

## **ABSTRACT**

STARCKE, MATTHEW ALAN. Finding Their Way: The Predictors and Correlates of College Student Religious Conversion (Under the direction of Dr. Alyssa N. Rockenbach.)

Recently, college students' religious and spiritual lives have emerged as topics of inquiry in higher education. However, while religious conversion has been well documented across a number of academic disciplines, studies of college student conversion are largely absent. In the present study, a multidisciplinary framework consisting of Astin's (1993) I-E-O model, Rambo's (1993) Systemic Stage model of Conversion, and Gooren's (2005) model of Conversion Careers was used to explore conversion within this context. Using longitudinal data collected by the Higher Education Research Institute (HERI), multilevel multinomial logistic regression models first estimated the likelihood of students undergoing one of five specific conversion experiences—apostasy, religious intensification, tradition transfer, religious affiliation, and nonreligious intensification. Hierarchical linear regression models then estimated relationships between religious conversion and measures of intellectual and emotional health. Ultimately, this study determined the likelihood of religious conversion varied based on multiple personal and contextual factors. Of note, students' pre-college affiliation with a non-Christian religious tradition largely increased the likelihood of tradition transfer; frequent conversations of a religious or spiritual nature with family members largely increased the prospect of adopting, maintaining, or growing further in a religious tradition; frequent religious or spiritual discussions with friends and the percentage of one's campus peers experiencing any form of conversion generally increased the likelihood of religious conversion. Results also demonstrated connections between religious conversion and measures of intellectual and emotional health. Specifically,

apostates tended to have higher intellectual self-esteem while students who affiliated with a religious tradition had lower intellectual self-esteem. Further, both apostates and religious students whose beliefs intensified in college had higher psychological well-being.

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Finding Their Way: The Predictors and Correlates of College Student Religious Conversion

by  
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## **DEDICATION**

To Desirée, Annette, Rubi, and Elsie.

## **BIOGRAPHY**

Matthew (Matt) Starcke has worked in higher education since 2003. For nearly ten years, he worked as a student affairs administrator before returning to school to pursue his doctoral degree in 2013. Today, Matt remains heavily influenced by the tremendous students, faculty, and staff with whom he has worked. He is a proud husband and father; a graduate of Southern Oregon University, Texas A&M University, and North Carolina State University; and he looks forward to life's next chapter.

## **ACKNOWLEDGMENTS**

While my name will be the only one listed on the diploma, pursuing this degree has hardly been an individual exercise. I am forever grateful for the love, support, and encouragement provided by so many people throughout this journey; to those who helped and inspired along the way, thank you.

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## **CHAPTER 1: INTRODUCTION**

Religious conversion is an act like few others. Wrestling with conversion is to engage in an intentional process of change, of seeking answers to vexing questions and clarifying understandings of life's origin, meaning, and purpose (Rambo, 1993). It is not a quest embarked on lightly, the path is seldom easy, and the process produces more than revised perspectives on life. In fact, conversion is not simply a reshaping of beliefs, it is a transformation of one's fundamental identity and conception of self in relation to others and the world (Gooren, 2010).

Young adults are not immune to this experience; numerous studies indicate this demographic is most prone to facing these challenges (Halama, 2014; Halama, Gasparíková, & Sabo, 2013; Halama & Lačná, 2011; Iannaccone, 1990; Regnerus & Uecker, 2006). Traditionally aged college students represent a subset of this population, and evidence suggests a majority of students actively reevaluate religious beliefs while in college (Edmondson & Park, 2009). Importantly, this experience is furthered specifically by attending college and living within the university context (Edmondson & Park, 2009).

That students view college as an arena to challenge previously-held beliefs and improve self-understanding is not altogether surprising. Student development theory is rife with models contextualizing the ways in which students develop personal identities and come to view the world around them (Mayhew et al., 2016). Among these, the Seven Vectors of Identity Development (Chickering & Reisser, 1993) detail the ways in which students grow holistically in college, including establishment of a personal identity, developing purpose, and developing integrity. Often, these experiences occur within the context of religious or

spiritual beliefs (Chickering & Reisser, 1993). Further, Fowler (1981) and Parks (2011) each viewed the college years as periods of intense questioning, a time when students directly wrestled with the beliefs of their upbringing as they sought to develop identities representative of their experience. Finally, a longitudinal study of college students' religious and spiritual lives revealed more than 80% of all first year respondents believed "finding my purpose in life" contributed at least somewhat to the decision to attend college (Astin, Astin, & Lindholm, 2011b, p. 3).

However, if finding purpose is part of the collegiate narrative, it is also an experience fraught with challenge. Incumbent in this pursuit are questions of core beliefs (Astin et al., 2011b; Bryant & Astin, 2008; Fowler, 1981; Parks, 2011), and individuals engaged in struggles with religious and/or spiritual matters may suffer physically, emotionally, or spiritually as a result (Abu-Raiya, Pargament, & Exline, 2015; Astin et al., 2011b; Bryant & Astin, 2008). Certainly, not every student faces these challenges. However, Johnson and Hayes (2003) found 26% of students experienced moderate to extreme distress as a result of encountering religious or spiritual problems in college, and nearly one third of students seeking treatment via campus counseling centers reported at least some distress in these areas.

Perhaps not surprisingly, religious conversion has been positively associated with spiritual struggle in college students (Bryant & Astin, 2008), and these corollaries ought not be ignored. Spiritual struggles and belief change are often precipitated by crisis (Astin et al., 2011b; Gooren, 2010; Rambo, 1993); a 2009 study of students who experienced belief change in college found roughly 35% attributed changes to experiences with death or illness

in the family, or with other distressing events such as parental divorce (Edmondson & Park, 2009). And while not all students give up or change religious affiliations wholesale as a result of crisis, evidence indicates a majority of students do experience some form of religious or spiritual belief change in college (Edmondson & Park, 2009; Gutierrez & Park, 2015). Critically, these changes may be accompanied by coping mechanisms including drug or alcohol use (Edmondson & Park, 2009), increased stress, or a heightened sense of personal inadequacy (Zinnbauer & Pargament, 1998).

That said, conversion appears to be a coin with two sides. While the process may pose challenges, converts also appear to benefit in many facets of life. Studies of conversion indicate religious converts improved their overall emotional well-being (Kahn & Greene, 2004; O'Neill, 2014; Vielma, 2014). These gains included increased psychological well-being (Iyadurai, 2014), self-esteem, and an improved sense of meaningfulness in the world around them, as well as decreased neuroticism (Halama & Lačná, 2011). These gains may be further accompanied by renewed clarity of life's purpose (Edmondson & Park, 2009; O'Neill, 2014) as well as amplified intrapsychic functioning and moral sociability (Schnitker, Felke, Barrett, & Emmons, 2014). Relationally, religious converts also seem to develop meaningful, new associations with others in the context of new belief systems (Kahn & Greene, 2004). Said Zinnbauer and Pargament (1998), "converts reported positive life transformation and significant improvements in their sense of self, self-esteem, self-confidence, and self-identity following the conversion experience," (p. 173).

Further, these outcomes sync with findings from studies of student spiritual growth more generally. Students who participated in the Higher Education Research Institute's



(HERI) longitudinal College Student Beliefs and Values (CSBV) survey, for example, demonstrated gains in “academic performance, psychological well-being, leadership development, and satisfaction with college” as they grew across a myriad of factors measuring spiritual well-being (Astin et al., 2011b, p. 10). Solidifying one’s spiritual understanding, it seems, is an important developmental step, and Reymann, Fialkowski, and Stewart-Sicking (2015) found heightened faith maturity in students was positively associated with a greater understanding of one’s purpose in life.

Against this backdrop, helping students navigate the difficult questions of life, including those posed by the prospect of religious conversion, appears perfectly aligned with the often values-based missions promoted by colleges and universities that support holistic student development (Astin et al., 2011b; Chickering & Reisser, 1993). Institutions have a responsibility “to provide a means for students to critically explore topics of religion and spirituality on the college campus,” (Edmondson & Park, 2009, p. 297), including those related to changing religious beliefs.

Unfortunately, studies of college student conversion and the impact of specific college environments are limited (O’Neill, 2014). What work does exist generally relies on small, homogenous samples drawn from limited numbers of institutions (Chan, Tsai, & Fuligni, 2014; Cummings, 2012; Edmondson & Park, 2009; Foubert, Brosi, Watson, & Fuqua, 2015; Gutierrez & Park, 2015; Heirich, 1977; Longo & Kim-Spoon, 2014; O’Neill, 2014; Schnitker et al., 2014; Stoppa & Lefkowitz, 2010; Vielma, 2014; Zinnbauer & Pargament, 1998). Further, the act of conversion has been operationalized differently across studies, with some authors exploring multiple understandings of the term (e.g., strengthening

convictions, changing denominations, apostasy, or wholesale tradition change; see Cummings, 2012 and O'Neill, 2014), while others adopt narrower meanings (e.g., becoming a born again Christian; see Foubert et al., 2015). Finally, while related concepts like spiritual struggle have been explored in the literature, these have seldom been connected with conversion more broadly. As such, current connections to these constructs (as well as the personal and environmental factors shown to influence them) remain more theoretical than empirically based. Thus, our understanding of the conversion experiences faced by college students, the role the college environment plays in conversion, and even a conceptualization of what conversion among college students *is* remains limited.

### **Framing Conversion**

Before staking out an understanding of conversion, perhaps a more natural starting point is the differentiation of religion and spirituality. Though often used interchangeably, these terms embody different aspects of belief and practice (Astin et al., 2011). Where spirituality is associated with an understanding of who we are and where we come from, personal values, purpose, and our connection with others and the world, religion (or religiousness) is more naturally characterized as a set of beliefs and practices concerning creation, the God or Gods thought responsible for creation, and the community of believers (Astin et al., 2011). Within these definitions lies room for overlap. Many students find religion an appropriate expression of their spirituality, though this need not always be the case (Astin et al., 2011); spiritual development can and does occur outside the confines of religion. Regardless, this study was concerned with religious conversion—that is, the

changing nature of one's religious identity as individuals "seek and act to represent and define themselves to others," (Moulin, 2013, p. 5).

