peace, centered" in the previous year (Astin et al., 2011b, p. 50) (measured on a three-point scale from "Frequently" to "Not at All"). They also designated

the degree to which the following statements described them: “I feel good about the direction in which my life is headed”; “I see each day, good or bad, as a gift”; and “I am thankful for all that has happened to me” (Astin et al., 2011b, p. 50) (measured on a three-point scale from “To a Great Extent” to “Not at All”).

The last input variable, *Pre-College Psychological Well-being*, accounted for student-athletes’ psychological/mental health upon entering college. In the 2004 survey administration, respondents indicated the frequency with which they “felt overwhelmed by all I had to do,” “felt depressed,” and “felt that [their] life is filled with stress and anxiety” in the previous year (HERI, 2009, pp. 7 & 18) (measured on a three-point scale from “Frequently” to “Not at All”). These items were reverse-coded and tested along with respondents’ self-rated emotional health in comparison to the average person their age (measured on a five-point scale from “Lowest 10%” to “Highest 10%”).

Environment variables. The college environment, as originally hypothesized in this study, consisted of one measure of institutional religious affiliation, dummy-coded with “religiously-affiliated institution” as the referent group, and five constructs reflected in student-athletes’ responses to multiple items taken from the 2007 CSBV administration. Each of the factors was determined by looking at extant research on the educational and social experiences of intercollegiate athletes as well as Astin et al.’s (2011b) scholarship on equanimity development.

As detailed in Chapter Two, student-athletes’ engagement with faculty members has meaning for their academic and psychological well-being (e.g., Comeaux, 2011b; Engstrom

et al., 1995; Gayles & Hu, 2009b; Simons et al., 2007). Additionally, Astin et al.'s (2011b) research highlights the role that engagement with spiritually transparent faculty members plays in fostering students' equanimity. Accordingly, the hypothesized model included a modified version of Bowman and Small's (2010, 2012) "faculty support of students' spiritual/religious development" five-item index. In this study, *Faculty Support of Students' Spiritual/Religious Development* was a construct consisting of six items, each measured on a three-point scale ("Frequently," "Occasionally," and "Not at All"). The items reflected the frequency with which faculty members "encouraged exploration of questions of meaning and purpose," "enhanced your self-understanding," "encouraged discussion of religious/spiritual matters," "encouraged personal expression of spirituality," "encouraged discussion of ethical issues," and "acted as spiritual models for you" (HERI, 2007). Bowman and Small's (2010, 2012) index did not include the self-understanding-focused item.

The model also encompassed student-athletes' engagement in academic and extracurricular endeavors. *Academic Engagement* was reflected in the average number of hours each week that student-athletes spent studying or doing homework (eight categories ranging from "None" to "Over 20"), as well as the frequency with which they were bored in class and arrived late to class since starting college (reverse-coded: "Frequently," "Occasionally," or "Not at All"). *Campus Involvement* consisted of six indicators that measured student-athletes' involvement in campus activities outside of class. Five of the items were dichotomous, signifying whether or not respondents joined a Greek organization or participated in student government, a campus religious organization, study abroad

program, or leadership training (HERI, 2007). The sixth indicator provided a measure of the average number of hours per week that student-athletes spent in student clubs/groups (eight categories ranging from “None” to “Over 20”).

Drawing from Astin et al.’s (2011b) research on equanimity, *Charitable Involvement* and *Religious Engagement* also appeared in the hypothesized model. Both of the factors consisted of items that were tested during the HERI study on student spirituality. These factors appear in scholarship as positive predictors of student equanimity, and they also have meaning, albeit mixed, for students’ academic and psychological well-being (Astin et al., 2011b).

Charitable Involvement was comprised of seven items measuring the frequency with which student-athletes participated in community food or clothing drives, volunteer work, donating money to charity, class-required community service, and helping friends with personal problems (“Not at All,” “Occasionally,” or “Frequently”) (Astin et al., 2011b, p. 191). Two additional items also helped define the construct: the average number of weekly hours that respondents spent volunteering (eight categories ranging from “None” to “Over 20”) and the importance that respondents ascribed to taking part in a community action program (four-point scale ranging from “Not Important” to “Essential”) (Astin et al., 2011b, p. 191).

Religious Engagement, measured by nine items, encompassed student-athletes’ behaviors and religious practices since starting college. The items included the frequency with which respondents attended a religious service and educational events on

religion/spirituality (e.g., a workshop) (“Frequently,” “Occasionally,” “Not at All”). The construct was also reflected in the frequency with which student-athletes reported that they pray, sing religious songs or chant, and read religious/spiritual and “sacred texts” (HERI, 2007) (six-point scale ranging from “Daily” to “Not at All”). A dichotomous variable indicating whether or not respondents pray, an item measuring the average number of hours per week that respondents spent in prayer/meditation (eight categories ranging from “None” to “Over 20”), and the number of respondents’ close friends who attend corporate worship (“All,” “Most,” “Some,” or “None”) also helped define *Religious Engagement*.

Equanimity. The mediator latent variable of interest for this study, *Equanimity*, was reflected in five items from the 2007 CSBV survey administration. Paralleling its pre-college equivalent, *Equanimity* consisted of two types of questions. First, participants reported on the frequency with which they had “been able to find meaning in times of hardship” and “felt at peace, centered” since starting college (Astin et al., 2011b, p. 50) (measured on a three-point scale ranging from “Frequently” to “Not at All”). The second type of question called for students to designate the degree to which equanimity-related statements described them. Indicating “To a great extent,” “to some extent,” or “not at all,” students responded to the following statements: “I feel good about the direction in which my life is headed”; “I see each day, good or bad, as a gift”; and “I am thankful for all that has happened to me” (Astin et al., 2011b, p. 50).

Academic and psychological well-being. Astin et al. (2011b), when conducting their study of college student spirituality, incorporated items that are suggestive of students’

academic and psychological health. The hypothesized model included their construct *Psychological Well-Being*, a factor involving respondents' self-rated emotional health in comparison to typical college students (measured on a five-point scale from "Lowest 10%" to "Highest 10%") and the frequency with which respondents "felt overwhelmed by all [they] had to do," "felt depressed," and "felt that [their] life is filled with stress and anxiety" in the previous year (reverse coded: "Frequently," "Occasionally," or "Not at All") (HERI, 2007). *Academic well-being*, in the model, was reflected in student-athletes' self-reported college GPA (measured on a six-point scale) and the items from Astin et al.'s (2011b) intellectual self-esteem scale that mirror the pre-college factor. Those indicators were as follows: respondents' academic, mathematics, and writing abilities, and their drive to achieve, all self-rated in comparison to the average college student (Astin et al., 2011b, p. 117).

Evaluation of the Factors' Psychometric Properties

Before using SEM to test the hypothesized model, I evaluated the psychometric properties of each of the constructs. Initially, I used Stata 13 (StataCorp, 2013b) to gauge the reliability of the factors. While Cronbach's (1951) alpha (α) appears frequently in social science research as an index of internal or scale reliability, some scholars (e.g., Brown, 2015; Muthén, 2013; Raykov, 2001; 2012; Sijtsma, 2009) note striking deficiencies of the statistic, expressly the way in which it misestimates scale reliability. Despite the criticisms surrounding the statistic, Cronbach's alpha remains a common metric in higher education research, and as such, I used it as a preliminary test of reliability. When merited, I accounted

for the items' varying scales by basing the calculations on the sum of standardized variables (StataCorp, 2013a).

With the alpha values calculated, I then ran factor analysis in Stata 13, using the principal-component factor (PCF) method of correlation matrix analysis. PCF attempts to explicate all of the variance—both common and error—using a correlation matrix in which values of 1.00 are retained on the diagonal (Acock, 2012). This approach, more so than the principal-factor method in which the two types of variance are separated, is appropriate in situations where a set of items measures a single concept (Acock, 2012). Such was the case for the sets of indicators in this study.

After computing Cronbach's alphas and factor loadings for each of the constructs in Stata 13, I used Mplus Version 7.31 (Muthén & Muthén, 1998-2012) to conduct confirmatory factor analysis (CFA) of the latent variables. Doing so allowed me to gauge whether or not the relationships depicted in the modeled constructs and their respective items parallel those that exist in the data (Weston & Gore, 2006). I treated all variables as continuous data and used the MLR estimator available in Mplus—decisions detailed in a later section of this chapter. When running each CFA, I examined fully standardized coefficients that used the variances of the latent, background, and outcome variables (Muthén & Muthén, 1998-2012; Wang & Wang, 2012). This type of solution accounted for the different scales of each construct's measures.

Approach to Missing Data

In general, the subset of HERI data specific to intercollegiate athletes is relatively complete. None of the variables had more than 10% missing data. Nearly 2,500 of the 3,076 observations had no missing values ($n = 2,456$ or 79.84%). Nonetheless, I elected to handle missing data using the direct maximum likelihood approach. Doing so allowed me to use all of the data available (Acock, 2005; Newsom, 2015a), a feature of the method that is of particular importance for the underrepresented groups in the sample (e.g., revenue sport athletes: $n = 501$; student-athletes of color: $n = 446$). Also known as full information maximum likelihood (FIML), direct maximum likelihood surpasses conventional methods of handling missing data by yielding unbiased parameter estimates and standard errors (Hancock, 2015).

FIML requires the condition of at least “missing at random” (Hancock, 2015); thus, I used Li’s (2013) *mcartest* program in Stata 13 (StataCorp, 2013b) to conduct Little’s test of missing completely at random (MCAR). The statistically significant test result, $\chi^2(9141) = 9567.96, p < .001$, revealed that the data are *not* MCAR. Consequently, I examined the patterns of missing data for the factors presenting the highest number of missing responses: *Pre-College Equanimity*, *Faculty Support of Students’ Spiritual/Religious Development*, and *Equanimity*. For all three, missing data were likely due to survey fatigue, since each construct’s items fell in the latter half of the survey. Notably, all five items comprising *Pre-College Equanimity* fell in the last block of questions on the six-page survey questionnaire, a plausible explanation for the total lack of *Equanimity* item responses from 88 student-

athletes. Additional analyses of the missing data using student-athletes' sex, race/ethnicity, and sport profile did not expose patterns tied to those characteristics for any of the constructs. As such, the assumption that the data are missing at random is reasonable.

Parameter Identification

A critical part of SEM, identification of the parameters was a step that enabled me to determine whether or not the entire model was identified (Mueller & Hancock, 2008) and subsequently, whether or not I would be able to find adequate solutions (Hancock, 2015). In SEM, the formula $u = p(p + 1) / 2$ provides an evaluation of a model's identification status, where p equals the number of observed variables (Weston & Gore, 2006). Upon calculating u , I had to compare that number to t , the total number of parameters to be estimated.

Whereas models in which t is greater than u are "underidentified" and those with the opposite result are "overidentified," those with equal numbers of parameters and unique variances/covariances are considered to be "justidentified" (Mueller & Hancock, 2008, p. 489). Because justidentified models will always fit the data perfectly and underidentified models cannot be estimated (Weston & Gore, 2006), the ideal models are those in which t is less than u . The hypothesized composite model for this study met the overidentified criterion.

Parameter Estimation

Because many of the indicators in the hypothesized model were ordered categorical data, they were, "by definition, not normal" (Hancock, 2015, p. 352). Although FIML produces generally acceptable results when the items contain five or more categories

(Hancock, 2015), many of the CSBV items did not have that many response options. Mplus Version 7.31 (Muthén & Muthén, 1998-2012) offers robust estimation methods for ordinal data with fewer than five categories (e.g., weighted least squares means and variance adjusted [WLSMV] and categorical-specific maximum likelihood with robust standard errors [MLR] estimators); however, these tactics were inadequate in their ability to meet all of the analytical needs of the current study. For example, with the MLR method of estimation on data specified as categorical, Mplus uses all information available in the dataset (i.e., full information maximum likelihood [FIML] estimation) (Kelloway, 2015), but residual covariances among categorical indicators—necessary relationships in the context of this study—are not permitted. In contrast, the WLSMV estimator is able to appropriately account for residual covariance among several of the categorical indicators; yet, it is limited by its use of the pairwise deletion approach to missing data.

In light of the challenges presented by Mplus' handling of missing data with the WLSMV estimator and MLR's approach to residual covariances among categorical indicators, I ultimately decided to treat all of the current project's categorical data as continuous while using the MLR estimator (maximum likelihood estimation with robust standard errors). This choice was further supported by issues related to the performance of categorical estimators in circumstances wherein the normality of underlying continuous variables cannot be assumed (see Rhemtulla, Brosseau-Liard, & Savalei, 2012, for an explanation of the population's role in shaping the plausibility of the normality assumption).

Structural Equation Modeling

Because the hypothesized model includes structural links among latent and measured variables, I used latent variable path analysis (LVPA) to determine how the aforementioned input and environment variables affect student-athletes' equanimity and subsequently, equanimity's role as a mediator between those variables and student-athletes' academic and psychological well-being. LVPA, conducted in two-phases—the measurement phase and the structural phase—allowed me to check for and make adjustments for any misspecifications in the measurement model prior to examining the data-model fit for the hypothesized relationships among the latent variables (Mueller & Hancock, 2008).

Upon evaluating the psychometric properties of each construct, I proceeded to the measurement phase of the latent variable path analysis. I first tested the data-model fit of a model in which all of the factors were allowed to covary. Upon testing the initial measurement model, I inspected the goodness of fit and modification indices to establish whether or not I should make adjustments to the measurement model. After I made any necessary re-specifications to the measurement model, I advanced to the structural phase of the LVPA, in which I added tests of the paths among the latent and observed variables.

Tests of Invariance for the Sex, Race/Ethnicity, and Sport Profile Groups

Across the body of research on intercollegiate athletes, outcomes vary according to one's sex, race/ethnicity, and sport type (e.g., Beamon, 2012; Bimper, 2014; Harrison et al., 2011, Harper et al., 2013; NCAA, 2013d; Routon & Walker, 2014; Sturm et al., 2011). Similar patterns also appear in research on college student equanimity (Bryant, 2007;

Gehrke, 2013), leaving no doubt as to the importance of testing for factorial and structural path invariance. To answer the third research question and determine whether or not the observed relationships are conditioned by student-athletes' sex, race/ethnicity, and sport profile group membership, I conducted a series of tests that made possible assessments of factorial and structural path invariance.

First, I evaluated the tenability of the measurement model separately for each group of athletes, making adjustments if necessary and theoretically warranted. Then, I tested the fit of the two groups' measurement models concurrently. Finally, I tested the differences between the groups' corresponding factor loadings, a process that required me to first constrain all of the loadings to be equal for both groups and then use Satorra-Bentler's (2010) "strictly positive" (Asparouhov & Muthén, 2010, p. 1) chi-square test to compare the restricted model to the one in which both groups were tested simultaneously. If the two models proved to be significantly different, I assessed the benefit of releasing each of the constraints by looking at the modification indices (Byrne, 2012). Parameters whose constraints warranted release were those that differed between the types of student-athlete (Byrne, 2012; Hancock, 2015).

With tests of factorial invariance complete, I then used multi-group SEM to test whether the hypothesized structural model was tenable separately for the sets of student-athletes. When doing so, I retained the measurement model that I tested in the first stage. Upon evaluating the structural model separately for the two groups, I then established whether or not the model fit for the student-athlete populations concurrently. Finally, as in

the measurement stage, I tested group differences among the direct and indirect relationships. By using the *MODEL TEST* in Mplus Version 7.31 (Muthén & Muthén, 1998-2012), I was able to examine the invariance of each of the direct and indirect paths using a Wald test, a simultaneous multiple hypothesis testing approach that eliminated the need for comparison of distinct restricted and unrestrained models. Statistically non-significant results were interpreted as confirmation of invariance, as the null hypothesis that the two groups' paths were equivalent could be rejected.

Addressing Potential Ethical Issues

Understanding both that the topic of spirituality has potential to be a sensitive subject for some individuals and that the intercollegiate student population is considered to be “non-traditional” or “special needs” (Hyatt, 2003, p. 263), I took several aims to address potential ethical issues in this study. Prior to conducting any data analysis, I sought approval from the North Carolina State University Institutional Review Board for the Protection of Human Subjects in Research (NCSU IRB). After an administrative review, the NCSU IRB approved the study.

Use of the HERI dataset removed ethical challenges related to confidentiality, since the data arrived scrubbed of individual and institutional identifiers (HERI, 2014). Nonetheless, I employed additional measures to protect the data. Because it is proprietary information, I stored the data on password-protected devices. All backup copies of the dataset were kept on external storage devices secured in my home. Finally, in accordance

with HERI data use policies, I will destroy the data upon the one-year expiration date, unless I obtain permission for extended use.

Limitations of the Study

Given the high number of athletic programs in the United States and the challenges associated with gaining access to this often-protected student population, a national survey of NCAA and NAIA student-athletes was not feasible for this study. Accordingly, the CSBV dataset, with its large number of college student-athlete respondents, provided the best alternative means of gathering information on the variables of interest. For this study, the sample consisted of 3,076 intercollegiate student-athletes from baccalaureate-granting institutions that participated in HERI's 2004-07 research on the spiritual development of college students.

Notwithstanding all of its advantages, the HERI dataset presented several areas of difficulty, all of which limit this study in some way. Principally, the present research lacks variables central to the intercollegiate sport experience. The dataset includes information on a wide range of environmental variables; yet, it does not include coach, teammate, or sport experience-specific items. Additionally, respondents were only asked to indicate if they participated in either "intercollegiate football or basketball" or "[an]other intercollegiate sport" since starting college (HERI, 2009, p. 20), thus inhibiting comparison of student-athletes across sport or team type beyond revenue/profile status. Further, HERI does not permit outside researchers to gain access to institutional identifiers (HERI, 2014), a restriction that prevented me not only from accounting for the nested structure of the data,

but also from determining if the modeled parameters differed across athletic conferences and divisions. The inability to account for these features of the intercollegiate athlete college experience is a definite limitation of the dataset. However, no other dataset explores the spirituality (i.e., equanimity) of student-athletes in such depth. Though admittedly not a perfect solution, my choice to assess whether the relationships in the model differed for high- and low-profile sport athletes was a way to account, on some level, for sport context.

Apart from the study's lack of sport-related variables, several other areas of potential difficulty should be noted, including the use of self-reported data. Self-reported measures are generally accepted as a useful means of gauging college outcomes (Gayles and Hu, 2009b; Pascarella, 2001). However, the possibility of participant-distorted responses presents clear threats to validity (Gravetter & Forzano, 2009; Porter, 2011). In this study, social desirability bias is a clear validity-threatening issue.

Because the HERI project asked student-athletes to report on their spirituality/religiosity, their participation in charitable activities, and their academic and psychological state, respondents may have overreported behaviors and attitudes that they perceived to be desirable (e.g., their GPA) and underreported items that they deemed socially stigmatizing or disadvantageous (e.g., the frequency with which they felt stress and anxiety) (Bowman & Hill, 2011). As the majority of student-athlete respondents were enrolled at religiously-affiliated institutions, answers to spirituality-related survey items may be particularly inflated. Additionally, the instruments did not provide a means through which to screen for respondents who incorrectly marked that they were college student-athletes. Since

intercollegiate athletes are a population with a measure of celebrity on some postsecondary campuses, some non-student-athletes may have considered participation in those sports to be socially desirable, prompting them to inaccurately indicate that they are an intercollegiate athlete.

Beyond the issues associated with social desirability bias, readers of this project must remain mindful of the limitations imposed by attrition and nonresponse bias (Sax, Gilmartin, & Bryant, 2003) as well as coverage error (Umbach, 2005). These data capture only the experiences and attitudes of those student-athletes who remained enrolled for at least three years at the institutions that (a) elected to participate in HERI's study of college student spirituality and (b) had at least a 30% response rate at (Astin et al., 2011a). Despite HERI's efforts to collect student data from a nationally-representative sample of institutions, the student-athletes who either did not respond at both administrations or did not even get an opportunity to respond likely differ from those individuals who did respond. As such, the results of this study should not be indiscriminately interpreted as representing the experiences of all U.S. intercollegiate athletes.

Additionally, two limitations of the study related to the categorization of student-athletes must be acknowledged. Due to the low number of racial/ethnic minority student-athlete respondents ($n = 446$), comparisons by race/ethnicity other than the limited "student-athlete of color" category were not feasible. Admittedly, this dichotomous grouping resulted in the loss of particular group nuances (Bryant, 2011). Moreover, responses from respondents who identified with a race/ethnicity other than White were fewer than what

would be expected, giving NCAA participant patterns. Student-athletes of color only comprised 14.64% of this study's sample; yet NCAA (n.d.-j) data show that one-fourth of student-athletes belonged to racial/ethnic minority groups around the time of the HERI study. Not included in the numbers for the present study or the multi-group analyses across race/ethnicity were the 30 individuals who did not mark any race/ethnicity category.

Finally, because most of the model's variables were assessed at the same point in time, causal claims cannot be made for the present study (see, for example, Antonakis, Bendahan, Jacquart, & Lalive, 2010; Astin et al., 2011b; Kelloway, 2015). Other than the three pre-college factors (*Pre-College Academic Well-Being*, *Pre-College Equanimity*, and *Pre-College Psychological Well-Being*), all of the model's measures were assessed at the end of student-athletes' third year of college. As such, one cannot say with absolute certainty that any of the college experience variables precede student-athletes' equanimity, or that equanimity precedes their academic and/or psychological well-being—a necessity for causality.

Chapter Summary

The present research was designed with the goal of providing meaningful insight into the development of equanimity for student-athletes and equanimity's influence on student-athletes' academic and psychological well-being. In this chapter, I detailed the study's methodology. Included were an explanation of the student-athlete sample and the HERI dataset, as well as the hypothesized model variables that were informed by Astin's (1993) I-E-O model and Chandler's (1992) Holistic Wellness Model. This chapter also provided

readers with a description of the way in which I addressed issues with the data and an overview of the two-stage latent variable path analysis that determined the answers to the three research questions. To conclude the chapter, I accounted for possible ethical dilemmas related to the study and discussed ways in which the study is limited.

CHAPTER FOUR: FINDINGS

Recognizing clear gaps in extant research both on college student-athletes and college student spirituality, this study was intended to provide a more holistic picture of the development of students who participate in intercollegiate athletics. Specifically, I used structural equation modeling (SEM) of data collected through the 2004-07 Higher Education Research Institute (HERI) study of college student spirituality to determine how pre-college variables and various college experiences are related to the development of equanimity for student-athletes and the subsequent way in which equanimity influences these individuals' academic and psychological well-being. To further explore differences that can be attributed to sport context, gender, and race, I ran separate analyses to test whether the observed paths differed for males and females, student-athletes of color and White student-athletes, and high- and low-profile sport participants (i.e., revenue sports and non-revenue sports, respectively).

Evaluation of the Factors' Psychometric Properties

Although the initial hypothesized model (see Figure 5) and the indicators for each of the latent constructs (see Appendix A) were based on previous research and theory (e.g., Astin, 1993; Astin et al., 2011b; Chandler et al., 1992), I used Stata 13 (StataCorp, 2013b) and Mplus Version 7.31 (Muthén & Muthén, 1998-2012) to assess the psychometric properties of each of the factors. Prior to this study, a number of the constructs had been subjected to tests of internal reliability using the overall HERI College Students' Beliefs and Values (CSBV) dataset (HERI, 2010). However, this study involved analyses of CSBV data

collected only from those students who indicated that they participate in intercollegiate athletics, warranting further evaluation of the reliability of the factors, item-factor relationships, and data-model fit.

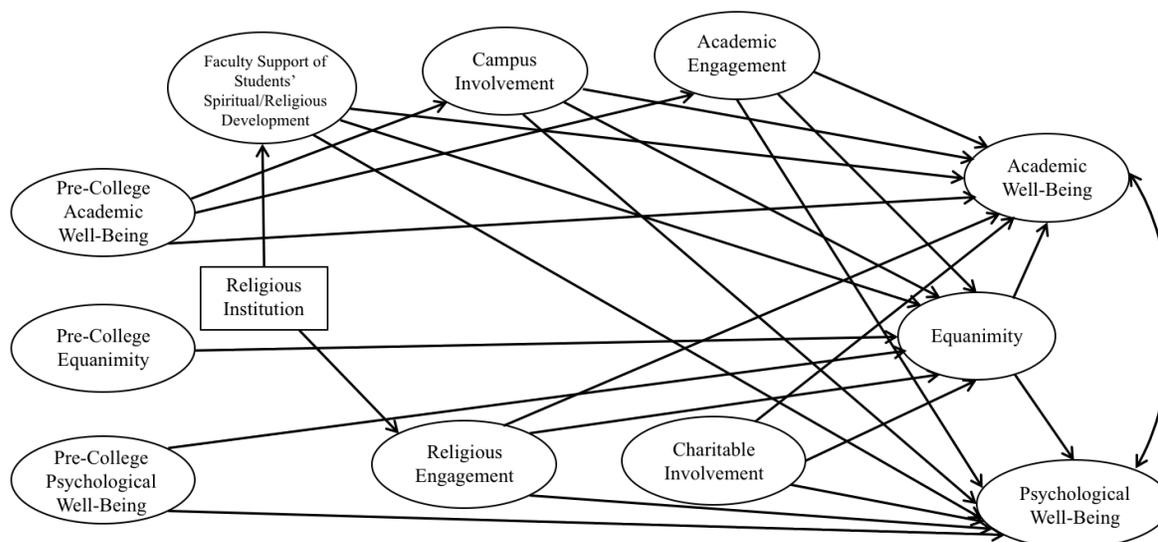


Figure 5. Hypothesized structural model. This figure illustrates the hypothesized paths among the variables of interest for this study.

Reliability of the factors. To assess the reliability of each of the eleven latent variables, I used Stata 13 (StataCorp, 2013b) to calculate Cronbach's alpha (α) values. When doing so, I accounted for features of the data and the item measures. All but one of the constructs (*Faculty Support of Students' Spiritual/Religious Development*) consisted of indicators on different scales. As such, I made adjustments in Stata 13 so that the calculations were based on the sum of standardized variables (StataCorp, 2013a).

Notably, the Cronbach's alpha coefficients for the student-athlete sample differed somewhat from the results of earlier research conducted using the entire CSBV dataset

(HERI, 2010). Although previous studies only provide values for four of the eleven latent variables, the disparity between student-athletes and non-athlete students on those four factors seem to provide additional evidence of intercollegiate athletes as a population distinct from their non-athlete peers. Table 2 provides a comparison of the alpha values.

Table 2

Comparison of Cronbach's Alpha Coefficients

Factor	Cronbach's α for Current Study	Cronbach's α Using Full CSBV Dataset (HERI, 2010)
<i>Pre-College Academic Well-Being</i>	0.67	*
<i>Pre-College Equanimity</i>	0.71	0.76
<i>Pre-College Psychological Well-Being</i>	0.68	*
<i>Faculty Support of Students' Spiritual/Religious Development</i>	0.84	*
<i>Campus Involvement</i>	0.47	*
<i>Academic Engagement</i>	0.38	*
<i>Religious Engagement</i>	0.91	0.88
<i>Charitable Involvement</i>	0.70	0.71
<i>Equanimity</i>	0.69	0.72
<i>Academic Well-Being</i>	0.67	*
<i>Psychological Well-Being</i>	0.70	*

* Not available

Utilizing George and Mallery's (2011) guidelines for interpreting the coefficients, I was able to assess the internal consistency of each construct in the present student-athlete study. Their standards are as follows:

- $\alpha > .9$ – Excellent
- $\alpha > .8$ – Good
- $\alpha > .7$ – Acceptable
- $\alpha > .6$ – Questionable
- $\alpha > .5$ – Poor
- $\alpha < .5$ – Unacceptable (p. 231)

Evaluated according to those criteria, one factor, *Religious Engagement* ($\alpha = .91$), was “excellent.” *Faculty Support of Students' Spiritual/Religious Development* ($\alpha = .84$) rated as “good,” and three latent variables, *Pre-College Equanimity* ($\alpha = .71$), *Charitable Involvement* ($\alpha = .70$), and *Psychological Well-Being* ($\alpha = .70$) met the benchmark for “acceptable.” *Pre-College Academic Well-Being* ($\alpha = .67$), *Pre-College Psychological Well-Being* ($\alpha = .68$), *Equanimity* ($\alpha = .69$), and *Academic Well-Being* ($\alpha = .67$), although slightly below the “acceptable” standard, consist of indicators paralleling those used for comparable constructs in other higher education studies (e.g., Astin et al., 2011b; HERI, 2010; Park & Millora, 2010).

In contrast to the other factors, problems with the hypothesized *Campus Involvement* ($\alpha = .47$) and *Academic Engagement* ($\alpha = .38$) constructs were readily apparent. Based on their alpha coefficients, neither is reliable. Further inspection of each item in both factors revealed that the constructs would remain well below George and Mallery’s (2011) .70 “acceptable” value even if items were to be removed. For those reasons, and to avoid reducing either aspect of the student-athletes’ college experience to a single item (e.g., the number of hours that they spend in student clubs/groups in a typical week and the number of hours that they spend studying or doing homework in a typical week), I created two

summative indices: *Campus Involvement* and *Academic Engagement*. When doing so, I converted the responses from each item to z scores before adding them together, thus accounting for the different scales of the items comprising each index (Meier, Brudney, & Bohte, 2009). I then divided each summed value by the total number of items in each index (Rockenbach & Mayhew, 2013, 2014).

Item-factor relationships. So that I could better explore the relationships among the items, I ran factor analysis in Stata 13 (StataCorp, 2013b), specifying that the principal-component factor (PCF) method be used to analyze the correlation matrix. Appendix B details the factor loadings for the eleven latent variables in the model as initially hypothesized. For all factors in the revised model (see Figure 6), all of the individual items have loadings above .40, revealing them to be good indicators of their respective latent variables (Acock, 2012).

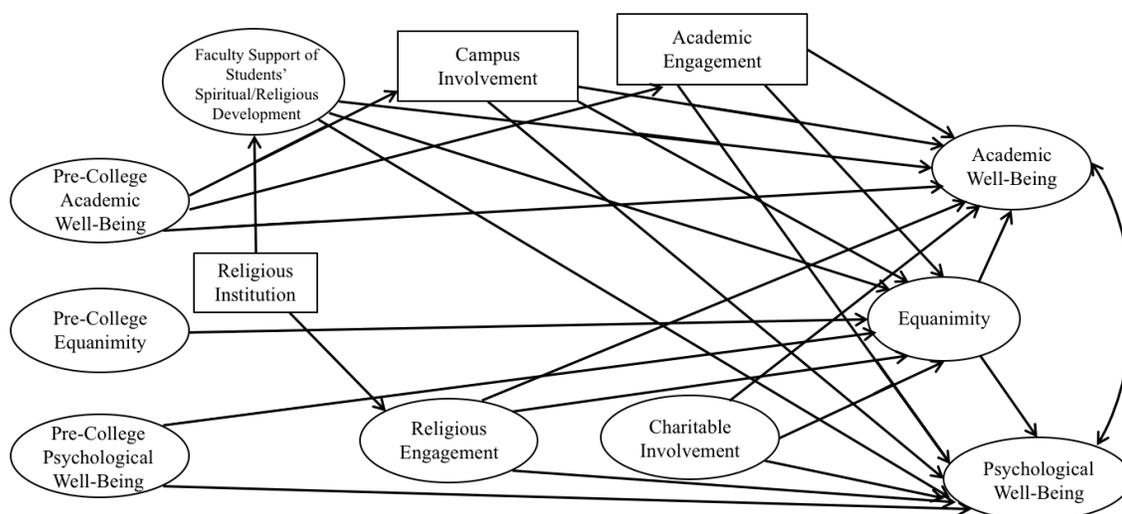


Figure 6. Revised hypothesized structural model. This figure illustrates the hypothesized paths among the variables of interest for this study *after* the creation of the *Campus Involvement* and *Academic Engagement* indices.

Confirmatory factor analyses. When executing CFA with the MLR estimator, Mplus generates a number of fit indices, including chi-square test of model fit (see Table 3 below for an overview of the final fit indices for each latent variable). A test of “model misspecification” (Weston & Gore, 2006, p. 741), the chi-square test of model fit (χ^2), when statistically significant, provides evidence that the model does not fit the data exactly. Large sample sizes typically produce chi-square values that are statistically significant (Schumacker & Lomax, 2004; Weston & Gore, 2006), an effect that occurs once the sample size reaches 200 (Schumacker & Lomax, 2004). For that reason, all chi-square values for this study were expected to be statistically significant.

Given the sample size of this study with its barrier to a suitable chi-square evaluation of model fit, I also examined the root mean square error of approximation (RMSEA), standardized root mean squared residual (SRMR), comparative fit index (CFI), and Tucker-Lewis Index (TLI). Accounting for the complexity of a model when providing evidence of model fit (Weston & Gore, 2006), lower values of RMSEA and SRMR denote better fit (Byrne, 2012). Measures of “absolute” fit (Byrne, 2012, p. 72), both RMSEA and SRMR depict only the degree to which the hypothesized model fits the sample data (Byrne, 2012). Hu and Bentler (1999) recommend utilizing the combined standard of SRMR \leq .09 or .10 and RMSEA \leq .06 in assessments of model fit.

In contrast to RMSEA and SRMR, values closer to 1.00 for CFI and TLI represent better “incremental” fit (Hancock, 2015, p. 102). An evaluation based on comparison of the model to a baseline—often null—model (Hancock, 2015), numbers between .95 and 1.00 are

ideal for CFI and TLI (Hu & Bentler, 1999); however, values above .90 are “generally acceptable” (Rockenbach, Hudson, Tuchmayer, 2014, p. 326).

Table 3

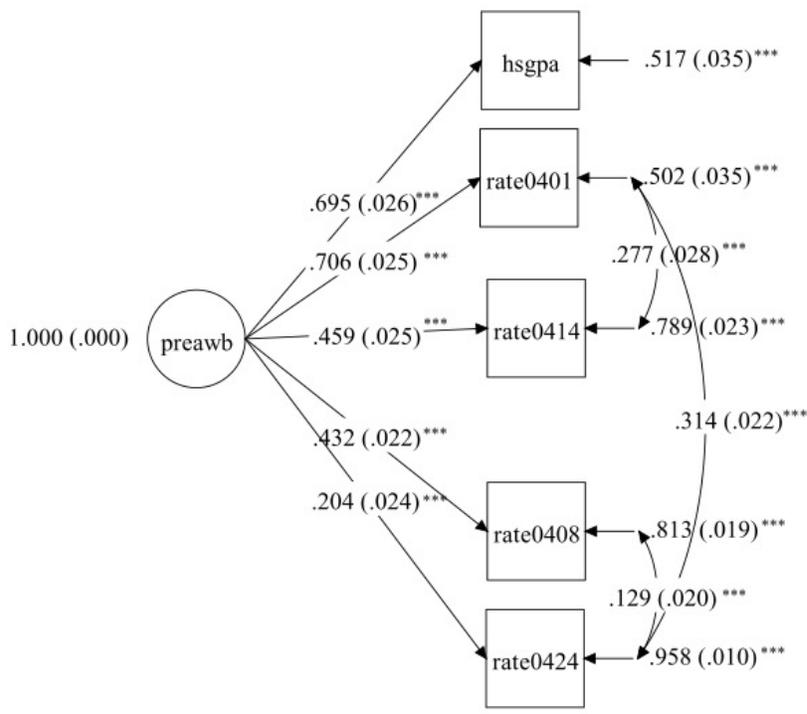
Final Fit Indices for Each Factor in the Final Model

Factor	α	χ^2	<i>df</i>	RMSEA	90% CI	SRMR	CFI	TLI
<i>Pre-College Academic Well-Being</i>	0.67	16.67	2	0.05	0.03, 0.07	0.02	0.99	0.97
<i>Pre-College Equanimity</i>	0.71	23.34	3	0.05	0.03, 0.07	0.01	0.99	0.97
<i>Pre-College Psychological Well-Being</i>	0.68	11.62	1	0.06	0.03, 0.09	0.01	0.99	0.96
<i>Faculty Support of Students' Spiritual/Religious Development</i>	0.84	50.24	6	0.05	0.04, 0.06	0.01	0.99	0.98
<i>Religious Engagement</i>	0.90	279.11	22	0.06	0.55, 0.68	0.02	0.98	0.97
<i>Charitable Involvement</i>	0.72	94.78	13	0.05	0.04, 0.05	0.03	0.97	0.96
<i>Equanimity</i>	0.70	3.99	2	0.02	0.00, 0.04	0.01	1.00	1.00
<i>Academic Well-Being</i>	0.67	32.97	3	0.06	0.04, 0.08	0.02	0.99	0.96
<i>Psychological Well-Being</i>	0.71	6.82	1	0.04	0.02, 0.08	0.01	1.00	0.99

Pre-college academic well-being. As originally conceptualized, *Pre-College Academic Well-Being* did not meet all of the standards for data-model fit. The Mplus output revealed several modification indices, reflecting adjustments to the model that would result in a significant decrease in a model’s chi-square fit index. When making changes to the model, I did so one at a time, subsequently re-running the model since any alterations to the model might also transform the parameters and earlier modification indices (Newsom, 2015).

In total, I made three modifications to the model, each of which was based on research on models of self-concept (e.g., Byrne, 2002; Shavelson, Hubner, & Stanton, 1976).

The final model for *Pre-College Academic Well-Being* with completely standardized coefficients and standard errors is depicted in Figure 7. The modifications improved model fit such that the indices met standards for good data-model fit. The RMSEA (.05, with a 90% confidence interval of .03, .07) and SRMR (.02) both met Hu and Bentler's (1999) collective standard of $SRMR \leq .09$ or $.10$ and $RMSEA \leq .06$. In addition, the CFI and TLI values exceeded Hu and Bentler's (1999) .95 benchmark (.99 and .97, respectively). As expected with such a large analytic sample ($n = 3,076$) (Schumacker & Lomax, 2004; Weston & Gore, 2006), the chi-square test of model fit remained statistically significant, $\chi^2(2) = 16.67, p < .001$.

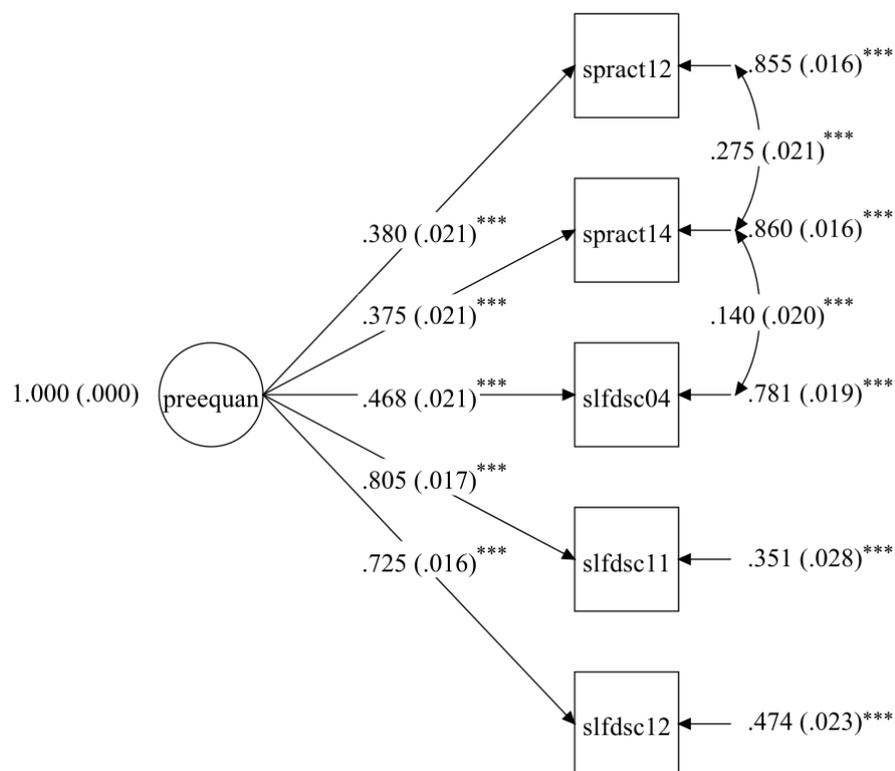


*** $p < .001$

Figure 7. Final model for the *Pre-College Academic Well-Being* factor. This figure illustrates the model and standardized coefficients including standard errors.