Though relatively unstudied within higher education, religious conversion has been explored across a number of other disciplines (Gooren, 2010; Rambo, 1993; Rambo & Farhadian, 2014). Early scholars first approached conversion from traditional, Protestant understandings, suggesting religious conversion reflected a necessary act in the salvation of one's soul (Rambo & Farhadian, 2014) and "that religious experiences ranked among the best that an individual could have," (Gooren, 2010, p. 21). Today, though, conversion is seen as a process in which converts are active agents in their conversion, and past experiences with and external to religion influence current identities (Halama, 2014; Halama et al., 2013; Jindra, 2011; Rambo, 1993; Rambo & Farhadian, 2014).

As previously implied, conversion need not represent only movement from one major religious tradition to another. Rambo (1993) defined conversion as one of five movements—apostasy, or movement from a religious tradition; intensification, or renewed commitment to an already existing religious affiliation; affiliation, or the adoption of a religious identity by an individual who previously expressed no religious identity; institutional transition, or movement within one religious tradition (for example, movement between Christian denominations); and tradition transition, or movement from one major religious tradition to a different religious tradition. Similar understandings have been operationalized in a number of studies, (Cummings, 2012; Kahn & Greene, 2004; O'Neill, 2014; Rambo, 1993; Rambo & Farhadian, 2014; Schnitker et al., 2014; Suh & Russell, 2014; Wesselmann, VanderDrift, &

Agnew, 2015), though some have explored conversion in more specific typologies (see, for example, Halama, 2014).

Context plays a significant role throughout the conversion process. Individuals may be more attracted to conversion as a result of encounters with difference (Barro, Hwang, & McCleary, 2010; Edmondson & Park, 2009) or by the presence of alternative belief options perceived as similar to those currently held (Iannaccone, 1990). Individually, conversion often begins as a result of internal quest (Gooren, 2005, 2010; Rambo, 1993) or external crisis, including experiencing the death of a friend or family member and enduring personal illness, divorce, or other emotionally challenging experiences (Denton, 2012; Edmondson & Park, 2009; Gutierrez & Park, 2015; Jindra, 2011; Kahn & Greene, 2004). Once engaged, the process is associated with a variety of ramifications. Often, conversion brings about newfound happiness and relationships within the context of new beliefs and peers (Kahn & Greene, 2004), clarity of purpose and faith commitments (Edmondson & Park, 2009; O'Neill, 2014), and increased self-esteem (Halama & Lačná, 2011; Kahn & Greene, 2004; O'Neill, 2014; Schnitker et al., 2014; Vielma, 2014; Zinnbauer & Pargament, 1998). However, these experiences may be counterbalanced by increased levels of stress, conflict, and hostility with friends or loved ones the convert leaves behind (Iyadurai, 2010), periods of personal doubt (Gooren, 2005; Halama, 2014; Rambo, 1993), and the adoption of coping mechanisms including substance abuse (Edmondson & Park, 2009) that may occur prior to, throughout, or following the conversion process.

## **Statement of the Problem**

Given the role religious and spiritual beliefs play in identity formation, the strong likelihood many college students experience changes in these belief structures, and the potentially significant correlates of religious conversion, the lack of existing research on conversion among college students is troubling. While many ostensibly find positive outcomes in their conversion process, those with unresolved questions may experience any number of concerning psychological, social, and/or health effects. Within the university setting, these have the potential to parlay into more serious academic or social ramifications. Therefore, gaining insights to the experiences of college student converts, as well as the collegiate environments in which they engage the conversion process, is critical. Increasing our understanding of this population has the potential to shape the quality and quantity of resources institutionally available to students as they encounter and experience conversion, and may ultimately lead to more positive outcomes as they move through the conversion process.

## **Purpose of the Study**

The purpose of this study was to better understand the collegiate experiences and contexts associated with religious conversion and explore whether or not conversion is correlated with more traditional college outcomes. Through multilevel modeling and analysis of a longitudinal, nationally representative sample of college students, I isolated particular life events, demographic characteristics, and institutional environments associated with conversion. In an effort to differentiate these associations further, conversion was not limited to a dichotomous understanding, but was instead inclusive of differing types of

conversion in alignment with prominent conversion scholars including Rambo (1993) and Gooren (2005). Finally, as conversion specifically and spiritual growth more generally have been linked with non-spiritual outcomes, I explored associations between religious conversion and more traditional college outcomes.

### **Research Questions**

Using data from HERI's longitudinal study of college student spirituality, I answered the following research questions:

1. What personal and institutional factors are associated with the choice to religiously convert in college? This question will be answered for two distinct groups of students—those who begin college with a religious preference, and those who do not.
2. How does religious conversion relate to the non-spiritual college outcomes of intellectual self-esteem and psychological well-being?

### **Conceptual Framework**

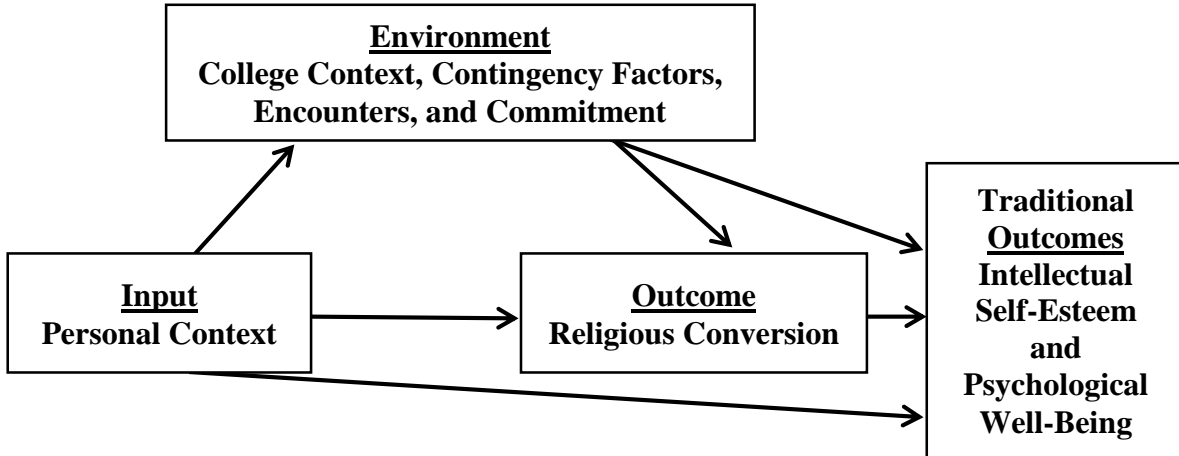
Three frameworks well established in higher education and religious conversion informed this study. Specifically, these were Rambo's (1993) Systemic Stage Model of Conversion, Gooren's (2005) conceptualization of Conversion Careers, and Astin's (1993) Input-Environment-Outcome (I-E-O) model. The respective models of religious conversion presented by Rambo (1993) and Gooren (2005) take into account the diverse history of scholarship and represent current, holistic understandings of conversion. Generally, each suggest conversion is motivated by contingency factors, internal desires to find greater meaning and purpose or external prompts stemming from crisis (Gooren, 2005, 2010; Rambo, 1993). In either case, encounters with others influence where these motivations lead,

or if they lead anywhere at all (Gooren, 2005, 2010; Rambo, 1993). These models each suggest the convert will experience correlates of conversion, though the nature and impact of these outcomes will vary individually (Gooren, 2005; Rambo, 1993). Finally, there is recognition that context matters—the environments in which one was raised and currently inhabits influence one’s perceived options and ultimate conversion choices (Gooren, 2010; Rambo, 1993).

The I-E-O framework enjoys prominent visibility within higher education (Pascarella & Terenzini, 2005). As a model designed to measure college impact, Astin’s I-E-O framework explains change (or outcomes) as a function of specific environmental conditions and experiences, controlling for pre-college characteristics, or inputs (Astin, 1993). The flexibility of this framework allows for implementation across any number of topics within higher education, but correctly specifying the input, environmental, and outcome variables is of obvious importance (Astin, 1993).

Combined, these frameworks illustrate the conceptual model that guided this study. Specifically, Astin’s (1993) Inputs included a number of factors shaping one’s personal context prior to entering college. These included demographic variables, certainly, but also measures of religious engagement and openness to others’ beliefs. Within environment, four distinct elements were modeled, including specific collegiate contexts (e.g., institutional religious affiliation and peer behaviors), contingency factors potentially motivating conversion (e.g., experienced crisis or spiritually seeking behavior), encounters with others (e.g., participation in curricular and co-curricular religious or spiritual activities), and expressed commitments to new beliefs (e.g., self-identification as a religious convert). The

first outcome, religious conversion, was inclusive of multiple understandings of the term, while intellectual self-esteem and psychological well-being were similar to outcomes suggested by conversion literature and were modeled within the context of differing conversion types.



*Figure 1.* Conceptualization of the theoretical framework for this study with combined elements from Astin's (1993) I-E-O model, Rambo's (1993) Systemic Stage model of Conversion, and Gooren's (2005) model of Conversion Careers.

## Methodological Approach

To address these research questions specifically, two forms of multilevel modeling were employed. To begin, individual responses collected by HERI were grouped, or nested, by institution. Multilevel modeling assumes these students likely share a number of similarities with others enrolled at the same institution, but these similarities may not apply to students enrolled elsewhere (Bickel, 2007). By allowing slopes to vary by institution, it becomes possible to explore differing contextual environments (Bickel, 2007). As context is a critical factor in conversion, a multilevel approach was warranted.