Pre-college equanimity. Fit indices for *Pre-College Equanimity*, a construct initially conceptualized as being comprised of five indicators with uncorrelated residuals, met only the $SRMR \leq .09$ standard for data-model fit ($SRMR = .05$). Initial model modification indices indicated that covariance among the residuals of multiple indicators would improve model fit. After assessing which adjustments would most improve fit, I made two changes to the model (see Figure 8 for the final model with completely standardized coefficients and standard errors).

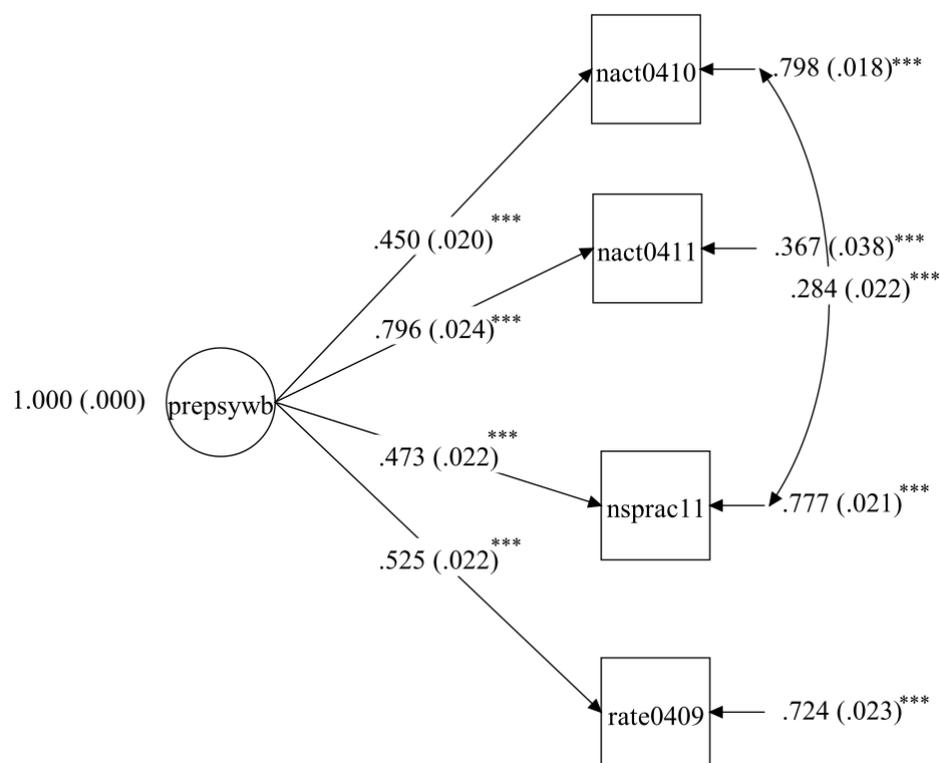
Other than the chi-square test of model fit, $\chi^2(3) = 23.34, p < .001$, all indicators of good model fit met recommended standards. CFI and TLI both surpassed .95 (.99 and .97, respectively). Additionally, the SRMR (.01) and RMSEA (.05, with a 90% confidence interval of .03, .07) fell below Hu and Bentler's (1999) $SRMR \leq .09$ or $.10$ and $RMSEA \leq .06$ "joint criteria" (Mueller & Hancock, 2008, p. 497).



*** $p < .001$

Figure 8. Final model for the Pre-College Equanimity factor. This figure illustrates the model and standardized coefficients including standard errors.

Pre-college psychological well-being. Initial analysis of the *Pre-College Psychological Well-Being* construct evinced the need for modifications in the form of residual covariances. Modification indices indicated that model fit would be improved by the addition of covariance between the residuals of the frequency with which student-athletes felt that their life was “filled with stress and anxiety” over the previous year (*nsprac11*) and the frequency with which they felt overwhelmed during the previous year by all that they had to do (*nact0410*). As that change aligned with research on the psychological outcomes of stressors for student-athletes (e.g., NCAA, n.d.-d), I adjusted the model (see Figure 9 for the final model for *Pre-College Psychological Well-Being*, including the completely standardized coefficients and standard errors). The modification produced evidence of good data-model fit: RMSEA = .06, with a 90% confidence rate of .03, .09; CFI = .99; TLI = .96; SRMR = .01. As expected, the chi-square test of model fit, $\chi^2(1) = 11.62, p < .001$, was statistically significant.

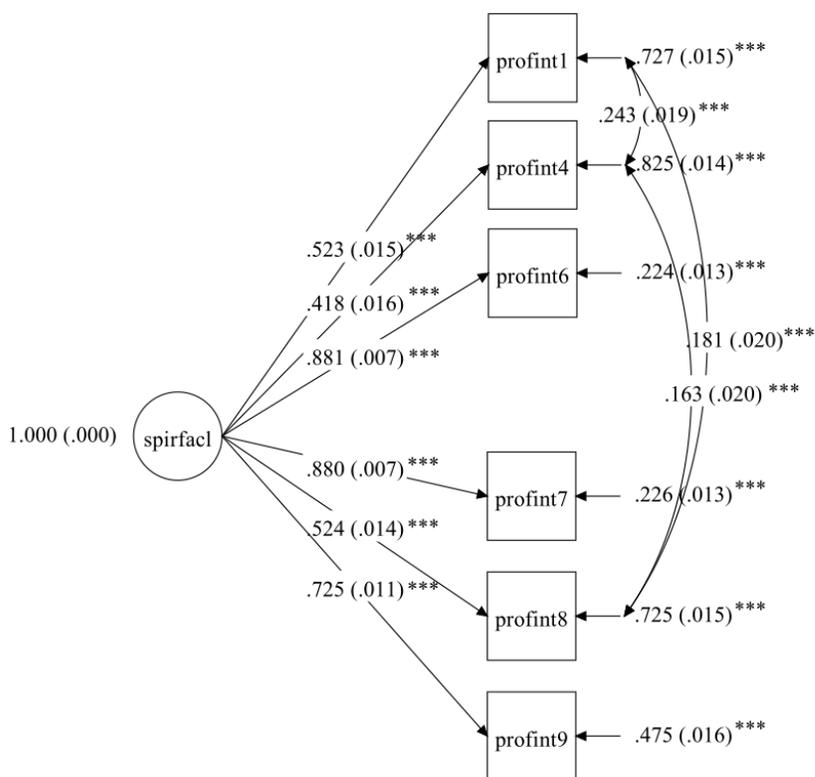


*** $p < .001$

Figure 9. Final model for the *Pre-College Psychological Well-Being* factor. This figure illustrates the model and standardized coefficients including standard errors.

Faculty support of students' spiritual/religious development. *Faculty Support of Students' Spiritual/Religious Development*, a factor comprised of six indicators of student-athletes' experiences with their professors, approached but did not reach the standards for good data-model fit. Upon examining the recommended modifications and considering their alignment with extant research on the role of faculty in college students' spiritual development (e.g, Astin et al., 2011b; Bowman & Small, 2010; Small & Bowman, 2012), I added three residual covariance arrows to the model. Other than the anticipated statistically

significant chi-square index, $\chi^2(6) = 50.24, p < .001$, all measures of fit for the final model reached appropriate levels: RMSEA = .05, 90% confidence interval .04, .06; CFI = .99; TLI = .98; SRMR = .01. The construct's final model, including the completely standardized coefficients and standard errors, is illustrated in Figure 10.

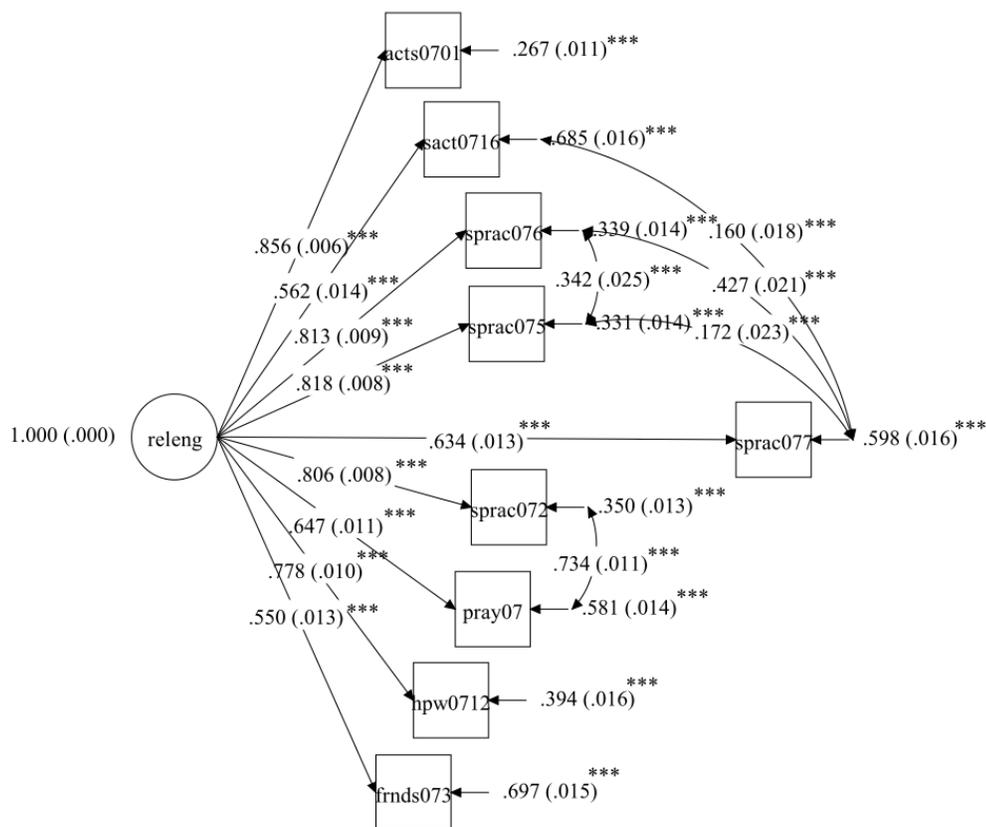


*** $p < .001$

Figure 10. Final model for the Faculty Support of Students' Spiritual/Religious Development factor. This figure illustrates the model and standardized coefficients including standard errors.

Religious engagement. CFA of Religious Engagement revealed preliminary discrepancies between the relationships depicted in the model and those that exist in the data.

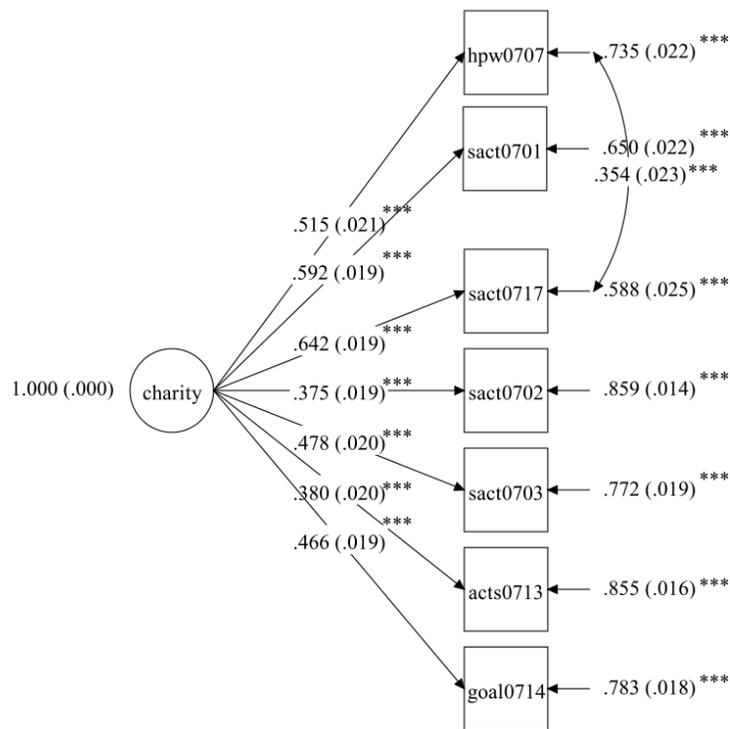
Consequently, I made a series of modifications to the model, each of which was suggested in the output. The resulting model, with its five residual covariances, demonstrated good data-model fit apart from a statistically significant chi-square value: RMSEA = .06, with a 90% confidence interval of .06, .07; CFI = .98; TLI = .97; SRMR = .02. See Figure 11 for the model for *Religious Engagement*, including the completely standardized coefficients and standard errors.



*** $p < .001$

Figure 11. Final model for the *Religious Engagement* factor. This figure illustrates the model and standardized coefficients including standard errors.

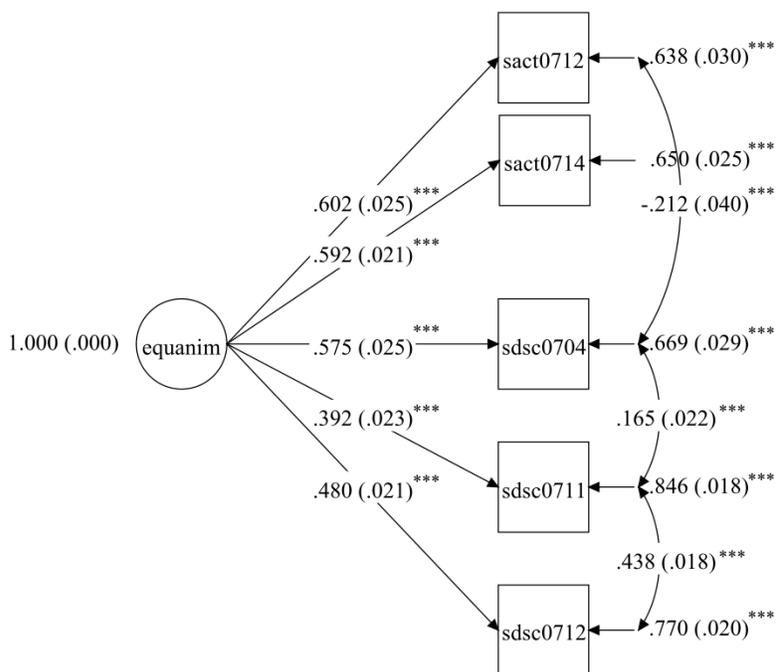
Charitable involvement. Inspection of the fit indices for *Charitable Involvement* revealed that the model and the student-athlete data approached but did not reach good fit. As recommended in the modification indices output, I added a covariance arrow between the error terms of the frequency with which the student-athletes had volunteered (*sact0717*) and the average time per week that they spent volunteering (*hpw0707*). Doing so enhanced the model such that all fit indices except the chi-square index exhibited good model fit: RMSEA = .05, with a 90% confidence interval of .04, .05; CFI = .97; TLI = .96; SRMR = .03. Below, Figure 12 depicts the factor’s model and standardized coefficients, including standard errors.



*** $p < .001$

Figure 12. Final model for the *Charitable Involvement* factor. This figure illustrates the model and standardized coefficients including standard errors.

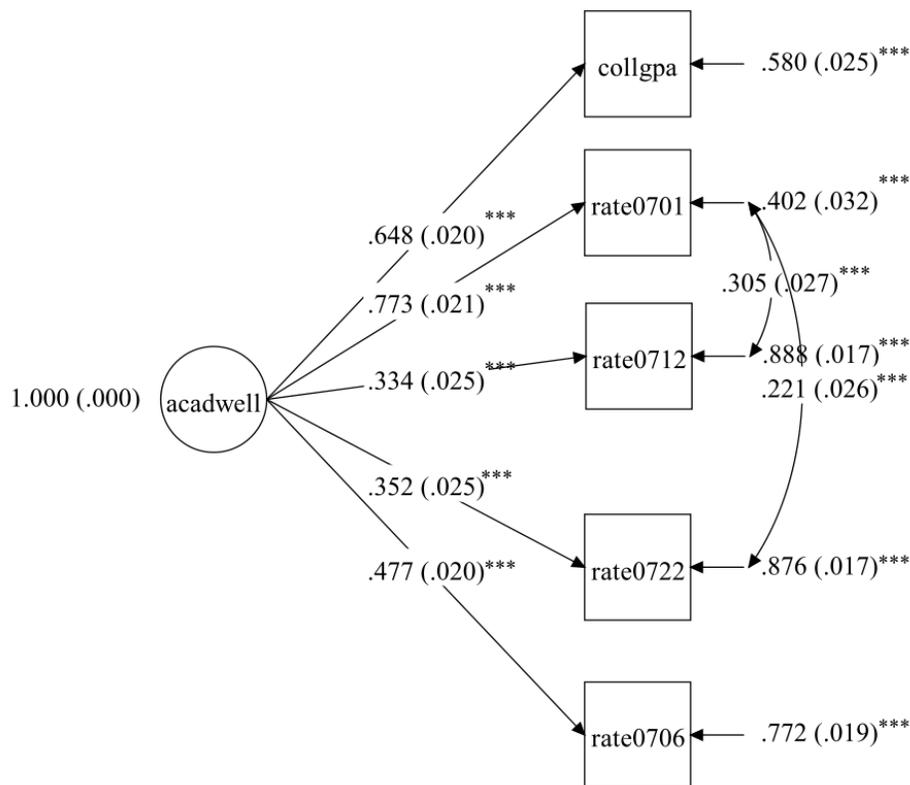
Equanimity. As was the case with the pre-college equanimity factor, the fit indices for *Equanimity*, a latent variable consisting of five indicators with independent error terms, indicated inadequate data-model fit. Upon assessing the modifications that would yield the greatest amount of change to the chi-square index as well as the reasonability of each modification, I added three residual covariance arrows to the model. The new model exhibited excellent data-model fit. All fit indices met Hu and Bentler's (1999) criteria for acceptable fit: $\chi^2(2) = 3.99, p > .05$; RMSEA = .02, with a 90% confidence interval of .00, .04; CFI = 1.00; TLI = 1.00; SRMR = .01. The model and standardized coefficients, along with the standard errors, are illustrated in Figure 13 below.



*** $p < .001$

Figure 13. Final model for the *Equanimity* factor. This figure illustrates the model and standardized coefficients including standard errors.

Academic well-being. CFA of *Academic Well-Being*, a factor comprised of student-athletes' GPA, along with their self-rated drive to achieve and academic, mathematics, and writing ability, revealed that the construct approached but did not achieve good data-model fit. Thus, I opted to include the suggested covariance arrows between (a) student-athletes' self-rated academic ability (*rate0701*) and their self-rated mathematical ability (*rate0712*) and (b) student-athletes' self-rated academic ability (*rate0701*) and their self-rated writing ability (*rate0722*). These theory-justified adjustments were similar to those made for the *Pre-College Academic Well-Being* factor (e.g., Byrne, 2002; Shavelson, Hubner, & Stanton, 1976), and they yielded indicators of good model fit: RMSEA = .06, with a 90% confidence interval of .04, .08; CFI = .99; TLI = .96; and SRMR = .02. As expected with the large analytic sample size ($n = 3,076$), the chi-square index was statistically significant, $\chi^2(3) = 32.97, p < .001$. See Figure 14 below for the final model, standardized coefficients, and standard errors.



*** $p < .001$

Figure 14. Final model for the *Academic Well-Being* factor. This figure illustrates the model and standardized coefficients including standard errors.

Psychological well-being. Initial confirmatory factor analysis of *Psychological Well-Being* revealed that the model did not meet established standards for suitable data-model fit. After considering the Mplus-generated modification indices in light of scholarship on the psychological outcomes of stressors for student-athletes (e.g., NCAA, n.d.-d), I allowed the error term for the frequency with which student-athletes “felt that [their] life is filled with stress and anxiety” since starting college (*nsac0711*) to covary with that of the frequency with which they “felt overwhelmed by all [they] had to do” since starting college (*nact0708*).

This adjustment to the model substantially enhanced its fit. The CFI (1.00) and TLI (.98) both increased to values in excess of .95, and the RMSEA decreased to .04, with a 90% confidence interval of .02, .08. The SRMR, while already indicative of good model fit, decreased to .01. The chi-square test of model fit also improved, but it remained statistically significant, $\chi^2(1) = 6.82, p < .01$. The final model, completely standardized coefficients, and standard errors are portrayed in Figure 15.

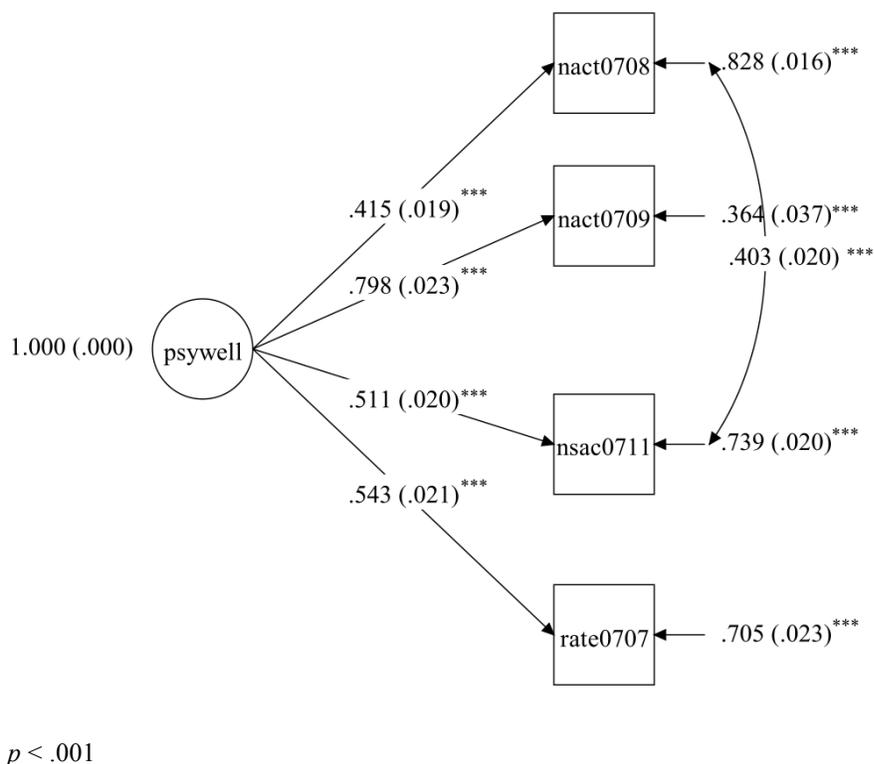


Figure 15. Final model for the Psychological Well-Being factor. This figure illustrates the model and standardized coefficients including standard errors.

Structural Equation Modeling of the Composite Model

In order to assess the hypothesized model in its entirety, I utilized latent variable path analysis (LVPA), a two-step analytical method that allowed me to evaluate the full

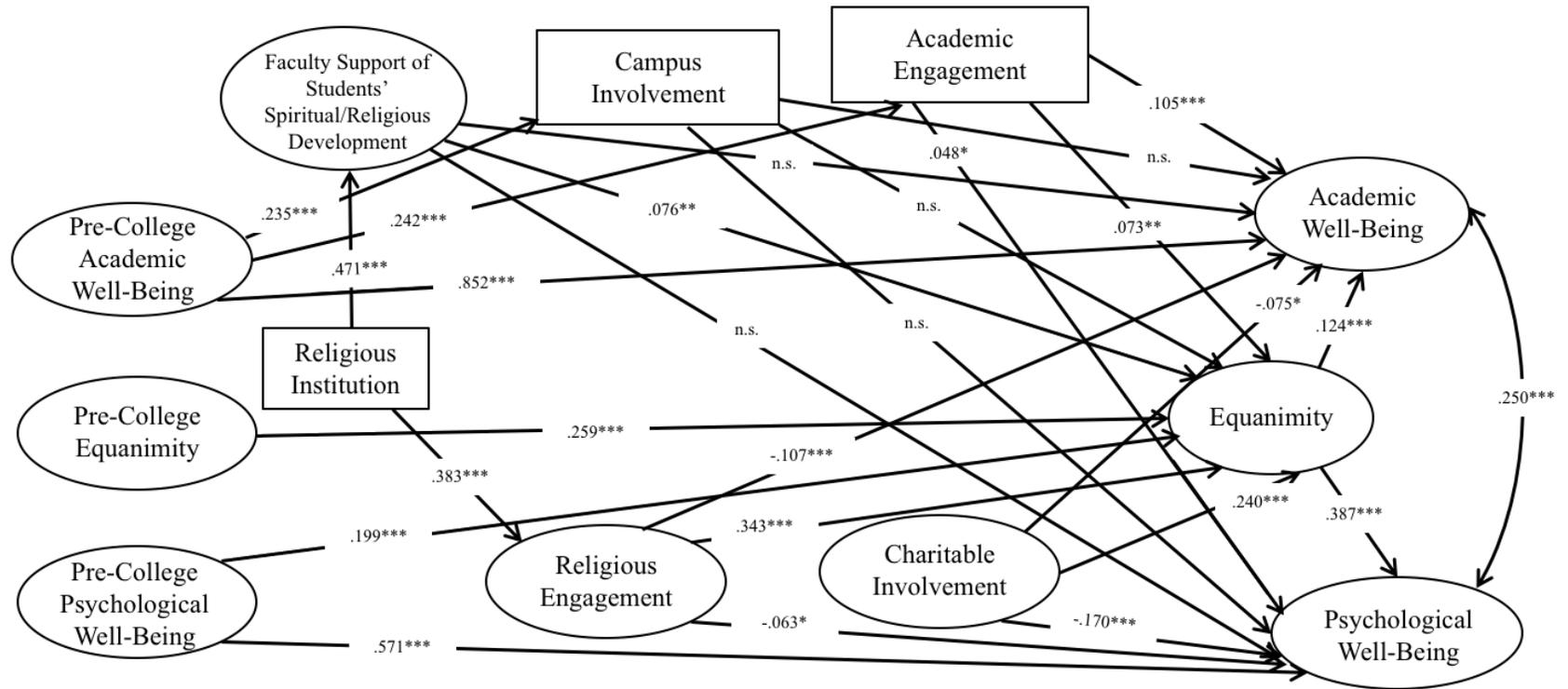
measurement model and its data-model fit before considering the relationships among the latent variables. Although I could have readily analyzed the complete proposed model in one step, doing so would have prevented me from being able to determine the cause of poor fit, had fit indices showed such. For this reason, and because the fit of the full model is influenced so heavily by the measurement model (Kelloway, 2015), I elected to employ LVPA with its additional step.

Measurement phase. When testing the measurement model, I entered all of the indicators and the covariances between error terms detailed above. As with each of the CFA procedures, I employed the MLR estimator and treated all data as continuous. Per the default for this type of analysis in Mplus Version 7.31 (Muthén & Muthén, 1998-2012), all of the factors were allowed to covary, and the factor loading of the first indicator in each construct was fixed to one. Like each CFA, I examined fully standardized coefficients that used the variances of the latent, background, and outcome variables (Muthén & Muthén, 1998-2012; Wang & Wang, 2012). Doing so accounted for the different scales of each construct's measures.

Based on Hu and Bentler's (1999) $SRMR \leq .09$ or $.10$ and $RMSEA \leq .06$ "joint criteria" (Mueller & Hancock, 2008, p. 497) for adequate data-model fit, the measurement model demonstrated satisfactory fit. Both the RMSEA (.05, with a 90% confidence interval of .047, .049) and the SRMR (.06) were well below their respective cutoff values. The other three fit indices—chi-square test of model fit, CFI, and TLI—differed from established standards; however, the values were expected and not indicative of poor fit. The statistically

significant chi-square value, $\chi^2(1118) = 9103.12, p < .001$, was doubtless tied to the large sample ($n = 3,076$) (Schumacker & Lomax, 2004; Weston & Gore, 2006). The low CFI and TLI values (.85 and .84, respectively) were likely attributable to the high number of variables included in the model (Kenny & McCoach, 2003). In addition, the measurement model had a null model RMSEA below .158 (null RMSEA = .120), thus eliminating the suitability of the CFI and TLI as incremental measures of fit (Kenny, 2014).

Structural phase. With the measurement model RMSEA and SRMR exhibiting good model fit, I conducted the second phase of the LVPA analysis, which included modeling the relationships among latent variables. As with the measurement model, the structural model combined values of RMSEA and SRMR reflected appropriate data-model fit (RMSEA = .05, with a 90% confidence interval of .050, .052; SRMR = .09). Similar to the measurement model, the chi-square index was statistically significant, $\chi^2(1275) = 11569.19, p < .001$, an expected result given the sample size ($n = 3,076$) (Schumacker & Lomax, 2004; Weston & Gore, 2006). The CFI and TLI values were also below-standard (CFI = .82; TLI = .80); these results were anticipated as well, since the number of variables was high and the null model RMSEA was below .158 (null RMSEA = .051) (Kenny, 2014; Kenny & McCoach, 2003). Appendix C displays all completely standardized direct, indirect, and total effects. See Figure 16 for the model and all statistically significant standardized direct path coefficients.



* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 16. Statistically significant standardized path coefficients. This figure illustrates the model and all statistically significant standardized path coefficients.

Model adjustments. Although the LVPA produced evidence of good data-model fit, two of the direct paths had signs that contradicted the relationships presented in the estimated latent variable correlation matrix. Specifically, *Religious Engagement* appeared to have a negative direct relationship with student-athletes' *Psychological Well-Being* ($\beta = -.063, p < .05$), and *Charitable Involvement* emerged as having a negative direct association with their *Academic Well-Being* ($\beta = -.075, p < .05$). Because the correlation matrix showed both sets of factors as being positively related, I used regression techniques to determine whether or not the two inconsistent relationships could be attributed to suppressor effects. After sequentially entering each of the model's predictors into OLS regressions and noting the point at which the problematic coefficients' sign changed, I found that several of the independent variables appeared to distort the coefficients in some way.

In light of the suppressor effects (Maassen & Bakker, 2001) and due to the way in which SEM favors model parsimony (Kline, 2016), adjustments to the model were merited. Thus, I elected to eliminate the *Religious Engagement* construct for the sake of retaining the *Charitable Involvement* and *Faculty Support of Students' Spiritual/Religious Development* factors. Although student-athletes perhaps take part in religious activities, current research underscores the prevalence of charity-related activities for these individuals (NCAA, 2014). For a large number of student-athletes, community service is mandatory (NCAA, 2014, 2016). Further, faculty engagement has clear meaning for student-athletes' psychological and academic well-being (e.g., Comeaux, 2011b; Engstrom et al., 1995; Gayles & Hu, 2009b; Simons et al., 2007). I further simplified the model by removing the *Campus*

Involvement index, as student-athletes are not common participants in student groups and organizations (Gayles & Hu, 2009a)—the type of experiences captured by the measure. The revised structural model is depicted in Figure 17.

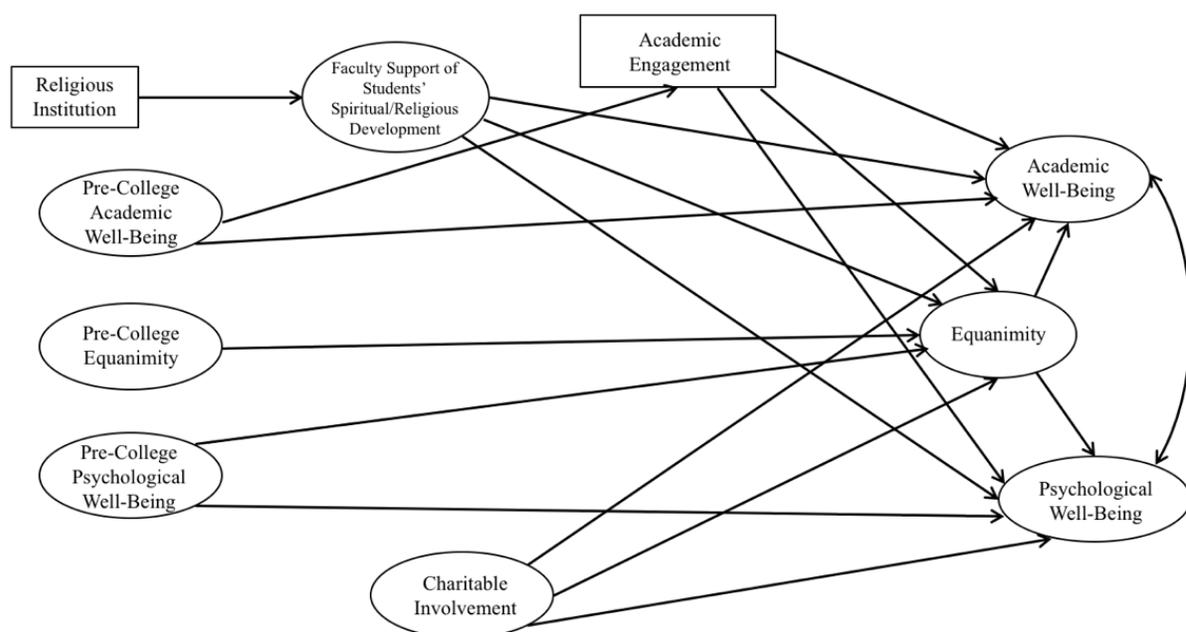


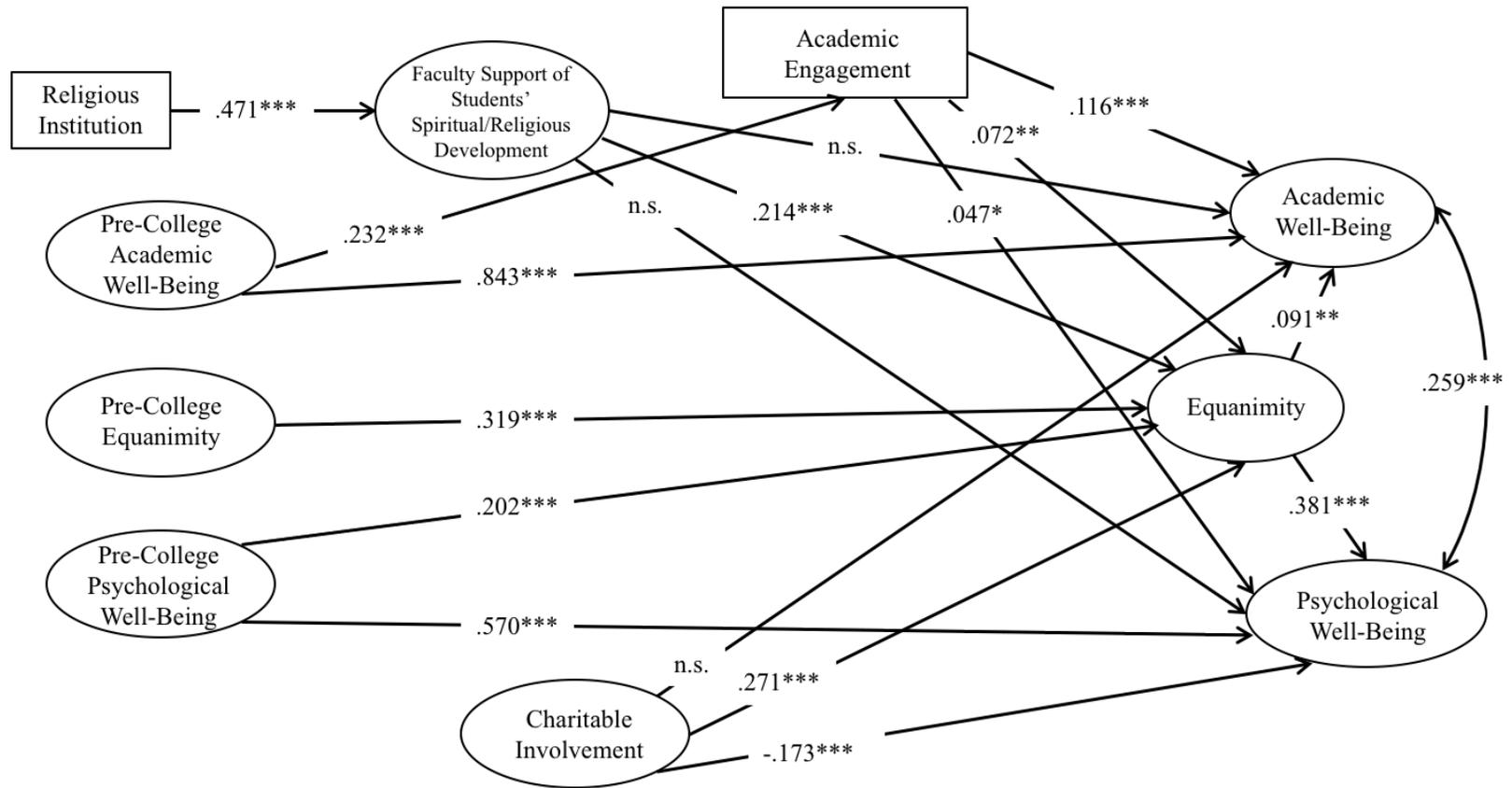
Figure 17. Revised Structural Model. This figure illustrates the more parsimonious model, adjusted to account for the existence of suppressor effects.

The revised, parsimonious model demonstrated good data-model fit in both the measurement and the structural phases of the LVPA. The composite model met Hu and Bentler's (1999) "joint criteria" (Mueller & Hancock, 2008, p. 497) for data-model fit with a RMSEA of .05 (90% confidence interval of .053, .055) and a SRMR of .07. As in analyses of the initial model, the statistically significant chi-square value, $\chi^2(822) = 8121.427, p < .001$, and low CFI and TLI values (CFI = .79; TLI = .77) were all expected. See Figure 18

for the revised model and all statistically significant standardized direct path coefficients.

Table 4 provides an overview of the completely standardized direct, indirect, and total effects of predictors on *Equanimity*, *Academic Well-Being*, and *Psychological Well-Being*.

Appendix D displays all completely standardized direct, indirect, and total effects for the entire revised model.



* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 18. Statistically significant standardized path coefficients for the revised model. This figure illustrates the revised, parsimonious model, along with all statistically significant standardized path coefficients.

Table 4

Table of Completely Standardized Direct, Indirect, and Total Effects of Predictors on Equanimity, Academic Well-Being, and Psychological Well-Being

Structural Path	Direct Effects	Total Indirect Effects	Total Effects
<i>Pre-College Academic Well-Being →</i>			
<i>Equanimity</i>	--	.017**	.017**
<i>Academic Well-Being</i>	.843***	.028***	.871***
<i>Psychological Well-Being</i>	--	.017**	.017**
<i>Pre-College Equanimity →</i>			
<i>Equanimity</i>	.319***	--	.319***
<i>Academic Well-Being</i>	--	.029**	.029**
<i>Psychological Well-Being</i>	--	.122***	.122***
<i>Pre-College Psychological Well-Being →</i>			
<i>Equanimity</i>	.202***	--	.202***
<i>Academic Well-Being</i>	--	.018**	.018**
<i>Psychological Well-Being</i>	.570***	.077***	.647***
<i>Faculty Support of Students' Spiritual/Religious Development →</i>			
<i>Equanimity</i>	.214***	--	.214***
<i>Academic Well-Being</i>	-.004	.019**	.016
<i>Psychological Well-Being</i>	-.032	.082***	.050*
<i>Academic Engagement →</i>			
<i>Equanimity</i>	.072**	--	.072***
<i>Academic Well-Being</i>	.116***	.007*	.122***
<i>Psychological Well-Being</i>	.047*	.028**	.075***
<i>Charitable Involvement →</i>			
<i>Equanimity</i>	.271***	--	.271***
<i>Academic Well-Being</i>	-.025	.025**	-.001
<i>Psychological Well-Being</i>	-.173***	.103***	-.070*
<i>Equanimity →</i>			
<i>Academic Well-Being</i>	.091**	--	.091***
<i>Psychological Well-Being</i>	.381***	--	.381***
<i>Religious Institution →</i>			
<i>Equanimity</i>	--	.101***	.101***
<i>Academic Well-Being</i>	--	.007	.007
<i>Psychological Well-Being</i>	--	.023*	.023*

* $p < .05$; ** $p < .01$; *** $p < .001$

The Influence of Input and Environment Variables on Equanimity

Collectively, the results of analyses on the revised model support Astin's (1993) I-E-O Model. Looking solely at the pre-college variables, it becomes readily clear that these characteristics help determine the level of equanimity that student-athletes exhibit three years after starting college. Not surprisingly, pre-college equanimity is the strongest predictor of student-athletes' equanimity after their junior year ($\beta = .319, p < .001$), a relationship evincing the advantage that student-athletes with higher levels of equanimity at the outset of college have over their peers in this aspect of development. Pre-college psychological well-being is also directly related to the sense of equanimity that student-athletes have after being in college for three years ($\beta = .202, p < .001$). As such, student-athletes who enter college having to navigate threats to their mental health will also experience less growth in equanimity throughout their time in college.