The first research question addressed by this study—what personal and institutional factors are associated with the choice to convert—employed a multicategorical dependent variable, *conversion*. As such, these questions were addressed using multilevel multinomial logistic regression, an approach well suited for outcomes inclusive of multiple response options with no discernable order (Raudenbush & Bryk, 2002). Importantly, this method of analysis allowed predictors to associate differently with probabilities of selecting one of several options of conversion (Raudenbush & Bryk, 2002). In other words, this analysis compared the probability an individual would choose to become an apostate, for example, compared to the probability of switching to another religious tradition.

Importantly, as each option must be available for every participant, two sets of analyses were required. Students beginning with a religious preference were already affiliated with religion but could become apostates, while students beginning without a religious preference could affiliate but not become nonreligious; these groups were analyzed separately with different categorical options of conversion. For students with a starting religious preference, conversion options included no conversion experience, apostasy, religious intensification, and tradition transfer. Students without a beginning religious preference were classified as having experienced no conversion, nonreligious intensification, or religious affiliation.

Analyzing relationships between conversion and other outcomes, the focus of my second research question, called for multilevel linear regression. The dependent variables in question, intellectual self-esteem and emotional well-being, were each continuous and modeled as functions of individual- and institutional-level variables.

## **Significance of the Study**

As previous research suggests, conversion is a phenomenon frequently encountered by young adults (Halama, 2014; Halama et al., 2013; Halama & Lačná, 2011; Iannaccone, 1990; Regnerus & Uecker, 2006). Evidence suggests college students are prone to this behavior as well and attribute the college experience itself as a critical factor in belief change (Edmondson & Park, 2009). Importantly, the conversion experience is one that can leave the convert feeling a range of emotions, from conflicted to empowered, “devastated [to] transformed,” (Rambo, 1993, p. 176). How, then, can colleges and universities best support students as they engage the difficult process of conversion?

First, this study identified environmental and experiential factors associated with college student conversion. By clarifying, for example, which students might be more likely to engage the conversion process, counselors and advisors may be better prepared when students facing these events approach them with questions of faith, belief, or purpose. On a larger scale, understanding the impact of different institutional environments on conversion might allow colleges and universities to make strategic, organizational decisions to better support their students.

Moreover, because this study framed the choice to convert in several ways, comparisons were made not only between converts and non-converts, but also between apostates and intensifiers, for example. The ability to construct more nuanced portrayals of college student conversion differentiated unique conversion experiences, deepened our understanding of the ways in which college environments and events shape conversion choice, and presently inform future research opportunities.

Conversion also poses a number of consequences, and these may be positive (e.g., renewed purpose in life) or negative (e.g., decreased self-esteem). Research into differing facets of spiritual development more generally have revealed associations with non-spiritual outcomes, including intellectual self-esteem and psychological well-being (Astin et al., 2011b). However, conversion itself has not been well studied within higher education, thus our understanding of conversion's potential relationship with these (and other) college outcomes is limited. The framework for this study explored correlates between conversion and two non-spiritual outcomes. These findings may assist counselors and college administrators by illustrating the academic, social, and personal ramifications of student conversion and inform the type and level of support provided to these students. Scholars, too, may benefit as these associations may suggest important outcomes warranting further attention.

Finally, this study made use of a national data set consisting of diverse students and institutions. Past studies of conversion in higher education have often suffered from small, homogenous samples and lacked institutional diversity. In contrast, the data set identified for use in this study consists of 14,527 students across 136 institutions nationwide. Compared to previous studies of college conversion, I was able to explore conversion with greater precision, especially within differing college environments and among non-Christian students. These developments alone contribute to the literature and our understanding of college conversion in ways significantly different from past research.

## Defining Terms

To ensure clarity of meaning, a number of important terms must be defined at the outset of this study. Specifically, these include:

1. *Conversion*: I operationalize conversion as an individual's self-reported change in religious preference measured over time. The nature of this definition is inclusive of several nominal categories, including:
  - a. *Affiliation*: "...movement of an individual or group from no or minimal religious commitment to full involvement with an institution or community of faith," (Rambo, 1993, p. 13). This option only existed when evaluating the experience of students who began college with no religious preference (e.g., atheist).
  - b. *Apostasy*: "...the repudiation of a religious tradition or its beliefs by previous members. This change does not involve acceptance of a new religious perspective but often indicates adoption of a nonreligious system of values," (Rambo, 1993, p. 13). This option only existed when evaluating the experience of students who began college with a religious preference.
  - c. *Intensification*: "...the revitalized commitment to a faith with which the convert has had previous affiliation, formal or informal. It occurs when nominal members of a religious institution make their commitment a central focus in their lives, or when people deepen their involvement..." (Rambo, 1993, p. 13)

- d. *Tradition transition*: "...the movement of an individual... from one major religious tradition to another," (Rambo, 1993, p. 14). This option only existed when evaluating the experience of students who began college with a religious preference.

Additionally, a base category—no change—was used to denote students whose religious preference and intensity remained stable.

2. *Religious preference*: The CSBV ("2004-2007 CSBV data file," n.d.) asked students at two time points to indicate their religious preference. The options provided were:

- a. Baptist
- b. Buddhist
- c. Church of Christ
- d. Eastern Orthodox
- e. Episcopalian
- f. Hindu
- g. Islamic
- h. Jewish
- i. LDS (Mormon)
- j. Lutheran
- k. Methodist
- l. Presbyterian
- m. Quaker
- n. Roman Catholic

- o. Seventh Day Adventist
- p. Unitarian/Universalist
- q. United Church of Christ/Congregational
- r. Other Christian
- s. Other Religion
- t. None

These options presented the possibility of evaluating denominational movement within Christianity, a form of conversion termed *institution transition* by Rambo (1993). However, institution transition would only apply to Christians within this data set. To allow for more inclusive analysis, then, religious preference was redefined as:

- a. Christian
- b. Buddhist
- c. Hindu
- d. Islamic
- e. Jewish
- f. LDS (Mormon)
- g. Unitarian/Universalist
- h. None

and institutional transition was not evaluated in this study.

In several instances, these categories are summarized as religious majority, religious minority, and nonreligious. Specifically, these are operationalized as:

- a. Religious majority: students classified as Christian
  - b. Religious minority: students classified as religious but not Christian (e.g., Buddhist, Hindu, Muslim, Jewish, Mormon, or Unitarian/Universalist)
  - c. Nonreligious: students classified as having no religious preference, or “none”
3. *Spiritual quest*: “...a form of existential engagement that emphasizes individual purpose and meaning-making in the world,” (Astin et al., 2011b, p. 28)
  4. *Religious commitment*: “...the student’s self-rating on ‘religiousness’ as well as the degree to which the student seeks to follow religious teachings in everyday life; finds religious to be personally helpful; and gains personal strength by trusting in a higher power,” (Astin et al., 2011b, p. 84).
  5. *Religious engagement*: “...an ‘external’ measure that represents the behavioral counterpart to religious commitment, includes... behaviors such as attending religious services, praying, religious singing/chanting, and reading sacred texts,” (Astin et al., 2011b, p. 84).
  6. *Religious (or spiritual) struggle*: “...the extent to which the student feels unsettled about religious matters, disagrees with family about religious matters, feels distant from God, or has questioned her/his religious beliefs,” (Astin et al., 2011b, p. 22).
  7. *Ecumenical worldview*: “...a spiritual quality that is defined in part by values such as ‘having an interest in different religious traditions,’ ‘feeling a strong connection to all humanity,’ and commitment to ‘improving my understanding of other countries and cultures,’” (Astin et al., 2011b, p. 78).

## **Chapter Summary and Organization of the Study**

This chapter introduced religious conversion as an important field of study, but noted the lack of research conducted on college student conversion specifically. Next, I articulated the purpose of the study and specific research questions, then introduced a theoretical model and an overview of the proposed methodology. In the chapters that follow, I will first explore the literature associated with religious conversion and college students' spirituality (Chapter Two), then further detail the proposed methodological approach, data source, and variable selection (Chapter Three), and finally discuss findings (Chapter Four) and conclusions (Chapter Five) germane to this study.



## **CHAPTER 2: LITERATURE REVIEW**

Religious conversion is a complex phenomenon. Representing a host of lived experiences, contextual factors, and resultant consequences that may be rewarding, challenging, or both, conversion speaks directly to an individual's pursuit to make sense of life's core questions (Gooren, 2010).

Conversion enjoys a broad history of scholarly attention across a number of disciplines, including religious studies, anthropology, psychology, sociology, and economics (Gooren, 2010). From these pursuits, scholars have produced disparate models of conversion explaining why and how an individual experiences conversion, and multiple understandings of the term itself have been conceived (Gooren, 2010; Rambo & Farhadian, 2014); unfortunately, college students have rarely been the focus of these efforts (O'Neill, 2014), and questions remain about college students' experiences with conversion and whether or not the collegiate environment influences this choice. That said, higher education scholars have explored spiritual development across a number of related topics including spiritual struggle and spiritual quest, concepts associated with questioning beliefs and seeking answers to spiritual or religious questions (Astin et al., 2011b). Certainly, these represent important components of the convert's story, but they do not represent the entire narrative.

This study expanded the literature by exploring conversion within the specific context of postsecondary education and further understandings of the life events and environments associated with student conversion. Moreover, I demonstrated relationships between conversion and other collegiate outcomes, including intellectual self-esteem and psychological well-being. Together, these findings have the potential to inform and justify

support strategies for students wrestling with conversion, knowledge helpful to advisors, counselors, and educators alike.

Following, I will first present the theoretical framework employed in this study, a model reliant upon literature from both conversion and higher education. Next, I will explore literature related to the conceptual framework, including associations between individual characteristics and experiences with conversion, environmental influences, and the resultant consequences or correlates of conversion. Throughout, I will incorporate related literature pertaining to students' experiences with spirituality and religion in higher education, with specific focus on belief change, institutional context, and outcomes associated with spiritual development.

### **Framing the Study**

An effective investigation of college student conversion first requires establishing an operationalized definition of conversion and a clear theoretical framework. Unfortunately, neither of these exist with any degree of consensus in the literature, let alone within the specific context of higher education. As a result, I first review current research pertaining to belief change in college students generally, then provide a definition of conversion borne from the work of previous scholars to be used in this study. Finally, I will present a theoretical model comprised of elements from Rambo's (1993) Systemic Stage Model of Conversion, Gooren's (2010) Conversion Career Model, and Astin's (1993) model of college impact.

**Belief change in college students.** While many young adults, including college students, do not experience wholesale changes in religious beliefs over time (Astin et al.,

2011b; Denton, Pearce, & Smith, 2008; Reimer, 2010; Stoppa & Lefkowitz, 2010), young adulthood represents a prime stage of life for these beliefs to change (Gutierrez & Park, 2015; Halama, 2014; Halama et al., 2013; Halama & Lačná, 2011; Iannaccone, 1990; Regnerus & Uecker, 2006). For example, literature often highlights the increasing number of young, religiously unaffiliated adults (Denton et al., 2008; Lugo et al., 2012), but this movement is not unidirectional; though some young adults do move away from religion, others strengthen or adopt new religious beliefs (Denton et al., 2008; Regnerus & Uecker, 2006).

College students appear especially prone to reexamining beliefs (Edmondson & Park, 2009; Gutierrez & Park, 2015), and the college experience has been explicitly identified as an important factor in these changes (Edmondson & Park, 2009). Importantly, though, belief change may not be reflected by changes in stated religious tradition. Edmondson and Park (2009), for example, broadly asked, “How much did your religious beliefs change as a result of college and any influences you encountered there?” (p. 293), while Gutierrez and Park (2015) explored four measures of belief change including belief in God or assumptions about life and existence. In each of these longitudinal studies, students could end the survey period identifying with the same religious tradition with which they began, but have new, changed beliefs *about* their tradition. Additionally, these studies also relied on short measurement windows—one month (Edmondson & Park, 2009) and one semester (Gutierrez & Park, 2015)—leaving open the possibility that conversion might be an eventual (though unmeasured) outgrowth of these changed beliefs.

In contrast to these studies, in 2004 UCLA's Higher Education Research Institute (HERI) launched the College Students Beliefs and Values (CSBV) survey, a large-scale study of student spirituality in 2004 involving more than 112,000 students from institutions across the country (Astin, Astin, & Lindholm, 2011a; Astin et al., 2011b). Three years later, roughly 15,000 respondents from the initial study were again surveyed to explore religious and spiritual changes experienced in the first three years of college (Astin et al., 2011b). These efforts resulted in the establishment and measure of factors related to students' spiritual and religious experiences, (Astin et al., 2011a) and the connection these factors had to several non-spiritual outcomes. A number of important constructs emerged, each shedding different light on stories of student belief change, including religious commitment, religious engagement, religious quest, spiritual (or religious) struggle, and ecumenical worldview.

To begin, religious commitment and religious engagement may be summarized as measures of internal religious devotion (e.g., living by religious teachings) and external demonstrations of these commitments (e.g., frequency of prayer; Astin et al., 2011b). Though seemingly interrelated, students generally maintained consistent levels of religious commitment over the first three years of college but experienced significant declines in religious engagement (Astin et al., 2011b). Spiritual quest represents the search for purpose and meaning in the world, and Astin et al. (2011b) observed general increases in spiritual questing over time. Finally, students' struggles to reconcile their beliefs with their experiences (spiritual struggle), and their interests in and appreciation of others' beliefs (ecumenical worldview) each increased over time. Based on these findings, it is clear many

of the religious and spiritual beliefs held by today's college students are in flux. What remains unclear, however, is how (or if) these changes relate to student conversion itself.

**Defining conversion.** It is perhaps easier to begin a discussion of conversion by first clarifying what the act does *not* entail. Rambo (1993) suggests a distinction between normative and descriptive conversion, where the former relates to a particular religious tradition's definition of conversion and the latter captures an individual's experience. As this study was interested in conversion broadly, I was less interested in, for example, the process an individual must undergo to become Catholic in the eyes of the Catholic Church and more interested in the individual's own experience with conversion. As such, requirements of belonging associated with specific religious groups are not considered.

Within the context of descriptive conversion, scholars generally view conversion as a process rather than a one-time, sudden change (Gooren, 2007, 2010; Iyadurai, 2010; Kahn & Greene, 2004; Rambo, 1993; Rambo & Farhadian, 2014; Smith & Stewart, 2011). What is not consistent, however, is agreement as to who is considered a convert and who is not. In other words, how far must one move from a first worldview to be considered a convert?

Operationalized differently across studies, it is not uncommon for conversion to represent something beyond movement from one religious tradition to another. In fact, many authors interpret conversion as denominational change, tradition change, apostasy, affiliation, or even changes in the strength of religious conviction within the same tradition, often measured across two or more time points or retrospectively (Cummings, 2012; Kahn & Greene, 2004; O'Neill, 2014; Rambo, 1993; Rambo & Farhadian, 2014; Schnitker et al., 2014; Suh & Russell, 2014; Wesselman et al., 2015). Other studies, however, make use of

participants' self-selected identities, allowing individuals to define themselves as converts (Halama et al., 2013; Halama & Lačná, 2011; Schnitker et al., 2014). Either approach bears merit; the former indexes real change over time, while the latter respects the individual beliefs of each participant (Schnitker et al., 2014).

Additionally, there are distinctions in the literature regarding the type of conversion described. For example, Rambo (1993) and Gooren (2005) presented models of conversion that may be used to describe conversion holistically, with an understanding that individuals may experience specific elements of conversion differently. For example, while Rambo's (1993) conversion framework includes a crisis stage, not all converts will experience crisis (or experience crisis to the same degree as others). Alternatively, others have attempted to explain specific types of conversion based on particular life events. Compensatory conversion, as described by Halama (2014), is one such example explaining conversion as a reaction to the absence of a parental figure, strong feelings of sin, and heightened feelings of relief following conversion.

For the purpose of this study, however, I define conversion as an individual's self-reported change in religious preference measured over time. Specifically, this definition is inclusive of several nominal categories of change, including movement from one religious tradition to another (i.e., Christianity to Buddhism), from a religious tradition to a nonreligious perspective (apostasy), the strengthening or intensification of belief within the same tradition, or movement from no religious affiliation to a religious tradition (affiliation). These categories are compared to a base category—no change—to explore differences in one's experiences and the type of conversion (if any).

With a definition of conversion established, I will now explain the theoretical framework of this study. This begins with an overview of individual frameworks or models from conversion and higher education that inform this research, then concludes with the introduction of a blended model explaining religious conversion within the postsecondary context.

**Rambo's (1993) Systemic Stage Model of Conversion.** Rambo's (1993) model of conversion represents an important outgrowth from models previously grounded in numerous disciplines (Gooren, 2007, 2010; Kahn & Greene, 2004; Rambo, 1993). Rambo's model is inclusive of previous scholarly efforts explaining conversion, representing a well-informed synthesis of these works (Gooren, 2007). Specifically, Rambo identified seven stages of the conversion process, including context, crisis, quest, encounter, interaction, commitment, and consequence. Though listed sequentially, the order is not necessarily unidirectional; individuals may experience stages in a different order, at different times, or not at all (Kahn & Greene, 2004; Rambo, 1993; Rambo & Bauman, 2011; Smith & Stewart, 2011).

The first element of Rambo's model is context, an element consisting of two parts—the macrocontext, or total environment, and the microcontext, or the immediate world as known and experienced by the individual. These contextual elements surround us all, shape our lived experience, and may encourage or discourage conversion (Gooren, 2010; Kahn & Greene, 2004). Said Rambo, context “has a powerful impact in terms of access, mobility, and the opportunity for coming into contact with new religious influences,” (1993, p. 31). Smith and Stewart (2011) qualitatively explored context as part of a study of religious converts and found this element primed individuals for conversion by influencing

receptiveness to alternative ideas. Influencing factors included disheartening beliefs on the economy, world affairs, and the environment, unsatisfying personal relationships, and perceived lack of agency in society. Empirically, however, context has proven more difficult to capture; Kahn and Greene (2004) were unable to reliably model context and suggested future efforts focus on particular microcontexts rather than context generally.

While context may introduce the opportunity for conversion, crisis represents a potential “catalyst for change,” (Rambo, 1993, p. 166). The term used by Rambo to classify this stage—crisis—may evoke notions of particularly difficult life experiences including death or suffering, and in some cases these accurately reflect one’s motivation for conversion. However, crisis could just as easily represent a seemingly insignificant event or interaction, but one that serves as a triggering event nonetheless (Rambo, 1993). Said Rambo (1993), “...merely hearing childrens’ voices say ‘Take up and read’ is trivial, but for Augustine those words were the culmination of a process that had enormous significance for his religious journey,” (p. 46). This stage pays homage to previous psychological models of conversion in which the convert may be viewed more passively, leading a life without question until motivated to act by external events (Kahn & Greene, 2004). Nevertheless, “some form of crisis usually precedes conversion,” (Rambo, 1993, p. 44). As such, Rambo recognizes crisis as a potential motivator of conversion, but—importantly—experienced crisis is not a *requirement* for conversion (Kahn & Greene, 2004)

While the crisis stage may account for external motivations to convert, Rambo also recognizes individuals may take an active interest in clarifying beliefs (Kahn & Greene, 2004). This stage, called quest, may be summarized as a “process of building meaning,”



(Rambo, 1993, p. 56), and may include “seeking new beliefs to replace ones that have come to seem inadequate, seeking new emotional experiences in a connection to God and other believers, seeking new ways of coping with life’s problems, or some combination of the three,” (Kahn & Greene, 2004, p. 235). However, individuals experience quest differently based on a number of factors including one’s structural, emotional, intellectual, and/or religious (Rambo, 1993). Where one falls within each of these categories influences the readiness to convert, as well as the degree of difference between old and new beliefs one might reasonably adopt.