Pre-college academic well-being differs from the other college-entry measures in that while it was not hypothesized to have a direct relationship with equanimity, it does have a statistically significant indirect influence on the factor. Via engagement in academic activities (e.g., time spent doing homework/studying, *not* being bored in class, *not* coming late to class), pre-college academic well-being is positively related to the sense of equanimity that student-athletes have after three years ($\beta = .017, p < .01$). Although extant research primarily highlights the positive relationship between student-athletes' pre-college academic preparation/performance and their collegiate academic success (e.g., Comeaux, 2005; Hildenbrand et al., 2009; Sellers, 1992), the current finding reveals that student-athletes' pre-

college academic well-being also has meaning for non-cognitive, spirituality variables such as equanimity.

Three specific types of college experience were expected to have a direct influence on student-athletes' equanimity—*Faculty Support of Students' Spiritual/Religious Development*, *Charitable Involvement*, and *Academic Engagement*. Notably, all three directly contribute to student-athletes' equanimity development, with participation in efforts related to charity playing the greatest role ($\beta = .271, p < .001$). Given the high priority that many athletic departments and intercollegiate athletics governing bodies place on student-athletes' engagement in community service and charitable deeds (e.g., Bernero, 2013; NCAA, 2014), this finding is striking. Also interesting is the way in which faculty members' support of students' spiritual/religious development bolsters student-athletes' equanimity. Although religiously-affiliated institutions provide a context wherein student-athletes are more exposed to faculty members who support this aspect of their students' development ($\beta = .471, p < .001$), this type of faculty engagement directly fosters gains in equanimity for intercollegiate athletes, even after controlling for institutional religious affiliation ($\beta = .214, p < .001$). Of the three college environment variables, engagement in academic efforts has less of a direct relationship with student-athletes' equanimity ($\beta = .072, p < .01$); yet, this finding reinforces, in new ways, the value of student-athletes' engagement in academically-purposeful activities.

Equanimity as a Mediator

Paralleling the relationships observed in Astin et al.'s (2011b) study of college students generally, the study revealed that student-athletes' equanimity is positively related to

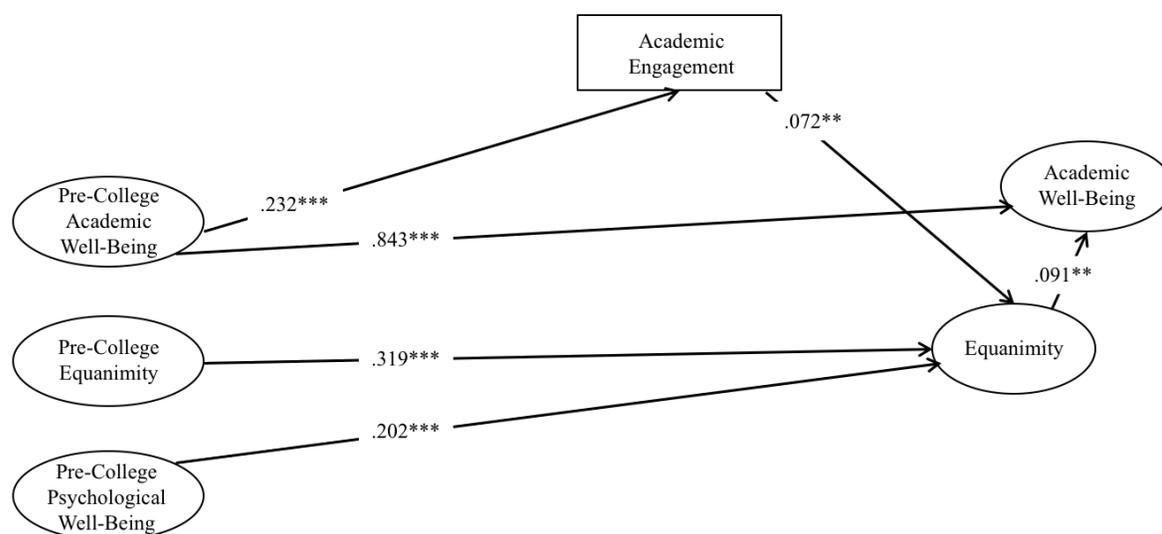
their academic and psychological well-being ($\beta = .091, p < .01$ and $\beta = .381, p < .001$, respectively). Of particular interest for this study, the analyses also afforded insight into the extent to which equanimity mediates the relationships among the specified pre-college and experience variables and student-athletes' psychological and academic well-being.

In exploration of the influence that pre-college academic well-being and college experiences have on the academic well-being of student-athletes, only two variables—student-athletes' academic well-being at college entry ($\beta = .843, p < .001$) and their engagement in academic behaviors ($\beta = .116, p < .001$)—emerged as being predictive of the academic well-being that intercollegiate athletes report three years into college. For all of the model's college-entry and environmental variables, however, analysis of indirect effects revealed the consistent positive role of equanimity as a mediating variable (Appendix D presents all completely standardized direct, indirect, and total effects). Simply put, for student-athletes' academic well-being, equanimity matters.

As noted in the previous section, *Pre-College Equanimity* and *Pre-College Psychological Well-Being* both influence student-athletes' equanimity during their college years. Though neither variable is directly associated with intercollegiate athletes' academic well-being in college, their ties to student-athletes' gains in equanimity ($\beta = .319, p < .001$ and $\beta = .202, p < .001$, respectively) are what helps foster these individuals' academic well-being. Student-athletes' pre-college equanimity is positively related to their academic well-being three years later only indirectly, via equanimity ($\beta = .029, p < .01$). Likewise, it is because of the mediational influence of equanimity that student-athletes' collegiate academic

welfare is improved by their college-entry level of psychological well-being ($\beta = .018, p < .01$).

In the case of intercollegiate athletes' academic welfare upon college entry—the model's one pre-college variable directly related to student-athletes' college academic well-being—growth in equanimity comes through student-athletes' engagement in academic-related activities. Even for this variable, with its substantial impact on student-athletes' collegiate academic well-being ($\beta = .843, p < .001$), the growth in equanimity that takes place via academic engagement bolsters student-athletes academically ($\beta = .002, p < .05$). See Figure 19 below for a diagram of the direct relationships among the pre-college variables, *Equanimity*, and *Academic Well-Being*, as well as the significant standardized coefficients.

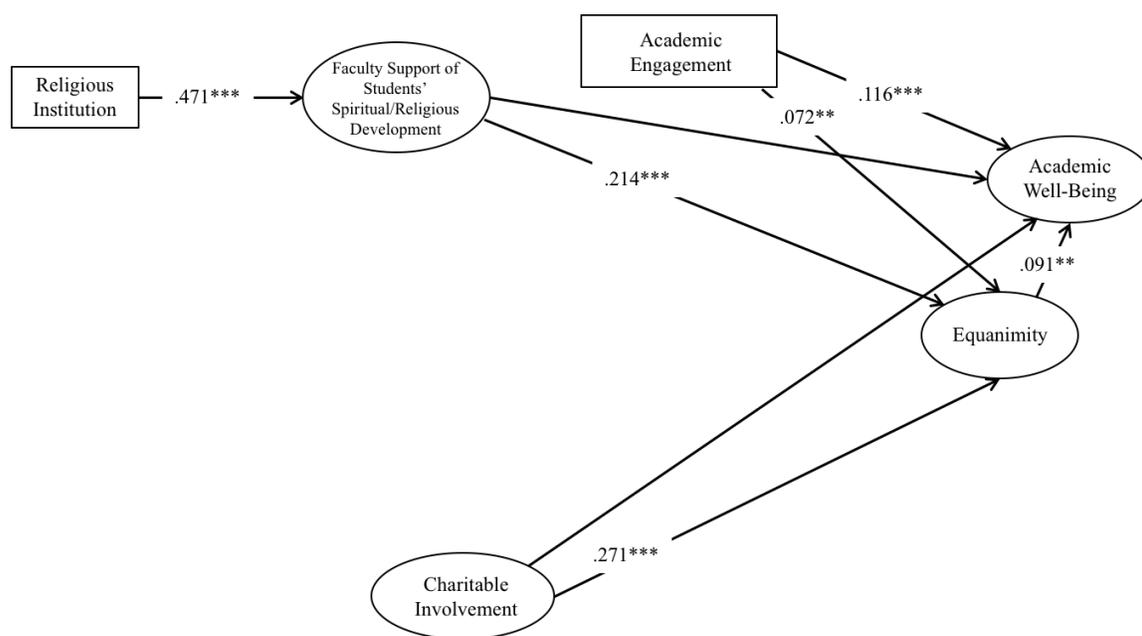


* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 19. Paths Among the Pre-College Variables, Equanimity, and Academic Well-Being. This figure illustrates the direct relationships among the pre-college variables, *Equanimity*, and *Academic Well-Being*, along with all statistically significant standardized path coefficients

Not limited to the influence of the pre-college factors, equanimity also positively mediates the ways in which aspects of the college environment affect intercollegiate athletes' academic well-being three years after starting college. The only college environment variable to have a statistically significant direct influence on student-athletes' academic welfare ($\beta = .116, p < .001$), academic engagement also fosters gains in equanimity ($\beta = .072, p < .01$), which indirectly benefits student-athletes' academically ($\beta = .007, p < .05$). For the *Charitable Involvement* and *Faculty Support of Students' Spiritual/Religious Development* environment constructs, equanimity's mediational influence on student-athletes' academic well-being is more prominent (indirect effects: $\beta = .025, p < .01$ and $\beta = .019, p < .01$,

respectively), so much so that the direct academic outcomes of both factors are negated. In other words, equanimity is so integral to the relationship between these two variables and student-athletes' academic well-being that its influence suppresses each respective direct relationship. Figure 20 offers a diagram of the direct relationships among the college environment variables, *Equanimity*, and *Academic Well-Being*, along with all significant standardized coefficients.



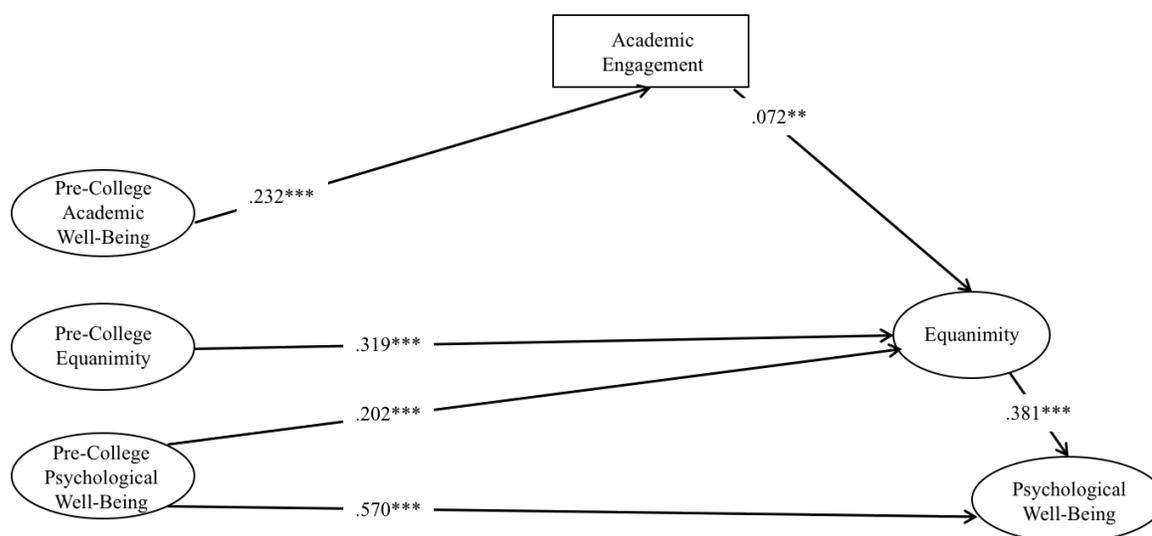
* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 20. Paths Among the College Environment Variables, *Equanimity*, and *Academic Well-Being*. This figure illustrates the direct relationships among the pre-college variables, *Equanimity*, and *Academic Well-Being*, along with all statistically significant standardized path coefficients

Similar to the results for academic well-being, the relationships that pre-college variables and specific college experiences have with student-athletes' psychological well-

being are primarily positive. Two specific variables are associated with gains in student-athletes' psychological well-being: their psychological well-being upon entering college ($\beta = .570, p < .001$) and their academic engagement during college ($\beta = .047, p < .05$). In marked contrast, however, participation in charity-related activities poses direct psychological threats to student-athletes ($\beta = -.173, p < .001$). Even though these predictors are related to student-athletes' psychological welfare in opposing ways, one finding rang true across *all* of the relationships explored in this study: equanimity plays a role student-athletes' psychological health. See Appendix D for all completely standardized direct, indirect, and total effects.

Paralleling its influence on academic well-being, equanimity positively mediates the relationships between pre-college variables and student-athletes' psychological well-being. Indirectly, via equanimity, student-athletes' pre-college psychological well-being positively influences their psychological well-being three years later ($\beta = .077, p < .001$). Likewise, the levels of academic well-being and equanimity possessed by athletes at the start of college are associated with higher levels of equanimity three years later, an outcome that benefits them psychologically ($\beta = .017, p < .001$ and $\beta = .122, p < .001$). See Figure 21 for a diagram of the direct paths among the pre-college variables, *Equanimity*, and *Psychological Well-Being*, as well as the significant standardized coefficients.



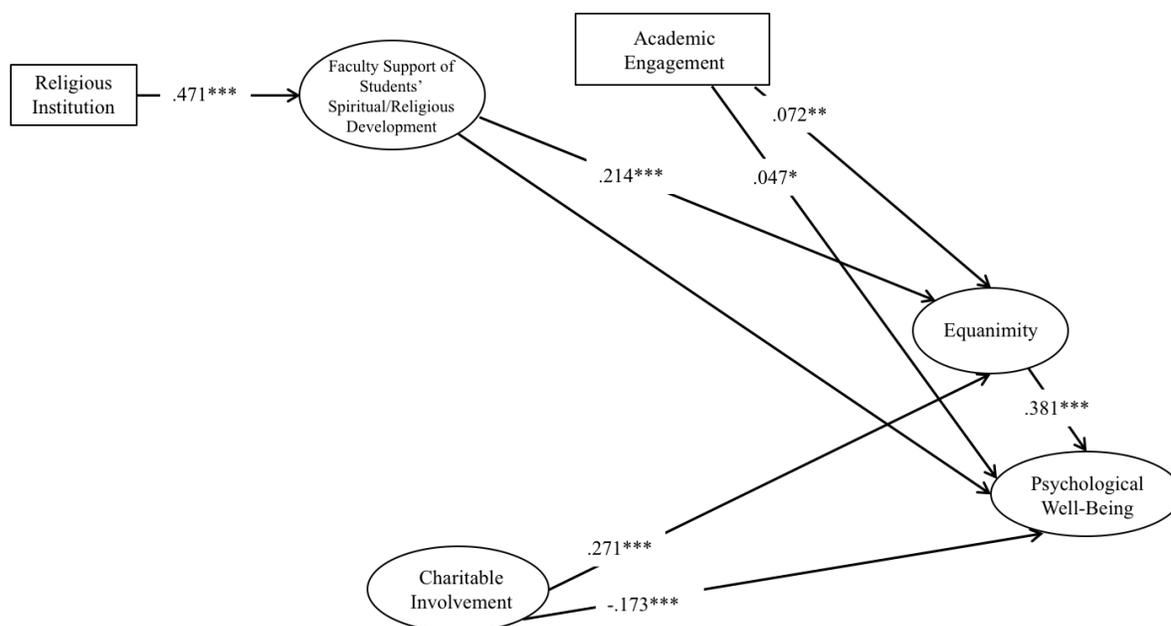
* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 21. Paths Among the Pre-College Variables, Equanimity, and Psychological Well-Being. This figure illustrates the direct relationships among the pre-college variables, *Equanimity*, and *Psychological Well-Being*, along with all statistically significant standardized path coefficients

Reinforcing the importance of a student-athlete experience that is focused as much on the classroom as it is sport, for the student-athlete population, engagement in academic-related activities indirectly, via equanimity, heightens their level of psychological health ($\beta = .028, p < .01$). Though scholastically focused, by promoting gains in equanimity, this type of academic engagement also boosts student-athletes' psychological well-being. Interestingly, equanimity's mediational influence on the relationship between academic engagement and student-athletes' psychological welfare is more substantive than its comparable indirect influence on academic well-being ($\beta = .007, p < .05$).

Two other compelling findings about equanimity's influence on the relationships between college experience variables and psychological well-being appeared as a result of

this study. Markedly, equanimity mediates the negative relationship between *Charitable Involvement* and student-athletes' psychological well-being ($\beta = -.173, p < .001$). While the aforementioned negative direct association was not initially anticipated, the direction of this relationship corresponds with the sign presented in the latent variable correlation matrix. It also mirrors comparable effects on college student psychological well-being that Astin et al. (2011b) noted for particular items included in the *Charitable Involvement* factor (e.g., donating money to charity and helping friends with personal problems). Even so, this finding need not overshadow the way in which equanimity, once again, emerges as a reinforcer of intercollegiate athletes' psychological well-being. Although charitable engagement appears to be psychologically disadvantageous to these individuals, participation in charity fosters growth in equanimity ($\beta = .103, p < .001$), gains which, in turn, offer psychological support. In addition, indirectly, via equanimity, student-athletes benefit psychologically by having faculty members who support students spiritually/religiously ($\beta = .082, p < .001$), a relationship that once again is so prominent that the direct relationship between *Faculty Support of Students' Spiritual/Religious Development* and the psychological outcome is suppressed. See Figure 22 below for a path diagram of the college environment variables, *Equanimity*, and *Psychological Well-Being*.



* $p < .05$; ** $p < .01$; *** $p < .001$

Figure 22. Paths Among the College Environment Variables, *Equanimity*, and *Psychological Well-Being*. This figure illustrates the direct relationships among the pre-college variables, *Equanimity*, and *Psychological Well-Being*, along with all statistically significant standardized path coefficients

Multi-Group Analysis: Male and Female Student-Athletes

Given the overwhelming evidence supporting key distinctions between male and females, both in the body of research on equanimity (Bryant, 2007) and extant scholarship on intercollegiate athletes (e.g., Lombardi et al., 2012; NCAA, 2013d; Routon & Walker, 2014; Sturm et al., 2011), I sought to understand whether the same relationships demonstrated in the collective student-athlete model held for males and females as individual student-athlete groups. In order to do so, I first used Mplus Version 7.31 (Muthén & Muthén, 1998-2012) to conduct multi-group CFA (Bollen, 1989; Hayduk, 1987; Sörbom, 1974; Wang & Wang,

2012). “A prerequisite for group comparison” (Wang & Wang, 2012, p. 208), these tests of male and female factorial invariance involved testing a series of models.