If quest recognizes an individual’s active decision to seek meaning, encounter is the initial coming-together of the potential convert and advocates of alternative beliefs. While previous models of conversion often focused on the individual convert, the encounter phase as described by Rambo recognizes the important interplay between these two players (Kahn & Greene, 2004). Rambo (1993) spent ample time discussing various missions and strategies employed by advocates, but ultimately their efforts are aimed at piquing the interest of a potential convert and encouraging further investigation of a particular worldview. This is not always successful; a potential convert may interact with advocates from a number of beliefs, but fail to find a “congruence of interest,” (Rambo, 1993, p. 167). However, potential converts who do gain interest in an alternative worldview may deepen their involvement in and investigation of this new belief, a behavior termed Interaction by Rambo (1993).

As with encounter, interaction is a phase of conversion in which the potential convert and the believers and tenets of a given, alternative worldview interact. Depending on the worldview in question, different levels of engagement may occur (Kahn & Greene, 2004).

Orthodox Jews, for example, tend to dissuade conversion, meaning the potential convert must be more personally driven in the conversion process (Rambo, 1993). Alternatively, individuals interested in converting to groups like the Southern Baptists or Mormons can be much more passive, as advocates of these worldviews more readily and openly encourage conversion (Rambo, 1993). Regardless, Rambo described the interaction phase as one in which potential converts are first encapsulated physically, socially, and ideologically within a new belief, then transformed via roles, rituals, relationships, and rhetoric.

The penultimate phase described by Rambo (1993) is commitment, though he is quick to view this as “the fulcrum of the change process” (p. 124). Commitment represents the period in which the potential convert decides to adopt a new worldview. This process is not always easy, and the potential convert may experience a wide range of emotion, from sadness at the prospect of giving up an old belief system to joy in accepting a new worldview (Rambo, 1993). While external rituals may mark one as a convert (Kahn & Greene, 2004), commitment is solidified internally through a process termed surrender, or the “inner yielding of control, an acceptance of the authority of the leader, group, or tradition, which enables the convert to devote himself or herself completely to the group,” (Rambo, 1993, p. 132).

Following conversion, the convert may experience a range of consequences. For some, conversion can result in a radically different life, one in which the convert embraces a new sense of self and mission in the world (Rambo, 1993). Alternatively, consequences may be more externally subtle, resulting in a greater sense of internal peace but a lifestyle reminiscent of the one previously lived. Of course, not all stories of conversion are positive,

and some converts may come to realize their new beliefs (and communities) are not meeting expectations. For these reasons, Rambo (1993) noted converts develop more nuanced views as they “review, reinterpret, and revalue their experience,” (p. 170).

Ultimately, Rambo’s model represents the complex nature of conversion (Rambo, 1993). Conversion is rarely a short process, and the experience may differ greatly among individuals, even those with similar conversion trajectories (Smith & Stewart, 2011). For this reason, drawing generalities from the unique experiences of converts can prove difficult (Rambo, 1993).

Rambo’s model is widely known and represents a synthesis of previous efforts to describe conversion (Gooren, 2007, 2010; Smith & Stewart, 2011), though it has been subjected to little empirical study (Gooren, 2007; Kahn & Greene, 2004). Kahn and Greene (2004) attempted to test Rambo’s model empirically by comparing each of the seven stages to the self-reported experiences of converts. Alternatively, Smith and Stewart (2011) relied on longitudinal ethnography with participants exposed to similar experiences. Generally, these studies provided support for the model, with Kahn and Greene (2004) able to model each phase proposed by Rambo except encounter and context. Notably, the influence of context on conversion proved especially difficult. The authors suggested future studies might limit themselves to microcontextual factors easier to model empirically. Smith and Stewart (2011), meanwhile, identified the importance of interaction and commitment, suggesting these phases represented the “engine of conversion,” (p. 819). While interaction and commitment were critical, participants were also seen to cycle within the context—crisis—quest stages until an encounter of sufficient merit encouraged further progress,

suggesting the important role others may play in one's conversion process (Stewart and Smith, 2011).

**Gooren's (2005) Conversion Career model.** In 2005, Henri Gooren proposed a new model of conversion termed the Conversion Career model in which conversion was viewed not as a singular event, but rather as a career—an experience with (potentially) deepening levels of involvement and one that could ebb and flow and repeat multiple times over the course of one's life. This model was a response to previous stage (or process) models in which an individual was theorized to move linearly through stages on the path to conversion (Gooren, 2005). Rather than define a set order of events, Gooren (2005) envisioned a model with differing levels of religious participation, levels that were “dynamic, but not necessarily chronological during a person's conversion career,” (p. 154). Conversion, then, assumes a process potentially experienced (numerous times) over one's lifetime and is explained using a “life cycle approach,” (Gooren, 2010, p. 51).

Gooren's (2005) levels of religious participation begin with pre-affiliation, or the “worldview situation of the person preceding affiliation or conversion,” (Gooren, 2005, p. 154). In common parlance, these individuals might be viewed as visitors, and this phase may represent the initial contact of an individual with a religious group (Gooren, 2010). Next, affiliation represents a more formalized commitment, though in this stage individuals may not experience religion as a key component of their lives (Gooren, 2005, 2010). Conversion and confession represent the next phases where individuals experience change in and commitment to a worldview, followed (potentially) by deeper levels of involvement and participation within the new religious group (Gooren, 2005). Finally, Gooren (2005, 2010)

notes some individuals may separate from a religious group, a phase termed disaffiliation. Importantly, disaffiliation may occur following affiliation, conversion, or confession, and may signal the start of a new conversion career, or none at all (Gooren, 2005).

To explain changes in religious participation, Gooren (2005) believed one could and should define specific constructs to be explored in studies of conversion. Specifically, these included social, institutional, cultural and political, individual, and contingency factors that might be significant in the Conversion Careers model (Gooren, 2010).

Social factors include the influence of one's social network when deciding to join or leave a particular religious group, but also include the influence of the religious group itself. Institutional factors correspond to religious groups specifically, and include discontentment with one's current religious group, the presence of alternative groups, and the recruitment methods and appeal of these alternatives. Gooren (2010) also recognized the possible impact of cultural and political factors on religious activity, and believed certain groups might appeal (or not) to others based on their political and cultural views as well as the tension experienced between the group and society or others. Individual factors noted by Gooren (2010) include one's intrinsic need to have or identify with a religious worldview and/or community, a need that might be rooted in the desire to seek meaning or promote change in one's life. Finally, contingency factors represent potentially significant turning points in an individual's life. These include crisis events (e.g., illness, death of a loved one, divorce, etc...), finding the solution to a crisis in a religiously-grounded way (e.g., finding a job through a church connection), or experiencing a "chance meeting with representatives of a religious group," (Gooren, 2010, p. 52).

As with Rambo's model above, Gooren's (2005) model of Career Conversion is largely empirically untested. Certainly, Gooren (2010) explored conversion stories in the development of the model, analyzing stories of converts from the United States, Europe, and throughout Latin America. However, evidence of testing by others has been difficult to obtain. One recent study empirically tested several important elements previously linked with conversion (Halama, 2014). While the Conversion Career model was not explicitly tested, Halama (2014) modeled conversion as described in the Conversion Career model (along with others) and suggested factors that might impact conversion would include positive family background and prior religious education.

**Astin's (1993) Input-Environment-Outcome model.** While the models supplied by Rambo (1993) and Gooren (2005, 2010) suggest broadly applicable frameworks for conversion studies, an investigation of religious conversion among college students requires centering within a postsecondary context. To do this, I will incorporate Astin's (1993) Input-Environment-Outcome model of college impact into this study's framework. Described as "one of the first and most durable and influential college impact models," (Pascarella & Terenzini, 2005, p. 53), this framework stands a guide for the study of college student development (Astin, 1993). Comprised of three elements—inputs, environments, and outcomes—the framework seeks to evaluate change in students on the basis of specific environmental conditions and experiences (Astin, 1993).

To isolate these impacts, it is critical to control for student characteristics at the beginning of college (Astin, 1993). These characteristics, or inputs, may include family and demographic background, as well as the educational and social experiences a student brings

to college (Astin, 1993; Pascarella & Terenzini, 2005). Certainly, these inputs are important in the ultimate outcomes experienced by students, but outcomes may also be shaped by specific elements of the college environment (Pascarella & Terenzini, 2005). Specifically, environments may include any number of experiences, including interaction with new people, curricular and co-curricular involvement, and other lived experiences (Astin, 1993). Though broadly applicable, a key consideration in the use of this model is correct identification of the various inputs, environments, and outcomes to be measured (Astin, 1993). For that, I return to Rambo (1993) and Gooren's (2005) respective models of religious conversion.

**Conceptual framework.** Despite the limited explicit testing Rambo and Gooren's models have received, they represent useful and contemporary understandings of conversion. For the purpose of this study, they suggest a number of important elements to consider empirically. First, both Rambo (1993) and Gooren (2005, 2010) suggest contextual factors influence conversion; Rambo devoted an entire stage to this element, inclusive of both macro (e.g., the national political environment or global events) and micro-contexts (e.g., relationships with others or lived experiences within a localized setting). Gooren (2010) recognized the importance of several factors he termed institutional, including the presence of religious alternatives and ways in which a specific religious group's political or cultural views align (or fail to align) with society generally.

Of course the crux of conversion is one's ultimate motivation to seek alternative views, and each model implies there may be one or more elements at play. Rambo (1993) suggested some individuals are motivated externally by crisis, while others experience an

internal drive, or quest, for meaning. Gooren (2010) captured these themes as contingency factors or individual factors, respectively. Crisis events may include the death of a close family member, personal illness, or divorce, while internal motivations might suggest a spiritual quest or struggle undertaken to answer difficult questions of meaning (Gooren, 2010).

Together these models relate the important role members of alternative groups play in the conversion process. Gooren (2010) captured these via institutional factors of leader appeal and recruitment methods and described specific social factors influencing changes in religious practice including social network influences. Rambo (1993) conceptualized this relationship via two stages, encounter and interaction. In either case, the experience and relationships one has with members of a particular group are influential in the ultimate decision to convert, or step away from, that group.

The moment of truth, or fulcrum of the change process (Rambo, 1993), comes when an individual makes the active decision to begin affiliating with a new religious group. This is the point at which the new religious identity is embraced, often accompanied by an outward display of affiliation (Rambo, 1993). Similarly, Gooren (2010) understood the conversion stage as the point at which one identifies as a convert and a full-fledged member of a new religious organization. In sum, commitment represents an important milestone in the convert's life, though—as Gooren (2010) suggested—commitment does not always translate to life-long affiliation.

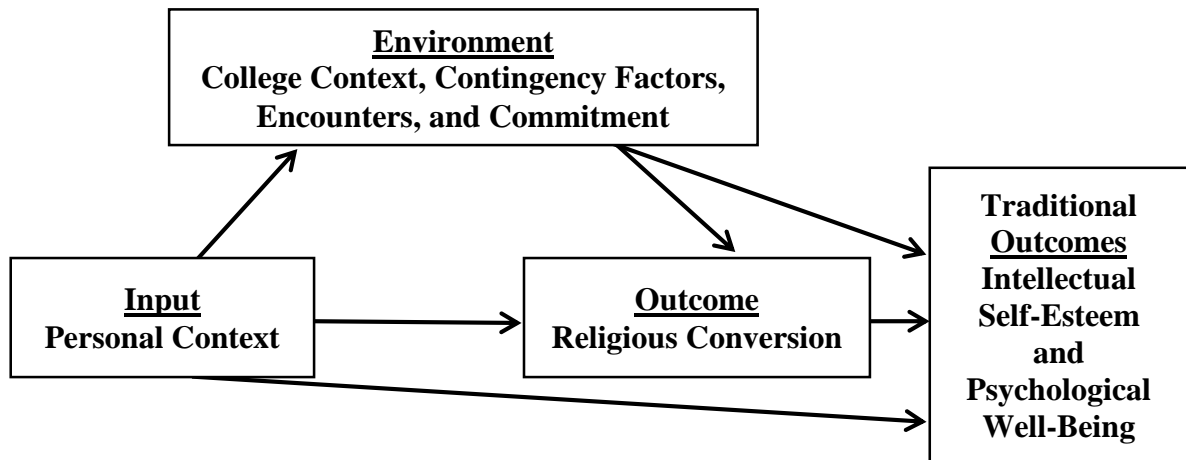
Following the conversion experience, both Gooren (2005, 2010) and Rambo (1993) implied the convert will experience consequences of conversion. These may include a



reconceptualization of life's purpose or meaning and/or a newfound sense of peace (Rambo, 1993), often made evident by high levels of involvement and external evangelism (Gooren, 2005).

As no established model of religious conversion among college students currently exists, the key components described above will be incorporated into Astin's I-E-O framework. Specifically, the inputs described by Astin (1993) represent a number of personal contexts measured prior to entering college. The environments include four elements discussed by Rambo (1993) and Gooren (2005, 2010). These are college context, representing environmental factors unique to each institution and derived from the microcontext and institutional factors discussed by Rambo and Gooren, respectively; contingency factors comprised of life events that may trigger conversion, drawn from Rambo's crisis and quest stages and Gooren's contingency and individual factors; encounters, including measures of curricular and co-curricular religious and spiritual involvement and representative of the encounter and interaction stages (Rambo, 1993) and social influences (Gooren, 2010); and commitment, or self-identifying as a religious convert, an external acknowledgment of one's new identity and representative of Gooren's conversion and Rambo's commitment stage. Together, these inputs and environments will be used to explore associations with changes in religious preference over time. For students who begin college with a religious preference, these include no change, intensification, apostasy, or tradition transition, while categories for students without a religious preference at the outset of college will be no change, intensification, or affiliation. Finally, as Rambo and Gooren each noted conversion may result in changes to an individual's sense of purpose and

meaning, two college outcomes—intellectual self-esteem and psychological well-being—will be explored in relationship to conversion. Each of these modeled aspects is discussed in greater detail below.



*Figure 2.* Conceptualization of the theoretical framework for this study with combined elements from Astin’s (1993) I-E-O model, Rambo’s (1993) Systemic Stage model of Conversion, and Gooren’s (2005) model of Conversion Careers.

## Personal Context

Within the conceptual model proposed for this study, the inputs described by Astin (1993) represent a construct termed personal context. Certainly, the works of Rambo (1993) and Gooren (2005, 2010) indicate context plays an important role in conversion, though scholars have encountered difficulty modeling this relationship empirically (Kahn & Greene, 2004). This study approaches context in two ways—in the form of personal context, or measures of students’ lives prior to college, and college context, or the specific environmental contexts students encounter once on campus. Generally, personal context relates to beliefs or events prior to entering college, or to mostly static demographic

characteristics (e.g., ethnic identity). Collectively, these are grounded in theories of conversion described by Rambo (1993) and Gooren (2005, 2010) and supported by related research.

**Religious tradition.** Embedded within any notion of personal context and conversion is identification (or lack thereof) with a particular religious tradition. Not surprisingly, scholars have linked religious tradition with conversion and belief change, both generally and among college students more specifically. Some of these relationships appear intuitive. For example, evangelical beliefs have been linked with more frequent church attendance and prayer, while nonaffiliated (or nonreligious) students spend less time in prayer (McFarland, Wright, & Weakliem, 2010). Astin et al. (2011b) provided measures of students' external evidence of practice in the construct religious engagement. As mentioned earlier, evidence suggests religious engagement suffers over time, though many students maintain relatively stable levels of religious commitment (Astin, 2011b). Understanding the initial strength and nature of one's religious affiliation and practice helps contextualize the individual's relationship with a given belief.

That said, religious traditions may influence other aspects of belief in less obvious ways, including students' levels of ecumenical worldview. Now more frequently termed pluralism, ecumenical worldview is generally described as being connected with and accepting of others and their beliefs (Astin et al., 2011b). Notably, students associated with a minority religion often arrive on campus more ecumenically inclined than others (Astin et al., 2011b; Rockenbach & Mayhew, 2013b). These differences do not subside over time, with religious minority students increasing in measured ecumenical worldview at rates outpacing

religious majority students (Bryant, 2011; Rockenbach & Mayhew, 2013a; Small & Bowman, 2011). Small and Bowman (2011) theorized these gains occurred because minority students regularly witnessed Christians and Christianity being privileged on campus, an occurrence perhaps resulting in greater knowledge of and appreciation for different beliefs.

**Demographic factors.** Gender and ethnic identity are also important factors of consideration. Women and students of color develop ecumenically at rates greater than their male or majority peers (Astin et al., 2011b; Gehrke, 2014; Mayhew, 2012; Rockenbach & Mayhew, 2013b). As with religious majority students, men (and especially white men) enjoy privileged status on campus, a status which might allow them to leave college without ever needing to critically question or evaluate their beliefs (Mayhew, 2012). Women and students of color, on the other hand, may be more willing (or find it necessary) to embrace ecumenical perspectives as a means of empowerment, either for oneself or others (Mayhew, 2012). Additionally, men or students of particular ethnic identities, specifically Latin American or those identifying as Other, also experience greater decreases in religious identity than women or students of other ethnic backgrounds (Chan et al., 2014).

Certainly, ecumenical worldview as measured by Astin et al. (2011b) does not necessitate encounters with different beliefs. Nevertheless, higher levels of ecumenical worldview may suggest a willingness to engage in these interactions. When associated with conversion, a more developed ecumenical worldview may lend itself to increased pre-conversion priming as previously described by Smith and Stewart (2011).

**Family background.** Finally, scholars also suggest family background likely contributes to future religious affiliation. Put simply, young adults are more likely to adopt

the religions of their parents (Putnam & Campbell, 2010). This likelihood may be amplified when higher levels of parent communication are present (Longo & Kim-Spoon, 2014) or when a close relationship exists between the child and parent (Halama et al., 2013).

In sum, a number of personal contexts, or inputs, present themselves as useful in a study of conversion. These include initial measures of religious commitment, religious engagement, and ecumenical worldview, as well as students' personal religious preference, that of their family, and demographic characteristics such as gender and ethnicity. Together, these elements make up the personal contexts that may shape future conversion events.

### **Conversion Environments**

While the previous section discussed potential pre-college inputs to include when studying conversion, what follows are specific experiences linked with conversion. These include the college context, contingency factors, encounters, and commitment.

**College context.** As previously noted, scholars suggest context is an important characteristic influencing one's decision to adopt a new worldview belief. Environmentally, a number of factors warrant discussion, including major selection, peer influence, and institutional setting.

**Major selection.** Academically, major selection is a decision with many future implications. One of these perhaps overlooked is the association between college major and religious commitment. Interestingly, students with majors in social science, education, or business have been linked with lower levels of religious commitment than those in the arts, humanities, and religious studies (Mayhew & Bryant, 2013), as have males majoring in the sciences (Bryant, 2007a). Major selection is also related to differing levels of ecumenical

worldview, with students who major in business, engineering, math, or statistics demonstrating declines in ecumenical worldview compared to their peers in other majors (Astin et al., 2011b).