First, I conducted discrete analyses of the overall student-athlete measurement model for each of the two groups. This step afforded me group-specific baseline models (Byrne, 2012; Wang & Wang, 2012). Both baseline models had values well below Hu and Bentler’s (1999) $SRMR \leq .09$ and $RMSEA \leq .06$ “joint criteria” for sufficient model fit (Mueller & Hancock, 2008, p. 497) (females: $RMSEA = .050$, with a 90% confidence interval of .048, .051; $SRMR = .05$; males: $RMSEA = .055$, with a 90% confidence interval of .053, .057; $SRMR = .07$). Comparable to the previous tests of model fit for student-athletes collectively, the other indices were affected by sample size (Schumacker & Lomax, 2004; Weston & Gore, 2006), the large number of variables in the models (Kenny & McCoach, 2003), and null $RMSEA$ values below .158 (females: .050; males: .056) (Kenny, 2014).

After fitting and evaluating the baseline models separately for each group of student-athletes, I combined the two models into a multi-group configural CFA model. Aligning with standard tests of configural invariance, both groups in the model had the same number of factors and identical patterns of fixed and free factor loadings (Byrne, 2012; Wang & Wang, 2012). Akin to the two baseline models, the $SRMR$ (.06) and $RMSEA$ (.05) jointly reflected appropriate data-model fit (Hu & Bentler, 1999).

With configural invariance confirmed, I proceeded to test for “weak measurement invariance” (p. 209), or the equivalence of factor loadings across males and females (Wang & Wang, 2012). Using Satorra-Bentler’s (2010) “strictly positive” (Asparouhov & Muthén,

2010, p. 1) chi-square test, I compared the completely free configural model to a model in which all factor loadings were constrained to equivalence across groups. A statistically significant result revealed that the factor loadings are *not* invariant across males and females.

Upon discovering that the two groups are not metric invariant, I followed Byrne's (2012) strategy for determining which items do not load equivalently. First, I examined the modification indices for each group to see which of the factor loadings, if freed, would produce the greatest change in chi-square value. I then made a series of adjustments to the model such that qualifying parameters, added in order from greatest chi-square change to least, were freely estimated. After the addition of each freely estimated parameter, I used the Satorra-Bentler (2010) chi-square test to see if the difference between the revised model and the configural model was statistically significant. Once the test statistic reached statistical significance, I stopped making adjustments to the model, as factor loading invariance had been achieved (Byrne, 2012).

Across male and female student-athletes, two estimated factor loadings were significantly different, calling into question the cross-group meaning of two factors: *Pre-College Academic Well-Being* and *Pre-College Equanimity*. For *Pre-College Academic Well-Being*, males and females differ on their self-reported high school GPA. Inspection of the unstandardized factor loadings revealed that this item loads higher onto the college-entry academic well-being construct for male student-athletes than it does for females. Analysis of *Pre-College Equanimity* also produced evidence of metric non-invariance; yet, for this factor,

the item measuring the degree to which individuals describe themselves as “seeing each day, good or bad, as a gift” loads better for female student-athletes than males.

Invariance of factor loadings is a condition that must be met for further tests of factorial invariance (Wang & Wang, 2012). For that reason, investigations of the equivalence of indicator/item intercepts, error variance, factor covariance and factor means were not warranted. However, I used an additional set of techniques tailored for multi-group SEM to determine whether or not the distinctions between and females extended beyond the factors to the relationships among all of the model’s variables.

As with the measurement-only models, the overall male and female baseline models reflected appropriate data-model fit. For both groups, the RMSEA and SRMR values met Hu and Bentler’s (1999) collective standard of fit. CFI and TLI values below .95 and statistically-significant chi-square test of model fit indices all aligned with expectations based on the large sample size (Schumacker & Lomax, 2004; Weston & Gore, 2006), the large number of variables (Kenny & McCoach, 2003), and null model RMSEAs below .158 (females: .050; males: .055) (Kenny, 2014).

In order to test whether the baseline structural paths were invariant across the male and female groups, I used the *MODEL TEST* command in Mplus Version 7.31 (Muthén & Muthén, 1998-2012). Rather than requiring the comparison of chi-square test statistic values obtained from an unconstrained configural model and one in which equality restrictions are imposed, *MODEL TEST* is a one-step approach to invariance testing that involves a Wald

test. Separate Wald tests for each direct and indirect effect were needed to investigate the invariance of individual parameters.

Analyses of the indirect relationships showed that student-athletes' sex does not significantly moderate any of the indirect effects explored in the model; yet, this demographic characteristic *does* affect one direct path depicted in the model. Though not a statistically significant relationship for either group, charitable practices appear to have opposing academic implications for male and female student-athletes. Despite this difference, the model holds quite well for the male and female groups.

Multi-Group Analysis: Student-Athletes of Color and White Student-Athletes

Because scholarship on equanimity and intercollegiate athletics highlights distinctions among White student-athletes and student-athletes from racial/ethnic minority groups (e.g., Gehrke, 2013; Bimper, 2014; Harper, 2016; Harper et al., 2013), I also investigated the model's applicability across race/ethnicity groups. Due to the limited number of respondents from each racial/ethnic minority group, I was only able to test for invariance across two groups: White student-athletes and student-athletes of color. As with tests of equivalence across males and females, I first utilized Mplus Version 7.31 (Muthén & Muthén, 1998-2012) to test for factorial invariance.

Baseline fit indices attained through analyses of the overall measurement model substantiated the measurement model's fit for each group. The RMSEA and the SRMR values for each group aligned with Hu and Bentler's (1999) collective standard for good data-model fit (White student-athletes: RMSEA = .055, with a 90% confidence interval of

.053, .056; SRMR = .06; student-athletes of color: RMSEA = .05, with a 90% confidence interval of .048, .054; SRMR .07). However, the chi-square index for each group was statistically significant (White student-athletes: $\chi^2 [735] = 6438.98, p < .001$; student-athletes of color: $\chi^2 [735] = 1587.83, p < .001$), a result anticipated because of the index's sensitivity to sample size (Schumacker & Lomax, 2004; Weston & Gore, 2006). With so many variables and a null RMSEA below .158 (White student-athletes: .055; student-athletes of color: .051), low CFI and TLI values were also not surprising (Kenny, 2014; Kenny & McCoach, 2003).

As the two baseline models showed appropriate fit, I tested for configural invariance by analyzing a single model in which the student-athlete of color and White student-athlete groups had matching factors and loading patterns (Byrne, 2012; Wang & Wang, 2012). Collectively supported by its RMSEA value (.05, with a 90% confidence interval of .053, .055) and SRMR value (.06), the configural model fit the data appropriately. Once again, the statistically significant chi-square test of model fit, $\chi^2 (1470) = 8028.13, p < .001$, and low CFI (.80) and TLI (.78) values were expected (Kenny, 2014; Kenny & McCoach, 2003; Schumacker & Lomax, 2004; Weston & Gore, 2006).

Subsequent evaluation of factor loading equivalence required that I compare the aforementioned unconstrained configural model to one with equivalence-constrained factor loadings. The statistically significant results of that comparison, conducted using Satorra-Bentler's (2010) "strictly positive" (Asparouhov & Muthén, 2010, p. 1) chi-square test, confirmed that the model's factor loadings are *not* invariant across the two racial/ethnic

categorizations. As metric invariance is requisite for factorial invariance overall (Wang & Wang, 2012), this result eliminated the need for additional tests related to factorial equivalence and exposed the measurement model's lack of uniform applicability across racial/ethnic groups.

In light of the model's lack of factor loading invariance, I used Byrne's (2012) approach to ascertaining which items are problematic. Inspection of the modification indices revealed a number of potentially invariant loadings. Starting with the item whose factor loading, if freed, would produce the greatest change in chi-square value, I adjusted the model and then re-ran the Satorra-Bentler (2010) chi-square test to determine if the difference between the modified model and the configural model was statistically significant. Across the two race/ethnicity groups, only one factor loading proved to be non-invariant: that of student-athletes' self-rated emotional health, an item loaded onto *Psychological Well-Being*. The unstandardized factor loadings confirmed that this item loads higher onto the psychological well-being construct for White student-athletes than it does student-athletes of color. In other words, emotional health drives the meaning of the factor more for White student-athletes than student-athletes of color.

Despite the model's lack of factorial invariance, I opted to use multi-group SEM procedures to establish whether or not the paths among the model's various latent and observed variables are also non-invariant. Paralleling the baseline measurement models for student-athletes of color and White student-athletes, the full model, when tested separately for each group, had suitable data-model fit. Both RMSEA values were $\leq .06$ (student-

athletes of color: .05, with a 90% confidence interval of .050, .056; White student-athletes: .05, with a 90% confidence interval of .053, .055), and both SRMR values were \leq .09 (student-athletes of color: .08; White student-athletes: .07). Analogous to the measurement-only baseline models, the chi-square indices were likely affected by each group's sample size (Schumacker & Lomax, 2004; Weston & Gore, 2006). In addition, the number of variables and null RMSEA values below .158 (student-athletes of color: .053; White student-athletes: .054) both prevented the CFI and TLI values from reaching .95 (Kenny, 2014; Kenny & McCoach, 2003).

To test for inconsistencies across the groups' direct and indirect effects, I conducted multi-group SEM analysis in Mplus Version 7.31 (Muthén & Muthén, 1998-2012). Using the program's *MODEL TEST* command and its corresponding Wald test, I explored each observed direct and indirect relationship. As was the case across the male and female groups, all of the model's indirect paths proved to be invariant across the two racial/ethnic categories. In contrast, two direct paths differ between White student-athletes and student-athletes of color. Namely, academic engagement and pre-college equanimity have stronger implications for the equanimity of student-athletes of color (see Table 5).

Table 5

Structural Path Differences by Student-Athlete Race/Ethnicity

Path	Student-Athletes of Color	White Student-Athletes
<i>Pre-College Equanimity</i> → <i>Equanimity</i>	$\beta = .448, p < .001$	$\beta = .293, p < .001$
<i>Academic Engagement</i> → <i>Equanimity</i>	$\beta = .173, p < .001$	$\beta = .050, p < .05$

Multi-Group Analysis: High-Profile and Low-Profile Sport Athletes

Establishing that aspects of the sport experience have an influence on student-athletes' college experience and a host of outcomes, researchers have found key areas in which male revenue-sport athletes differ from other intercollegiate athletes (e.g., Beamon, 2012; Harrison et al., 2011, Murphy et al., 1996; Pascarella et al., 1999). To determine whether the relationships observed in this study are also conditioned by student-athletes' sport profile (i.e., whether they participate in the revenue sports of football and basketball or non-revenue sports), I followed the pattern of factorial and multi-group SEM analyses detailed for the tests of invariance across sex and race/ethnicity. When conducting each step of the process, I used Mplus Version 7.31 (Muthén & Muthén, 1998-2012).

Baseline testing of each group's measurement model supported the model's appropriateness for each type of student-athlete. For both groups, the RMSEA value fell below Hu and Bentler's (1999) .06 standard (high-profile sport athletes: .06, with a 90% confidence interval of .054, .061; low-profile sport athletes: .05, with a 90% confidence interval of .052, .055). Concurrently, the two groups' SRMR was below .09 (high-profile

sport athletes: .07; low-profile sport athletes: .06), thus putting both models soundly within the constraints of Hu and Bentler's (1999) $SRMR \leq .09$ and $RMSEA \leq .06$ "joint criteria" for sufficient model fit (Mueller & Hancock, 2008, p. 497). Echoing the equivalent fit measures of all other models in this study, the sport-profile baseline measurement models' CFI, TLI, and chi-square fit index values were all deficient. As with previous analyses, these results were all anticipated.

Since each group's baseline model demonstrated good fit, I proceeded with tests of factorial invariance. To establish the model to which the factor loading equivalence-restricted model would be compared, I analyzed a configural model in which no restrictions were imposed for either sport profile group (Byrne, 2012; Wang & Wang, 2012). Not surprisingly, given the large sample size ($n = 3,076$), large number of variables, and null RMSEA below .158 (.038), the chi-square test of model fit, CFI, and TLI values were not suitable indices of fit for this model (Kenny, 2014; Kenny & McCoach, 2003; Schumacker & Lomax, 2004; Weston & Gore, 2006). However, the combined RMSEA (.05, with a 90% confidence interval of .053, .055) and SRMR (.06) values aligned with Hu and Bentler's (1999) $SRMR \leq .09$ and $RMSEA \leq .06$ criterion.

Upon establishing configural invariance, I was then able to run a model in which all factor loadings were constrained to equality across the two sport profile groups. Since the restricted model reflected appropriate data-model fit ($RMSEA = .05$, with a 90% confidence interval of .052, .055; $SRMR = .06$), I used Satorra-Bentler's (2010) "strictly positive" (Asparouhov & Muthén, 2010, p. 1) chi-square test to compare the restricted model with its

configural model counterpart. Evidenced by a statistically significant result, the model's factor loadings are *not* equivalent across high-profile and low-profile sports.

Although the model's lack of loading invariance removed the need for added tests of factorial invariance (Wang & Wang, 2012), I employed Byrne's (2012) tactic for determining which specific items are non-equivalent. Starting with the factor loading that, if freed, was projected to produce the greatest change in chi-square value, I made adjustments to the model. After each modification, I used the Satorra-Bentler (2010) chi-square test to determine whether or not the difference between the modified and configural models was statistically significant.

From Byrne's (2012) method, one non-invariant factor loading emerged. For *Pre-College Academic Well-Being*, high-profile and low-profile sport athletes differ on their self-rated drive to achieve. In particular, the unstandardized self-rated drive to achieve estimate is larger for low-profile students, revealing that focus on achievement drives the pre-college well-being measure more for low-profile student-athletes.

As with the other tests of group invariance, I elected to use multi-group SEM to ascertain whether or not the model's structural paths are non-equivalent across the sport profile groups. Comparable to the baseline measurement models for high-profile and low-profile sport student-athletes, the full model had confirmation of good data-model fit for each group. Both groups' RMSEA values were $\leq .06$ (high-profile sport student-athletes: .06, with a 90% confidence interval of .054, .060; low-profile sport student-athletes: .05, with a 90% confidence interval of .052, .055). Additionally, the SRMR values of both populations

were $\leq .09$ (high-profile sport student-athletes: .08; low-profile sport student-athletes: .07). Akin to the other models in this study, the chi-square, CFI, and TLI values for each model were subject to the influence of each group's sample size (Schumacker & Lomax, 2004; Weston & Gore, 2006), the number of variables, and null RMSEA values below .158 (low-profile sport student-athletes: .053; high-profile sport student-athletes: .057) (Kenny, 2014; Kenny & McCoach, 2003).

Like the previous tests across student-athlete sex and race/ethnicity groups, the *MODEL TEST* command in Mplus Version 7.31 (Muthén & Muthén, 1998-2012) made possible the testing of direct and indirect effect invariance across the sport profile levels. Substantiated by the Wald test results, none of the indirect relationships are conditioned by sport profile. Conversely, three of the direct paths differ across the sport profile groups, rendering sport profile affiliation the most salient source of model invariance.

For men's basketball and football players, attending a religiously-affiliated institution has a stronger association with the spiritual/religious support that they report receiving from their faculty members. Intriguingly, that type of faculty experience produces smaller gains in equanimity for revenue-sport student-athletes than other athletes, and pre-college equanimity's influence on future levels of equanimity is most pronounced for these high-profile sport athletes (see Table 6).

Table 6

Structural Path Differences by Sport Profile Level

Path	High-Profile Sport Student-Athletes	Low-Profile Sport Student-Athletes
<i>Pre-College Equanimity</i> → <i>Equanimity</i>	$\beta = .480, p < .001$	$\beta = .276, p < .001$
<i>Religious Institution</i> → <i>Faculty Support of Students'</i> <i>Spiritual/Religious Development</i>	$\beta = .515, p < .001$	$\beta = .461, p < .001$
<i>Faculty Support of Students'</i> <i>Spiritual/Religious Development</i> → <i>Equanimity</i>	$\beta = .105, p < .001$	$\beta = .235, p < .001$

Chapter Summary

Collectively, the results of this study speak to equanimity development as not being altogether tied to the sport experience for intercollegiate athletes. For these individuals, a host of pre-college and college environment variables foster gains in equanimity during their college years. Even more, equanimity serves as a mediating variable, influencing the relationships that exist between the model's predictors and student-athletes' academic and psychological well-being. Tests of invariance show that the factors and the structural model are not uniformly applicable across males and females, student-athletes of color and White student-athletes, and high-profile sport and low-profile sport groups.

In the following chapter, I will expound upon these findings. I will also discuss the outcomes' relevance for theory, research, policy, and practice. Finally, to conclude the study, I will describe ways in which the present research informs future scholarship.

CHAPTER FIVE: CONCLUSION

In light of abundant literature underscoring the unique academic and psychological challenges facing intercollegiate athletes (e.g., Burnsed, 2013; Comeaux, 2008; Davoren & Hwang, 2014; Eitzen, 2009; Routon & Walker, 2014), this study sought to explore an understudied facet of student-athletes' lives—equanimity—and the role that it plays in their academic and psychological welfare. Equanimity, an aspect of spirituality defined as “the extent to which an individual is able to find meaning in times of hardship, feels at peace or centered, sees each day as a gift, and feels good about the direction of his or her life” (Lindholm, 2013, p. 13) had, in previous research, emerged as a developmental outcome of college for students broadly (Astin et al., 2011b). Extant scholarship also underlines the academic and psychological benefits of equanimity for college students (e.g., Astin et al., 2011b). Nonetheless, until this study, equanimity and its outcomes had not been investigated for the specific student-athlete population, a notable absence in the scholarly record since intercollegiate football and men's basketball players surpass all other student populations in the degree to which college fosters growth in equanimity (Astin et al., 2011b).

Informed by a framework combining Astin's (1993) I-E-O model and Chandler et al.'s (1992) Holistic Wellness Model, I used structural equation modeling of data collected from 3,076 intercollegiate athletes during HERI's 2004-07 national study of college student spirituality to determine how pre-college equanimity, pre-college academic welfare, pre-college psychological well-being, and certain college experiences are related to equanimity for intercollegiate student-athletes. When selecting the pre-college factors and college

environment variables to study, I drew from existing literature on equanimity, making sure to include only the variables most relevant to the student-athlete college experience outside of athletics. Extending research beyond predictors of equanimity, I also explored the extent to which equanimity mediates the relationships between the specific pre-college and experience predictors and student-athletes' psychological and academic well-being. Finally, I tested whether the relationships differ according to student-athletes' sex, race/ethnicity, and sport profile (i.e., high-profile/revenue sport team athletes vs. low-profile/non-revenue sport team athletes).

Overall, this study clarifies the role that pre-college student characteristics and features of the campus environment outside of athletics play in student-athletes' equanimity development. Aligning closely with Astin's (1993) I-E-O model, each of the three pre-college factors explored in the model (*Pre-College Academic Well-Being*, *Pre-College Equanimity*, and *Pre-College Psychological Well-Being*) proved to positively influence the level of equanimity that student-athletes have at the end of their junior year. Described below, these findings confirm that some student-athletes arrive at college more predisposed to equanimity development than others.

Explicably, growth in equanimity during college for intercollegiate athletes is most strongly influenced by the level of equanimity with which they enter college. Compared to other athletes, the size of this relationship is greatest for student-athletes of color and high-profile sport athletes. As African Americans are over-represented in the two high-profile sports—intercollegiate men's basketball and football (Beamon & Bell, 2006; Bimper, 2014;

Harper, 2016; Harper et al., 2013; Lapchick et al., 2013)—the distinct influence of pre-college equanimity observed for high-profile sport student-athletes may be a reflection of the disproportionately high number of Black males who compete on those teams.