***Peer context.*** Astin et al. (2011b) notes declines in ecumenical worldview among selected majors may at least be partially connected to peer influence. Certainly, the influence of peers (and, to a greater extent, one's social network) is associated with conversion directly; often times, people in these groups actively encourage joining, or at the very least exploring, a new religious identity (Foubert et al., 2015; Jindra, 2011; Vielma, 2014). This role is not to be overlooked, and will be explored more thoroughly in the coming section on encounters. However, peer behavior appears to play an important contextual role in conversion as well.

In studies of young adult converts, positive associations between an individual's religious practice and the degree with which religion is practiced among one's peers have been observed (Gunnore & Moore, 2002; Regnerus & Uecker, 2006), suggesting peer context influences individual levels of religiosity and religious transformation. Among college students, decreases in religious practice have been observed (Astin et al., 2011b; J. P. Hill, 2009; Stoppa & Lefkowitz, 2010), but students attending institutions with religiously participating peers are more likely to participate in religious activities themselves, even when the student's personal religious beliefs differ from those of their peers. (Bryant, 2007a; J. P. Hill, 2009; Lee, 2002b; Small & Bowman, 2011). Moreover, students' spiritual struggles also appear to influence other students on campus, as evidence suggests individual levels of

spiritual struggle are positively associated with higher levels of peer spiritual struggle (Astin et al., 2011b).

***Institutional environment.*** Lastly, a number of institutional factors appear likely associated with conversion. Perhaps the greatest of these is the presence of religious and spiritual diversity. High degrees of religious pluralism have been associated with increased religious conversion (Barro et al., 2010). Notably, Barro et al. (2010) operationalized pluralism as an increased likelihood of encountering someone with different beliefs, a likelihood influenced by inter-religious marriage or living amongst individuals with no religion. Similarly, students who encounter religious diversity on campus report questioning beliefs and assumptions (Bryant & Astin, 2008; Edmondson & Park, 2009) and have been linked with more significant levels of belief change (Edmondson & Park, 2009).

Research, though, indicates there is more to conversion than the structural availability of differing options. Iannaccone (1990), for example, found evidence the perceived availability of worldview options similar to one's current belief structure may support or discourage conversion. For example, Christians may be more apt to switch between similar denominations than a Muslim is to become Buddhist, assuming these similar denominational options are readily available. Taken together, these findings suggest that more homogenous college environments may be less conducive to religious conversion.

Institutional type has also been linked with other forms of spiritual or religious change. While Bowman and Small (2010) found no difference in average ecumenical worldview among students at evangelical, non-evangelical religious, and secular institutions, Mayhew (2012) observed students at evangelical colleges with higher rates of peer religious

struggle grew more ecumenically than did students at public institutions with similar levels of peer struggle. Moreover, campus environments supportive of broad spiritual expression may incite further ecumenical growth (Rockenbach & Mayhew, 2013b). Finally, students attending religious colleges experience greater spiritual struggle, perhaps the result of investigating beliefs through an academic lens or, alternatively, possessing a religious or spiritual identity not associated with the specific institution (Astin et al., 2011b; Bryant & Astin, 2008).

Clearly, incorporating contextual differences across institutions, including those related to academic major, peer influence, and college environment, represents an important measure of context. But, as Rambo (1993) and Gooren (2005, 2010) suggested, conversion is generally a reaction to an intrinsic need or external crisis. These motivators, or contingency factors, are discussed next.

**Contingency factors.** Current scholars suggest conversion may be precipitated by an external crisis disrupting the current worldview, or by an internal search for meaning or purpose (Gooren, 2005). Though each of these motivators push the prospective convert to seek alternative belief options, they do so in different ways.

**Crisis.** Rambo (1993) believed crises occurred in one of two ways: those that challenged an individual's "fundamental orientation to life," (p. 46) or in ways that appeared less important but ultimately proved to be the trigger needed for conversion. These moments represented the point at which an individual accepted the existence of conflict that could not be addressed or explained within the current worldview (Iyadurai, 2010; Paloutzian, 2014).



Though common, crisis events vary among individuals. These include loneliness or conflicted relationships (Jindra, 2011), personal experiences with illness, alcohol, or other drugs (Kahn & Greene, 2004), parental or personal divorce (Denton, 2012; Edmondson & Park, 2009; Jindra, 2011), or experiencing the death of a loved one or family member (Edmondson & Park, 2009; Gutierrez & Park, 2015). Students are obviously not immune to these events, and scholars have linked crisis events with increased questioning of beliefs and assumptions among students (Bryant & Astin, 2008; Edmondson & Park, 2009) and, more specifically, higher rates of spiritual struggle (Astin et al., 2011b).

***Spiritual quest.*** However, there are disagreements regarding the importance of crises in the lives of converts. Gooren (2007, 2010) noted many studies describing crisis lacked control groups and, when studies included control groups, crisis diminished in importance. Why, then, did some individuals adopt new worldviews while others did not?

Gooren (2010) noted crisis (and the resultant stress and tension) could serve as a motivating factor for some, but it is not a “necessary condition” (p. 41) for all religious conversions. Instead, individuals may simply be internally motivated to explore alternative beliefs. In several studies of conversion among college students, for example, converts were often attempting to find greater meaning and purpose in life (Cummings, 2012). Whether reflecting on the “sin in their lives and the emptiness in their hearts without God,” (Foubert et al., 2015, p. 9) or actively reevaluating beliefs as a result of entering college (Edmondson & Park, 2009), these quests sought answers to questions unexplained within the current belief framework (Gooren, 2010; Rambo, 1993; Zinnbauer & Pargament, 1998).

Astin et al. (2011b) noted a segment of college students readily engaged in a process referred to as spiritual quest. Defined as “a form of existential engagement that emphasizes individual purpose and meaning-making in the world,” (Astin et al., 2011b, p. 28), the purpose of quest was to clarify beliefs and perspectives. Certainly some students engaged in questing behavior as a means of seeking new beliefs, often the result of conflict or doubt within their own belief structure (Astin et al., 2011b). However, other students involved in spiritual quests classified their beliefs as secure and participated in daily activities like prayer or meditation at greater rates than others (Astin et al., 2011b). Specifically, women have reported higher levels of spiritual quest (Bryant, 2007a), though this gender gap appears to narrow as students spend more time in college (Astin et al., 2011b).

Clearly, spiritual quest is a measure related with conversion. As previously discussed, both Rambo (1993) and Gooren (2005) believed individuals engage in questing behavior to clarify beliefs, either as a result of an internal drive or external events. Astin et al. (2011b) suggested similar motivations, noting students with high levels of spiritual quest often engaged in heightened levels of self-reflection, read religious or spiritual books, or experienced some form of crisis resulting in (re)evaluation of life’s meaning and purpose. While some students may find validation in their quest, a second outgrowth of this behavior may be increased spiritual struggle (Bryant & Astin, 2008).

***Spiritual struggle.*** Astin et al. (2011b) defined religious struggle as “...the extent to which the student feels unsettled about religious matters, disagrees with family about religious matters, feels distant from God, or has questioned her/his religious beliefs,” (p. 22). However, the concept of students struggling with their religious or spiritual identities is not a

new phenomenon. Fowler (1981) and Parks (2011) each developed predominant models of young adult faith development suggesting spiritual growth occurs when individuals interact with difference, question beliefs, and examine uncertainties. The challenge or conflict between accepted belief and experienced reality often necessitate thought, reflection, and, ideally, development (Bryant, 2011; Fowler, 1981; Parks, 2011; Pascarella & Terenzini, 2005).

This trigger, or spiritual struggle, has been documented in studies examining the particular ways students' spiritual beliefs are impacted by the collegiate experience and identifying as a female or a member of a religious minority group appears to increase levels of spiritual struggle (Bryant, 2007a; Bryant & Astin, 2008). Notably, this construct has also been positively associated with religious conversion (Bryant & Astin, 2008).

Assessing students' encounters with crisis, as well as levels of spiritual quest and struggle experienced in college, modeled the potentially motivating factors of student religious conversion. I now turn to the next environmental construct of concern—encounter.

**Encounter.** Regardless of the motivating factor(s), continuation along the path of conversion is not an individual journey. Rather, potential converts must come into contact and interact with believers of alternative views (Gooren, 2005; Rambo, 1993). These encounters are critical, and potential converts may experience stalled conversions should encounters of sufficient merit not occur (Smith & Stewart, 2011). Gooren (2010) captures these via institutional factors of leader appeal and recruitment methods, and links the influence of one's social network among social factors influencing changes in religious practice. Rambo (1993) conceptualizes this relationship via two stages, encounter and

interaction. In either case, experience and relationships with others are influential in the ultimate decision to convert.

The importance of these connections is borne out in the literature. For example, religious role models have been linked with young adult belief change (Gunnoe & Moore, 2002), inclusive of both family and peer influence (Regnerus & Uecker, 2006). More specifically, potential converts to Evangelical Christianity and Catholicism each reported the significant role personal relationships played shaping initial encounters and later ideas about these respective groups (Foubert et al., 2015; Vielma, 2014). These encounters need not simply consist of gentle encouragement. In fact, challenging interactions with diverse peers and faculty have also incited students to actively question beliefs and engage in spiritual quest (Astin et al., 2011b; Lee, 2002a), an outcome participants believed unlikely had they not attended college (Lee, 2002a).

Additionally, involvement in curricular and co-curricular activities that introduce students to difference and challenge pre-conceived beliefs seem to influence elements of belief change. For example, experiences encouraging interaction with others—be that a service project, helping a friend through a problem, or working—are all positively associated with increased levels of spiritual quest (Astin et al., 2011b). Moreover, students experienced heightened levels of spiritual struggle as the result of meeting others with different perspectives (Rockenbach, Walker, & Luzader, 2012), an experience associated with more frequent engagement in co-curricular activities or academic pursuits challenging understandings of one's self and others' beliefs (Bryant, 2011; Bryant & Astin, 2008).