Framing a plausible explanation for the across-group differences, Gehrke (2013) found that minority college students generally exhibit higher levels of pre-college equanimity than White students. Conceivably then, *student-athletes* of color also enter college with a greater propensity for exhibiting equanimity in the face of life's difficulties. As student-athletes of color and high-profile sport athletes encounter heightened academic, social, and athletic challenges distinct from those of White student-athletes (e.g., Beamon, 2012; Harper et al., 2013; Harrison et al., 2006; Simons et al., 2007), their foundational, pre-college equanimity likely becomes a lens through which they navigate difficulties. Accordingly, equanimity is reinforced as a means of managing challenges, increasing as student-athletes advance in their college years.

Student-athletes' pre-college academic and psychological well-being are also related to their growth in equanimity. While pre-college psychological well-being *directly* influences student-athletes' equanimity, academic engagement during college is the means through which student-athletes' pre-college academic well-being influences this aspect of their lives. In other words, student-athletes' academic welfare at the start of college shapes their involvement in academic-related practices, which, in turn, bolsters their equanimity. Collectively, these findings raise the alarm about additional ways in which specific at-risk student-athlete subpopulations may be disadvantaged, including student-athletes who enter

college academically underprepared or disengaged and those who arrive having to navigate challenges to their psychological well-being. Along with all of the other obstacles facing academically and psychologically at-risk student-athletes, these individuals also grow less in equanimity during college than other student-athletes.

More than a presentation of findings germane to pre-college factors that are beyond the control of higher education scholars and practitioners, this study exposes distinct elements of the college environment that directly support the equanimity development of intercollegiate athletes. Although this study shows that religiously-affiliated institutions provide a setting wherein student-athletes are more likely to encounter faculty members who support students' spiritual/religious development, this type of faculty experience is one key to the development of student-athletes' equanimity in general. This finding parallels Astin et al.'s (2011b) research on the equanimity of college students at-large, and it reinforces the call for "a more holistic or integral education" (p. 3) put forth with increasing frequency by higher education scholars, leaders, and practitioners (HERI, 2011).

While spiritually/religiously supportive faculty members are important for the equanimity development of all student-athletes, multi-group tests across sport profile level revealed that this type of faculty support is most important for student-athletes who compete on low-profile sport teams. The exact reason for this distinction is outside the scope of the present study; yet, it aligns with earlier research showing that there is no one-size-fits-all approach to effective student-athlete/faculty engagement (e.g., Comeaux, 2008; Comeaux & Harrison, 2006). Additionally, low-profile sport athletes are less stigmatized by faculty

members than their revenue-sport counterparts (e.g., Adler & Adler, 1985; Engstrom et al., 1995; Harper et al., 2013; Simons et al., 2007), a reality that may shape both the spiritual/religious support that faculty members offer low-profile sport athletes *and* the degree to which those student-athletes perceive being supported. Despite any group differences, however, the fact remains that spiritually/religiously-supportive faculty members foster the development of equanimity for *all* student-athletes, regardless of religious institutional affiliation.

Not simply tied to overtly spiritual/religious campus experiences, equanimity is also predicted by student-athletes' participation in academic-related practices. Once again, this finding mirrors earlier research demonstrating the way in which academic-related practices—particularly the number of hours that a student spends studying—bolster college students' equanimity (Astin et al., 2011b), and it underscores the importance of academic engagement for all student-athletes. Even so, multi-group tests of invariance across race/ethnicity revealed that academic practices play an even greater role in the equanimity development of student-athletes of color. As these student-athletes, specifically African American males, begin college less academically prepared than White student-athletes (e.g., Sellers, 1992; Harrison et al., 2006), the heightened influence of academic engagement on their equanimity may be a by-product of having to navigate distinctive academic challenges in college.

Of all the college environment variables explored in this study, *Charitable Involvement* emerged as having the most substantive influence on student-athletes' equanimity. This type of college experience also appeared in Astin et al.'s (2011b) research

as a considerable predictor of equanimity for college students generally. Describing clearly the type of experience afforded students who volunteer or participate in other charitable activities, Astin et al. (2011b) noted, "...equanimity appears to be enhanced by engaging in group activities that have constructive ends" (p. 59). For intercollegiate athletes, the student subpopulation reporting higher levels of volunteerism and community service than any other student group (Hoffman, Kihl, & Browning, 2015; Lopez & Moore, 2006), the relationship between involvement in charity and equanimity is particularly relevant.

Although this study demonstrates the array of variables that influence the equanimity of intercollegiate athletes, it strikingly substantiates equanimity as a critical contributor to the academic and psychological wellness of these individuals. More than a direct predictor of these two features of student-athlete welfare, equanimity also positively mediates the influence that each of the model's predictors have on student-athletes' academic and psychological well-being. As such, consideration of equanimity is requisite to understanding fully how pre-college variables and college experiences relate to the psychological and academic aspects of student-athletes' lives. Remarkably, these indirect effects proved to be invariant across male and female student-athletes, student-athletes of color and White student-athletes, and high-profile sport and low-profile sport student-athletes, underscoring the wide-reaching value of this aspect of spirituality for intercollegiate athletes.

Undoubtedly, equanimity's role in the relationship between each predictor and academic and psychological well-being is noteworthy. After all, earlier research had never examined equanimity's influence on the relationships leading to academic and psychological

outcomes for intercollegiate athletes. However, of all the indirect effects in this study, the association between engagement in charitable activities and equanimity development is particularly intriguing, given student-athletes' record of volunteerism (Hoffman et al., 2015; Lopez & Moore, 2006) and the overt focus placed on community service involvement by athletic departments and intercollegiate athletics governing agencies (e.g., Bernero, 2013; NCAA, 2014). Despite producing gains in equanimity, participation in charitable efforts is negatively related to psychological well-being for student-athletes ($\beta = -.173, p < .001$), a relationship that stands in stark contrast to the myriad positive outcomes attributed to service participation for college students at-large (e.g., Astin et al., 2011; Astin & Sax, 1998; Astin, Vogelgesang, Ikeda, & Yee, 2000; Pascarella & Terenzini, 2005). Interestingly, equanimity mitigates the negative outcomes of this type of college experience. Indirectly, via equanimity, engagement in charity-related activities fosters student-athletes' psychological well-being ($\beta = .103, p < .001$), though the total effect remains negative ($\beta = -.070, p < .05$).

While the negative psychological influence of charitable involvement for student-athletes is certainly unfavorable, this finding of the current study does not conflict with earlier research. When looking at college students collectively, Astin et al. (2011b) observed similar negative psychological outcomes for specific charity-related items (e.g., donating money to charity and helping friends). Upon noting those distinct patterns, the researchers made speculations that may apply even more readily to student-athletes' charitable involvement.

First, Astin et al. (2011b) contended that time-intensive activities heighten students' stress level. As intercollegiate athletes already experience a unique set of stressors linked to time demands (e.g., Kroshus, 2014; Parham, 1993), this proposition seems chiefly relevant. Trying to fit service activities into an overly busy schedule may, for student-athletes, trigger psychological strain.

In addition, Astin et al. (2011b) posited that the negative psychological outcome of helping friends with personal problems may be due to the way in which helpers typically adopt a measure of the “emotional burden” (Astin et al., 2011b, p. 132). Because student-athletes spend the vast majority of their time with other athletes—individuals with whom they share a unique bond through common experiences—this psychologically ill-effecting phenomenon is likely. Moreover, for student-athletes, offering assistance to friends appears to be a regular practice. Nearly two-thirds of student-athletes in the present study said that they help friends with problems “Frequently.”

Implications for Theory and Research

Though investigation of college student spirituality has increased in recent years, this facet of life has remained understudied for student-athletes (Gayles, 2009). Markedly, student-athlete equanimity had never been explored in-depth prior to this study, a glaring gap since extant literature points to positive academic and psychological outcomes of equanimity for college students (e.g., Astin et al., 2011b; Park & Millora, 2010) that correspond with areas of difficulty for intercollegiate athletes (e.g., Burnsed, 2013; Davoren & Hwang, 2014; Eitzen, 2009; Routon & Walker, 2014). Additionally, prior investigations of student-athlete

academic and psychological well-being had never before directly encompassed any facet of student-athlete spirituality, including equanimity. Thus, by offering greater understanding of the development and influence of student-athlete equanimity, the findings of this study have clear implications for theory and research.

First, the current study substantiates equanimity as a key to student-athletes' academic and psychological well-being. As such, the findings correspond with Chandler et al.'s (1992) Holistic Wellness Model that frames spiritual health (defined in this study as equanimity) as being central to other aspects of well-being. They also align with earlier scholarship on college students generally, namely research highlighting equanimity's association with positive academic outcomes (e.g., college GPA and intellectual self-esteem) and psychological well-being (Astin et al., 2011b; Park & Millora, 2010). While the present research aligns with earlier research broadly, it also plainly takes research on the specific intercollegiate athlete population in new directions. Notably, the study exposes previously unknown limitations in the existing scope of research on intercollegiate athletes. Due to its omission of spirituality in any regard, prior understanding of the factors that contribute to student-athletes' academic success and psychological welfare was left incomplete. Ultimately, the results of this study make clear the need to direct greater scholarly attention toward student-athletes' equanimity—and the ways in which equanimity and other spiritual qualities shape student-athletes' lives.

Additionally, this study reveals the value of approaching research on intercollegiate athlete spirituality through a collective framework combining Astin's (1993) I-E-O model

and Chandler et al.'s (1992) Holistic Wellness Model. Overall, the findings of this study underscore the central premise of Chandler et al.'s (1992) model: spiritual health (conceptualized in this study as equanimity) is critical to other "interrelated and interactive" (p. 171) aspects of wellness. Previous literature on student-athletes intimated such, as Kissinger and Watson (2009) called for a more holistic, spiritually-inclusive strategy to mental health treatment efforts for student-athletes. However, the present study also reinforces the importance of including pre-college factors when investigating student-athlete spiritual qualities and their outcomes. As seen in this research, equanimity is not merely the product of student-athletes' college experiences. It is also shaped by the traits that student-athletes possess at college entry. Accordingly, the current study aligns well with Astin's (1993) model, providing impetus to position the study of equanimity development and other spirituality outcomes within a larger, holistic system of student-athlete welfare, one that is not void of the influence of pre-college factors.

Finally, the findings of this study highlight issues that accompany spirituality research focused on college students in the aggregate. Because their college experience is altogether distinct from that of non-athletes, intercollegiate athletes are categorically different than other college students (e.g., Comeaux, 2011a; Harrison et al., 2006; Hyatt, 2003; Sedlacek & Adams-Gaston, 1992). They are a "non-traditional" or "special needs" student group (Hyatt, 2003, p. 263), and as such, information pertinent to their spiritual development and corresponding well-being is lost without intentional aims to disaggregate the data from those of non-athletes. Additionally, as described earlier, many of the patterns observed in this

study parallel earlier work on college student equanimity generally (e.g., Astin et al., 2011b; Park & Millora, 2010); yet, the lack of invariance for some of the factors and structural paths confirms that intercollegiate athletes do not develop their equanimity uniformly. The biggest distinctions appear across race/ethnicity and sport profile status, pointing to additional shortcomings inherent to research that approaches student-athletes as one standard student subpopulation. Investigation of the spiritual lives of college student-athletes, including equanimity, should not only account for their distinctions from non-athletes. As exemplified in this study, it should also take into consideration potential differences that exist across various student-athlete subpopulations.

Implications for Policy and Practice

In many ways, the results of this study are of practical significance to higher education, with implications for institutions as well as the individuals whose work involves intercollegiate athletes. As evidenced by this study, equanimity plays a critical positive role in mediating the outcomes of predictors of academic and psychological well-being for intercollegiate athletes. In the case of student-athletes' involvement in charitable activities, equanimity even acts as a cushion, reducing the negative psychological implications of that type of college experience. Without question, this study reframes the conversation about student-athlete spirituality broadly and substantiates the need to purposefully include efforts to foster equanimity development in the larger scope of student-athlete support services.

Intercollegiate athletics agencies have long espoused their value of spiritual development efforts, aims that, by its nature as a spiritual construct, involve equanimity.

Nonetheless, individual institutions have seemingly struggled when discerning how to foster student-athletes' spiritual welfare. Oftentimes, spiritual development is either relegated to chaplains and athlete-focused ministry groups (e.g., Athletes in Action and Fellowship of Christian Athletes), or "spirituality" is equated with "religion." Since equanimity and student-athlete spirituality, defined broadly, have been so understudied, athletic departments' limited focus on the spiritual development of intercollegiate athletes is not surprising. However, to initiate the reversal of existing patterns of student-athlete spiritual support, the NCAA, NAIA, and other intercollegiate athletics professional organizations must strategically create spaces where conversations about equanimity, its development, and its outcomes can take place. Doing so will help create a culture of student-athlete support that encompasses spirituality.

Currently, the NCAA and intercollegiate athletics stakeholders are directing increasing levels of attention to issues around student-athletes' mental health (Burnsed, 2013). Accordingly, a host of resources, including guidebooks on challenges to student-athlete mental health and compilations of best practices for supporting this aspect of student-athletes' lives, are available to athletic departments and their personnel. Moving forward, the NCAA and college athletics stakeholders should include an overview of spiritual development, namely equanimity and its outcomes, in conversations around student-athlete psychological well-being. Incorporating equanimity in future mental health programmatic efforts, training, and educational resources is one specific, and timely, way in which the findings of this study can shape practice.

Similar to the adjustments that need to be made to current efforts around student-athletes' psychological health, existing academic support resources should be tailored such that academic support personnel are trained to see academic success as not altogether separate from a student-athlete's spiritual life. Venues such as the National Association of Academic Advisors for Athletics (N4A) convention provide prime, large-scale opportunities to educate student-athletes' academic advisors on the relevance of equanimity for academic well-being. Even more, since student-athlete equanimity is cultivated by academic engagement, these contexts also should present occasions to strategize ways of making space for student-athletes' spirituality in contexts such as tutoring sessions, study hall sessions, and academic advising. For student-athletes of color, this is particularly important. Not only are these individuals traditionally at the highest level of risk academically (e.g., Beamon, 2012; Sellers, 1992; Harrison et al., 2006), but they also experience greater growth in equanimity from academic engagement than White student-athletes.

Decidedly, the results of the present study confirm that equanimity development is not a process facilitated solely by religious or spiritual engagement. In fact, it is cultivated by one of the most central foci of most athletic departments: academic engagement. Since much of the support that athletic departments afford student-athletes is focused on academics, existing support strategies could be tailored such that student-athletes are encouraged to also make meaning of their academic pursuits by viewing them through a spiritual framework. As equanimity is a measure reflecting "the extent to which an individual is able to find meaning in times of hardship, feels at peace or centered, sees each

day as a gift, and feels good about the direction of his or her life” (Lindholm, 2013, p. 13), discussions around academics can be framed by those themes. Rather than focusing solely on the direct academic outcome of scholarly support, academic support staff should challenge student-athletes to consider how their academic pursuit makes them feel about life by-and-large. Reflection, whether formally through short journaling exercises or informally through purposeful dialogue, may be helpful for transitioning student-athletes’ academic framework to a more holistic approach. Further, the inherent challenges of athletic competition provide an excellent foundation for teaching student-athletes skills to help them make meaning of the academic challenges they encounter. Since student-athletes apply skills for overcoming obstacles in practice and in competition, academic support personnel could ask athletes to talk through how they made meaning of those incidents. From their responses, the conversations could then shift to academics, making space for education on ways to navigate scholarly challenges.

Explained earlier, the results of this study also substantiate the need to think critically about the existing approach to student-athletes’ engagement in charitable work. The NAIA and the NCAA both celebrate the community service involvement of student-athletes (e.g., Bernero, 2013; NCAA, 2014). While the NAIA has not published data on the number of their student-athletes who participate in community service or charitable activities, approximately 90% of NCAA student-athletes invest in service annually (NCAA, 2016). Notably, for nearly 60% of NCAA student-athletes, involvement in community service comes as a mandatory part of their role as a student-athlete (NCAA, 2016).

While the majority of student-athletes who participate in these required volunteer experiences consider them valuable (NCAA, 2014), the findings of the present study raise new concerns as to the psychological effects of these initiatives. Given Astin et al.'s (2011b) premise that time constraints may be partly responsible for the deleterious psychological outcome of engagement in charitable activities, athletic departments need to consider the overly burdened schedules of their student-athletes when planning and scheduling mandated community service hours. Further, time for purposeful reflection should follow each charitable experience, thus helping to reframe the experience as more than mere obligation.

Post-service reflection as a best practice is well established in literature on service-learning experiences for college students generally (e.g., Bringle, Hatcher, & McIntosh, 2006; Felten & Clayton, 2011). Since equanimity ameliorates some of the negative psychological implications of charitable involvement for student-athletes, coaches and athletic department staff should be educated on ways to integrate questions related to equanimity into post-service debriefing sessions and discussions. Specific questions about the experience could extend from the basic definition of equanimity: “find[ing] meaning in times of hardship, feel[ing] at peace or centered, see[ing] each day as a gift, and feel[ing] good about the direction of his or her life” (Lindholm, 2013, p. 13). Partnerships with service-focused Student Affairs offices/programs (e.g., Alternative Service Break) and campus service-learning resources are an additional point of connection for athletic departments who are looking to more purposefully structure their athletes’ engagement in charitable activities.

Ultimately, student-athlete equanimity development is not the sole responsibility of athletic departments or athletics governing bodies. Campus leaders need to take specific action to ensure that members of the faculty sense that they can be transparent in regard to spiritual matters. As demonstrated by this study, intercollegiate athletes' equanimity is stimulated by having spiritually/religiously-supportive faculty members—even at non-religious institutions.

Doubtless, not all faculty members will be comfortable or feel equipped to engage students in conversations about religion or spirituality. Recognizing those sensitivities, charges put forth for “a more holistic or integral education” (HERI, 2011, p. 3) should also convey the message to faculty members that support of students' spiritual/religious development is not analogous to finding a way to somehow engrain spirituality in every lesson plan. Instead, as most of the items comprising the present study's *Faculty Support of Students' Spiritual/Religious Development* factor relate in some way to student-athletes feeling encouraged by professors' to discuss or express their spirituality, this type of support appears to be most linked to faculty members' *openness* to spiritual/religious matters. As such, institutions should also take efforts through their offices of faculty development and diversity to frame this type of faculty support as broadly related to diversity and campus climate. Faculty members must come to recognize it as such and create opportunities for students to consider matters related to meaning and purpose, express their spirituality if so desired, and discuss spiritual/religious topics (HERI, 2009).

Directions for Future Research

This study, with its unique focus, directly contributes to research on intercollegiate athletes, and it raises a set of issues specific to contemporary student-athlete support initiatives. Even so, the limitations of the HERI dataset and the findings that emerged from this project underline the need for future research on student-athlete equanimity. Of prime importance is research that incorporates variables related to team context, experiences with coaches, sport competition, overall student-athlete experience, and athletic identity.

Without question, the HERI dataset is the most all-inclusive collection of student-athlete spirituality/religiosity data presently available; however, no examination of student-athletes is complete without information pertinent to athletics. The lack of factorial invariance across the sex, race/ethnic, and sport profile groups, along with the suppressor effects observed in the initial model, only reinforce the pressing need for a refined instrument tailored to the intercollegiate athlete population. Simply put, the current data, though certainly beneficial for exploratory study of intercollegiate athletes' spirituality, completely excludes the most salient aspect of these individuals' college experience: their time as a student-athlete.

Future research is also needed to determine the model's applicability across sport type (e.g., individual sports such as golf and team sports such as softball) and athletic division (e.g., NCAA Division I, II, III), since these student-athlete subpopulations have experiences distinct from one another. Similarly, additional study is warranted to understand equanimity and its outcomes for specific races/ethnicities, as the current study of aggregated racial/ethnic

minorities likely concealed patterns particular to individual groups (Bryant, 2011). Later research should strive to elicit information from a sample size large enough to permit analyses of specific races/ethnicities.

As recent news stories detail the overt religionization of intercollegiate sports teams, including the inclusion of Christian religious practices in team cultural elements at large public institutions (e.g., Russo, 2014; Wolverton, 2013), subsequent studies should investigate equanimity development and its outcomes for student-athletes of various worldviews. Primarily, those efforts would garner insight on patterns exclusive to non-religious student-athletes and those from other religious minority groups whose equanimity development might be shaped by their status as a religious outsider. The equanimity of sexual minority identity groups should also be considered in future research, since LGBTQ student-athletes, in previous research (Rankin et al., 2011), reported experiencing more “conduct that interfered unreasonably with their ability to work or learn on campus” (p. 6) than heterosexual student-athletes. Also of interest would be how student-athletes’ athletic identity, or the degree to which they see themselves as an *athlete* as opposed to a *student*, influences equanimity. Since football and men’s basketball players increase in equanimity more so than other college students (Astin et al., 2011b), and because they also typically struggle most with navigating their *athlete* and *student* roles (e.g., Adler & Adler, 1987; Linnemeyer and Brown, 2010; Murphy et al., 1996; Stevenson, 1999), exploration of athletic identity within the scope of equanimity research is warranted.

The present research also opens the door for a host of additional studies on equanimity's relationship with other facets of intercollegiate athlete well-being. Future studies should investigate equanimity's association with physical, social, and occupational outcomes, facets of wellness that Chandler et al. (1992) noted are also tied to spiritual health. As described earlier, these relationships are likely to be influenced in some way by student-athletes' pre-college traits and college experiences. Thus, future studies should also investigate how equanimity mediates the relationships among pre-college and college experience predictors of physical, social, and occupational outcomes.

Lastly, qualitative research is needed to better understand why the predictors of equanimity influence change the way they do. As with the research ideas presented above, qualitative study of unique student-athlete subpopulations is merited. In addition, qualitative study would afford greater understanding of the reasons why charitable involvement takes a toll on student-athletes' psychological well-being. As student-athletes' engagement in charitable activities is an established part of intercollegiate athletics culture, the value of this line of study is unmistakable. Detailed information on how individuals make meaning of college experiences would also help athlete support personnel as they strive to appropriately tailor programming to meet student-athletes' needs. Collectively, the qualitative research would lead to more appropriate quantitative instruments.

Conclusion

Born out of a single crew competition between Harvard and Yale in 1852, intercollegiate athletics are a salient part of the U.S. higher education landscape. At the time

of this study, college sports shape the contexts of nearly 1,400 four-year postsecondary institutions (Office of Postsecondary Education, n.d.). Even more, for the past three decades, annual intercollegiate athletics participation rates have been on the rise (NCAA, 2012b).

Despite their well established history within U.S. higher education and their continued appeal for hundreds of thousands of student-athletes, intercollegiate athletics are the subject of longstanding debate. Since the earliest days of intercollegiate sports competition, questions surrounding their impact on student-athletes have become a fixture in research and public discourse. Through this study, I aimed to shift the conversation about intercollegiate athletics to student-athlete spirituality, a facet of these individuals' lives that is relatively absent from previous scholarship. Specifically, I sought to ascertain how pre-college and college environment variables shape equanimity, the spiritual measure reflecting "the extent to which an individual is able to find meaning in times of hardship, feels at peace or centered, sees each day as a gift, and feels good about the direction of his or her life" (Lindholm, 2013, p. 13). I also set out to explore the influence that equanimity has on student-athletes' academic and psychological welfare. For both the factors themselves and the structural model, I designed the research such that I could determine whether invariance exists across student-athletes' sex, race/ethnicity, and sport profile level.

Overall, the findings of this study align with a framework combining Astin's (1993) I-E-O model and Chandler et al.'s (1992) Holistic Wellness Model. More than a product of the college environment, equanimity is, for student-athletes generally, shaped by the level of equanimity, academic well-being, and psychological well-being with which they enter

college. Even so, the college environment directly influences student-athletes' equanimity. Specifically, this study revealed the important role that faculty support of students' spiritual/religious development, charitable engagement, and academic engagement play in student-athletes' equanimity development. Notably, the study also showed that equanimity development is not uniform across sport profile levels or racial/ethnic group membership. For student-athletes of color and high-profile sport athletes, the process is rather distinct.

Conceivably most valuable for future research and immediate practice, the findings of this study demonstrate that equanimity matters for student-athletes' academic and psychological well-being. Intercollegiate athletes are an academically and psychologically at-risk student population (e.g., Davoren & Hwang, 2014; Hyatt, 2003; Parham, 1993; Routon & Walker, 2014). As such, evidence that equanimity positively mediates the relationships between student-athlete psychological and academic well-being and each of the model's predictors is noteworthy. Perhaps most striking, given its status as one of the most common aspects of the student-athlete experience, for charitable engagement, equanimity mitigates a negative relationship with student-athletes' psychological well-being.

Ultimately, the results of this study provide an important look into the most under-considered aspect of student-athletes' lives—their spirituality. By revealing the ways in which equanimity is positively associated with critical areas of challenge for these individuals, the present research substantiates the need for more specific inclusion of spirituality in research, policy, and practice related to intercollegiate athletes. After all, as the

longstanding tagline says: “Student-athlete success on the field, in the classroom and in life is at the heart of our mission” (NCAA, n.d.-c).

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APPENDICES

Appendix A

Table 7

Table of Factors, Items, and Coding

Variable	Item(s)	Coding Scheme in CSBV Instrument
<i>Pre-College Academic Well-Being</i>	<p>What was your average grade in high school (Mark <u>one</u>)^a</p> <p><i>Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark <u>one</u> in each row):</i></p> <p>Academic ability^b</p> <p>Academic ability^b</p> <p>Mathematical ability^b</p> <p>Writing ability^b</p> <p>Drive to achieve^b</p>	<p>^aA or A+; A-; B+; B; B-; C+; C; D</p> <p>^bHighest 10%; Above Average; Average; Below Average; Lowest 10%</p>
<i>Pre-College Equanimity</i>	<p><i>During the last year, please indicate how often you have: (Mark <u>one</u> for each item)</i></p> <p>Been able to find meaning in times of hardship^c</p> <p>Felt at peace/centered^c</p> <p><i>Please indicate the extent to which each of the following describes you: (Mark <u>one</u> for each item)</i></p> <p>Feeling good about the direction in which my life is headed^d</p> <p>Being thankful for all that has happened to me^d</p> <p>Seeing each day, good or bad, as a gift^d</p>	<p>^cFrequently; Occasionally; Not at All</p> <p>^dTo a Great Extent; To Some Extent; Not at All</p>

*Pre-College Psychological
Well-Being*

*For the activities below, indicate
which ones you did during the past
year.*

^cFrequently; Occasionally; Not at All

Felt overwhelmed by all I had to do
(reverse-coded in study)^c
Felt depressed (reverse-coded in
study)^c

^bHighest 10%; Above Average;
Average; Below Average; Lowest 10%

*During the last year, please indicate
how often you have: (Mark one for
each item)*

Felt that your life is filled with
stress and anxiety (reverse-coded in
study)^c

*Rate yourself on each of the
following traits as compared with
the average person your age. We
want the most accurate estimate of
how you see yourself. (Mark one in
each row):*

Emotional health^b

*Faculty Support of
Students'
Spiritual/Religious
Development*

*How often have professors at your
current college: (Mark one for each
item)*

^cFrequently; Occasionally; Not at All

Encouraged exploration of questions
of meaning and purpose^c
Enhanced your self-understanding^c
Encouraged discussion of
religious/spiritual matters^c
Encouraged personal expression of
spirituality^c
Encouraged discussion of ethical
issues^c
Acted as spiritual models for you^c

<i>Academic Engagement</i>	<i>During the past year, how much time did you spend during a typical week doing the following activities?</i>	°None; Less than 1 Hour; 1-2; 3-5; 6-10; 11-15; 16-20; Over 20
	Studying/homework [°]	°Frequently; Occasionally; Not at All
	<i>For the activities listed below, please indicate how often you engaged in each since entering college. (Mark <u>one</u> for each item)</i>	
	Was bored in class (reverse-coded in study) [°]	
	Came late to class (reverse-coded in study) [°]	
<i>Campus Involvement</i>	<i>Since entering college have you: (Mark <u>all</u> that apply)</i>	°None; Less than 1 Hour; 1-2; 3-5; 6-10; 11-15; 16-20; Over 20
	Joined a social fraternity or sorority Participated in student government Campus religious organization Study abroad program Leadership training	
	<i>During the past year, how much time did you spend during a typical week doing the following activities?</i>	
	Student clubs/groups [°]	
<i>Charitable Involvement</i>	<i>During the past year, how much time did you spend during a typical week doing the following activities?</i>	°None; Less than 1 Hour; 1-2; 3-5; 6-10; 11-15; 16-20; Over 20
	Volunteer work [°]	°Frequently; Occasionally; Not at All
	<i>Since you entered college, please indicate how often you have: (Mark <u>one</u> for each item)</i>	°Essential; Very Important; Somewhat Important; Not Important
	Participated in community food or clothing drives [°] Performed volunteer work [°] Donated money to charity [°] Helped friends with personal problems [°]	
	<i>For the activities listed below, please indicate how often you engaged in each since entering</i>	

college. (Mark one for each item)

Performed community service as part of a class^c

Please indicate the importance to you personally of each of the following: (Mark one for each item)

Participating in a community action program^f

Religious Engagement

For the activities listed below, please indicate how often you engaged in each since entering college. (Mark one for each item)

^cFrequently; Occasionally; Not at All

^gDaily; Several Times/Week; Once/Week; Monthly; Less Than Monthly; Not at All

Attended a religious service^c

^hYes; No

Since you entered college, please indicate how often you have: (Mark one for each item)

^eNone; Less than 1 Hour; 1-2; 3-5; 6-10; 11-15; 16-20; Over 20

Attended a class, workshop, or retreat on matters related to religion/spirituality^c

ⁱAll; Most; Some; None

How often do you engage in the following activities? (Mark one for each item)

Reading sacred texts^g
Religious singing/chanting^g
Other reading on religion/spirituality^g
Prayer^g

Do you pray?ⁱ

During the past year, how much time did you spend during a typical week doing the following activities?

Prayer/meditation^g

How many of your close friends: (Mark one for each item)

Go to church/temple/other house of worshipⁱ

Equanimity

During the last year, please indicate how often you have: (Mark one for each item)

^cFrequently; Occasionally; Not at All

^dTo a Great Extent; To Some Extent; Not at All

Been able to find meaning in times of hardship^d
Felt at peace/centered^d

Please indicate the extent to which each of the following describes you: (Mark one for each item)

Feeling good about the direction in which my life is headed^d
Being thankful for all that has happened to me^d
Seeing each day, good or bad, as a gift^d

Academic Well-Being

Make the one oval that best describes your undergraduate grade average so far.^j

^jA (3.75-4.0); A-, B+ (3.25-3.74); B (2.75-3.24); B-, C+ (2.25-2.74); C (1.75-2.24); C- or less (below 1.75)

Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself. (Mark one for each item)

^bHighest 10%; Above Average; Average; Below Average; Lowest 10%

Academic ability^b
Mathematical ability^b
Writing ability^b
Drive to achieve^b

Psychological Well-Being

For the activities below, indicate which ones you did during the past year.

^cFrequently; Occasionally; Not at All

^bHighest 10%; Above Average; Average; Below Average; Lowest 10%

Felt overwhelmed by all I had to do^c
Felt depressed^c

During the last year, please indicate how often you have: (Mark one for each item)

Felt that your life is filled with stress and anxiety^a

Rate yourself on each of the following traits as compared with

the average person your age. We want the most accurate estimate of how you see yourself. (Mark one in each row):

Emotional health^b

Appendix B

Table 8

Table of Factors, Items, Cronbach's α Values, and Factor Loadings

Factor/Item	Loading
<i>Pre-College Academic Well-Being ($\alpha = 0.67$)</i>	
High school GPA	0.73
Self-rated academic ability	0.84
Self-rated drive to achieve	0.58
Self-rated mathematical ability	0.64
Self-rated writing ability	0.79
<i>Pre-College Equanimity ($\alpha = 0.71$)</i>	
How often: been able to find meaning in times of hardship	0.60
How often: felt at peace/centered	0.63
Extent to which describes self: feeling good about the direction in which my life is headed	0.63
Extent to which describes self: being thankful for All that has happened to me	0.78
Extent to which describes self: seeing each day, good or bad, as a gift	0.76
<i>Pre-College Psychological Well-Being ($\alpha = 0.68$)</i>	
Felt overwhelmed by all I had to do	0.71
Felt depressed	0.77
Felt that your life is filled with stress and anxiety	0.74
Self-rated emotional health	0.64

Faculty Support of Students' Spiritual/Religious Development ($\alpha = 0.84$)

How often: professors encouraged exploration of questions of meaning and purpose	0.68
How often: professors enhanced your self-understanding	0.63
How often: professors encouraged discussion of religious/spiritual matters	0.85
How often: professors encouraged personal expression of spirituality	0.84
How often: professors encouraged discussion of ethical issues	0.70
How often: professors acted as spiritual models for you	0.77

Campus Involvement ($\alpha = 0.47$)

Joined a social fraternity or sorority	0.28
Participated in: student government	0.63
Participated in: campus religious organization	0.31
Participated in: study abroad program	0.35
Participated in: leadership training	0.66
Hours spent in a typical week: student clubs/groups	0.75

Academic Engagement ($\alpha = 0.39$)

Hours spent in a typical week: studying/homework	0.65
Frequency: being bored in class (reverse-coded)	0.75
Frequency: coming late to class (reverse-coded)	0.61

Religious Engagement ($\alpha = 0.90$)

Frequency: attended a religious service	0.85
How often: attended a class, workshop, or retreat on matters related to religion/spirituality	0.62
How often: prayer	0.81
How often: religious singing/chanting	0.83
How often: reading sacred texts	0.85
How often: other reading on religion/spirituality	0.71
Do you pray	0.69
Hours spent in a typical week: prayer/meditation	0.78
How many of close friends go to church/temple/other house of worship	0.47

<i>Charitable Involvement</i> ($\alpha = 0.72$)	
Hours spent in a typical week: volunteer work	0.68
How often: participated in community food or clothing drives	0.71
How often: performed volunteer work	0.73
How often: donated money to charity	0.64
How often: helped friends with personal problems	0.52
How often: performed community service as part of a class	0.42
Personal importance of participating in a community action program	0.57
<i>Equanimity</i> ($\alpha = 0.70$)	
How often: been able to find meaning in times of hardship	0.54
How often: felt at peace/centered	0.66
Extent to which describes self: feeling good about the direction in which my life is headed	0.70
Extent to which describes self: being thankful for all that has happened to me	0.74
Extent to which describes self: seeing each day, good or bad, as a gift	0.71
<i>Academic Well-Being</i> ($\alpha = 0.67$)	
College GPA	0.75
Self-rated academic ability	0.83
Self-rated drive to achieve	0.65
Self-rated mathematical ability	0.55
Self-rated writing ability	0.48
<i>Psychological Well-Being</i> ($\alpha = 0.71$)	
Felt overwhelmed by all I had to do (reverse-coded)	0.67
Felt depressed (reverse-coded)	0.77
Felt that your life is filled with stress and anxiety (reverse-coded)	0.79
Self-rated emotional health	0.68

Appendix C

Table 9

Table of Completely Standardized Direct, Indirect, and Total Effects for the Hypothesized Model

Structural Path	Direct Effects	Total Indirect Effects	Total Effects
<i>Pre-College Academic Well-Being →</i>			
<i>Campus Involvement</i>	.235***	--	.235***
<i>Academic Engagement</i>	.242***	--	.242***
<i>Equanimity</i>	--	.020**	.020**
<i>Academic Well-Being</i>	.852***	.029***	.882***
<i>Psychological Well-Being</i>	--	.017*	.017*
<i>Pre-College Equanimity →</i>			
<i>Equanimity</i>	.259***	--	.259***
<i>Academic Well-Being</i>	--	.032***	.032***
<i>Psychological Well-Being</i>	--	.100***	.100***
<i>Pre-College Psychological Well-Being →</i>			
<i>Equanimity</i>	.199***	--	.199***
<i>Academic Well-Being</i>	--	.025***	.025***
<i>Psychological Well-Being</i>	.571***	.077***	.648***
<i>Faculty Support of Students' Spiritual/Religious Development →</i>			
<i>Equanimity</i>	.076**	--	.076**
<i>Academic Well-Being</i>	.037	.009*	.046*
<i>Psychological Well-Being</i>	-.010	.029**	.020
<i>Campus Involvement →</i>			
<i>Equanimity</i>	.009	--	.009
<i>Academic Well-Being</i>	.006	.001	.007
<i>Psychological Well-Being</i>	-.008	.004	-.004

Table of Completely Standardized Direct, Indirect, and Total Effects for the Hypothesized Model Continued

Structural Path	Direct Effects	Total Indirect Effects	Total Effects
<i>Academic Engagement</i> →			
<i>Equanimity</i>	.073**	--	.073**
<i>Academic Well-Being</i>	.105***	.009*	.114***
<i>Psychological Well-Being</i>	.048*	.028*	.076***
<i>Religious Engagement</i> →			
<i>Equanimity</i>	.343***	--	.343***
<i>Academic Well-Being</i>	.107***	.042***	-.065**
<i>Psychological Well-Being</i>	-.063*	.133***	.069**
<i>Charitable Involvement</i> →			
<i>Equanimity</i>	.240***	--	.240***
<i>Academic Well-Being</i>	-.075*	.030***	-.045
<i>Psychological Well-Being</i>	-.170***	.093***	-.077*
<i>Equanimity</i> →			
<i>Academic Well-Being</i>	.124***	--	.124***
<i>Psychological Well-Being</i>	.387***	--	.387***
<i>Religious Institution</i> →			
<i>Faculty Support of Students' Spiritual/Religious Development</i>	.471***	--	.471***
<i>Religious Engagement</i>	.383***	--	.383***
<i>Equanimity</i>	--	.167***	.167***
<i>Academic Well-Being</i>	--	-.003	-.003
<i>Psychological Well-Being</i>	--	.036**	.036**

* $p < .05$; ** $p < .01$; *** $p < .001$

Appendix D

Table 10

Table of Completely Standardized Direct, Indirect, and Total Effects for the Revised Model

Structural Path	Direct Effects	Total Indirect Effects	Total Effects
<i>Pre-College Academic Well-Being</i> →			
<i>Academic Engagement</i>	.232***	--	.232***
<i>Equanimity</i>	--	.017**	.017**
<i>Academic Well-Being</i>	.843***	.028***	.871***
<i>Psychological Well-Being</i>	--	.017**	.017**
<i>Pre-College Equanimity</i> →			
<i>Equanimity</i>	.319***	--	.319***
<i>Academic Well-Being</i>	--	.029**	.029**
<i>Psychological Well-Being</i>	--	.122***	.122***
<i>Pre-College Psychological Well-Being</i> →			
<i>Equanimity</i>	.202***	--	.202***
<i>Academic Well-Being</i>	--	.018**	.018**
<i>Psychological Well-Being</i>	.570***	.077***	.647***
<i>Faculty Support of Students'</i> <i>Spiritual/Religious Development</i> →			
<i>Equanimity</i>	.214***	--	.214***
<i>Academic Well-Being</i>	-.004	.019**	.016
<i>Psychological Well-Being</i>	-.032	.082***	.050*
<i>Academic Engagement</i> →			
<i>Equanimity</i>	.072**	--	.072***
<i>Academic Well-Being</i>	.116***	.007*	.122***
<i>Psychological Well-Being</i>	.047*	.028**	.075***
<i>Charitable Involvement</i> →			
<i>Equanimity</i>	.271***	--	.271***
<i>Academic Well-Being</i>	-.025	.025**	-.001
<i>Psychological Well-Being</i>	-.173***	.103***	-.070*
<i>Equanimity</i> →			
<i>Academic Well-Being</i>	.091**	--	.091***
<i>Psychological Well-Being</i>	.381***	--	.381***
<i>Religious Institution</i> →			
<i>Faculty Support of Students'</i> <i>Spiritual/Religious Development</i>	.471***	--	.471***
<i>Equanimity</i>	--	.101***	.101***
<i>Academic Well-Being</i>	--	.007	.007
<i>Psychological Well-Being</i>	--	.023*	.023*

* $p < .05$; ** $p < .01$; *** $p < .001$