Ultimately, these “pull factors” (Jindra, 2011, p. 288) toward conversion are likely insufficient to cause conversion alone. Said Heirich (1977), “If one is not already a religious seeker, such contact is insufficient in most cases to produce a ‘change of heart,’” (p. 673). Encounters, then, must prove interesting enough to motivate further interaction with members, or the potential convert may cease exploration of that particular group (Smith & Stewart, 2011).

**Commitment.** Rambo (1993) noted commitment often outwardly reflects the choice to accept a new religious identity. Commitments often occur in the form of ritual, “observable elements that give witness to the convert’s decision,” (Rambo, 1993, p. 124). Gooren’s (2010) conceptualization includes both conversion and confession, phases where the individual solidifies commitment and sees one’s self as a convert or even a core member of the community.

Converts who maintained engagement with others via encounters experienced deepened, reciprocal growth within these relationship, where “rituals, roles, rhetoric, and relationships all converge to produce a fuller commitment,” (Smith & Stewart, 2011, p. 819). For Evangelical Christians, this might involve an active, outward response, perhaps in the form of an alter call (Foubert et al., 2015), while converts to Catholicism may demonstrate an outward willingness to engage with Church teachings through a Rite of Christian Initiation of Adults (RCIA) program (Vielma, 2014). While, family, friends, and church were undoubtedly important factors helping individuals enter and engage the conversion process, finding a place and opportunity for active response represented the necessary culmination of commitment. (Foubert et al., 2015)

Possessing a self-ascribed identity consistent with one's new belief appears critical in measuring commitment. The CSBV survey provides two alternatives; measuring commitment via stated religious preference at each time point, or allowing participants to self-identify as a religious convert at the second time point. As mentioned, the definition of conversion used in this study relies primarily on the former, but the latter will be incorporated as an additional measure of commitment. In other words, was the individual in question committed enough to the new religious preference to warrant self-identification as a religious convert?

### **Correlates of Conversion**

There is general agreement in the literature that conversion produces altered individuals. These may run the gamut from overt lifestyle transformations to subtler, generally indiscernible changes (Rambo, 1993). Of course, some experience a reality within their new beliefs that does not ultimately meet expectations, a situation that may cause discontent and even encourage movement away from that belief (Gooren, 2005, 2010; Rambo, 1993). Nevertheless, conversion represents a fundamental shift in beliefs, thus it is not surprising conversion is correlated with any number of outcomes.

Many converts described life after conversion as one of "love, joy, freedom, and new relationships with God, community, and self resulting from conversion," (Kahn & Greene, 2004, p. 244). This finding was echoed by others, noting converts were more inwardly and outwardly committed to their faith (Edmondson & Park, 2009; O'Neill, 2014). There is also evidence suggesting both recent and non-recent converts continue experiencing the benefits

of their conversion after the fact, including increased meaning-making and self-esteem and decreased neuroticism (Halama & Lačná, 2011; Kahn & Greene, 2004).

Among young adults specifically, a number of conversion outcomes have been documented including increased moral sociability, intrapsychic functioning, self-adequacy, and confidence (O'Neill, 2014; Schnitker et al., 2014; Vielma, 2014; Zinnbauer & Pargament, 1998). O'Neill (2014) found consequences of conversion influenced other facets of life, citing college student converts who sought to apply their newfound faith and energy to areas of social justice, advocacy, and youth development; two students (of four) changed majors and career orientations as well.

Even among students who have not converted, engaging with difficult questions or religious and spiritual identity can prove fruitful. For example, students with higher levels of spiritual quest were positively associated with intellectual self-esteem, a measure of self-assessed academic ability and drive to succeed (Astin et al., 2011b). In addition, while spiritual struggle may prove difficult initially, the longer-term effects appear beneficial, including increased personal growth and acceptance of others' beliefs in the form of heightened ecumenicism (Bryant, 2011; Bryant & Astin, 2008; P. C. Hill & Pargament, 2003). That said, the picture is not always positive.

At its core, conversion from one worldview to another represents discarding or modifying previously held beliefs. Notably, spiritual struggle alone may produce detrimental effects to students' physical, emotional, and spiritual well-being (Bryant & Astin, 2008). In these moments, students are challenged in "aspects of life that are most sacred and imply harsh truths about the human condition, truths that may be ultimate, immutable, and eternal,"

(P. C. Hill & Pargament, 2003, p. 69). Additionally, spiritual quest and struggle were each associated with lower levels of psychological well-being, a construct measuring emotional health and feelings of stress, anxiety, and depression (Astin et al., 2011b).

For individuals who ultimately convert, the beliefs left behind are often those still held by parents, family, and friends, a situation potentially fraught with increased stress, conflict, and hostility (Iyadurai, 2010). In others, formal adoption of the new worldview did not meet the expectations of the convert, and they experienced little relief and high negativity following (Halama, 2014), or held second thoughts about their conversion (Gooren, 2010; Rambo, 1993). Finally, and of particular concern, young adult converts engaged in more frequent coping behaviors, including the use of drugs and/or alcohol while in the process of conversion (Edmondson & Park, 2009). These finding suggests conversion may prove rocky for young adults, suggesting institutions should treat spiritual wellness as an important dimension of students' overall well-being (O'Neill, 2014).

### **Observed Limitations from the Literature**

There are a number of limitations faced by studies of conversion among college students. First, and previously noted, is the small number of studies exploring the phenomenon among college students specifically (O'Neill, 2014; Vielma, 2014). Though this population represents an age range in which conversion may be more common (Halama, 2014; Halama et al., 2013; Halama & Lačná, 2011; Iannaccone, 1990; Regnerus & Uecker, 2006), many studies focus on the population more generally. Even still, some studies relied on self-reported and reflective data (Halama, 2014; Halama et al., 2013; Halama & Lačná, 2011). This assumes participant honesty and the ability to accurately recall past details, an



assumption potentially problematic in conversion studies as converts may exaggerate or distort their lives before conversion to validate the importance of their new beliefs (Gooren, 2010; Heirich, 1977).

Further, samples used in studies of young adult or college student conversion were generally small and homogenous, usually consisting of less than 500 predominantly white, Christian students at limited numbers of institutions (Chan et al., 2014; Cummings, 2012; Edmondson & Park, 2009; Foubert et al., 2015; Gutierrez & Park, 2015; Heirich, 1977; Longo & Kim-Spoon, 2014; O'Neill, 2014; Schnitker et al., 2014; Stoppa & Lefkowitz, 2010; Vielma, 2014; Zinnbauer & Pargament, 1998). While findings shed general light on the topic, they present difficulties when applied to specific environments or religiously under-represented populations.

Finally, though research on college student conversion is emerging, it has rarely been associated with other aspects of spirituality in higher education. While associations between student conversion and spiritual struggle (Bryant & Astin, 2008) have been noted, ties to other established measures (e.g., spiritual struggle or ecumenical worldview) remain speculative. As a result, it is currently difficult to evaluate conversion within the broader context of college student spirituality.

## **Chapter Summary**

I began this chapter by first establishing a definition of conversion, then developed a conceptual framework based on the work of Rambo (1993), Gooren (2005, 2010), and Astin (1993). Research suggests conversion is driven by a number of factors including context (discussed above as personal context and college context), contingency factors, encounters,

and commitment. Each of these elements was discussed within the framework of conversion broadly, as were potential correlates often associated with conversion and belief change more generally. Ultimately, the elements of conversion discussed in this chapter inform variable selection within this study; the specific model and variables of interest are described in the coming chapter.

### CHAPTER 3: METHODOLOGY

In this study, I contributed to understandings of college student conversion by determining how personal and college contexts, contingency factors, encounters, and commitments related to conversion choice in college students, and identified how different types of conversion related to potential correlates of conversion.

#### Research Design

To answer these questions, I made use of multilevel modeling in two forms—multinomial logistic regression to explore a number of nominal conversion alternatives, and linear regression to investigate relationships between conversion and other specific outcomes. Generally, multilevel models explore relationships between a dependent variable and independent variables, but involve observations at different levels (Rabe-Hesketh & Skrondal, 2012). Sometimes termed nesting, multilevel models recognize individual observations may be nested or grouped in particularly meaningful ways (Bickel, 2007; Raudenbush & Bryk, 2002). One common example is to nest children within classrooms, schools, and/or districts. Ultimately, the point of nesting variables is to recognize the significant role context may play in a given outcome (Bickel, 2007).

One can attempt to control for nesting variables in standard regression through use of dichotomous indicator variables, (e.g., *classroom\_1* = 0/1, *classroom\_2* = 0/1 ... *classroom\_x* = 0/1). However, doing so does not allow intercepts and slopes to vary across classrooms, thereby negating the impact different contexts may have on a given dependent variable (Bickel, 2007). And, while estimated coefficients generated via single and multilevel approaches are often similar, the latter generally result in larger standard errors,

suggesting multilevel models are less prone to specification error when used correctly (Bickel, 2007).

### **Data Source and Instrument**

I used longitudinal data collected by UCLA's Higher Education Research Institute (HERI) in this study. In 2004, more than 112,000 students at institutions nationwide completed an initial survey developed by HERI as an add-on to the well-known Cooperative Institutional Research Program (CIRP) Freshman Survey. These additional questions made up the College Students' Beliefs and Values (CSBV) survey, and they specifically addressed matters of religious and spiritual development (Astin et al., 2011a, 2011b). When combined with data from CIRP, these initial data provided a detailed view of incoming students' backgrounds, experiences, expectations, and worldview history.

Three years later, HERI contacted nearly 37,000 respondents from the initial study to explore "changes in individual students' spiritual and religious qualities during the first three years of college," (Astin et al., 2011b, p. 9), a process generating 14,527 respondents from 136 institutions, a response rate of 40%. Table 1 below documents several demographic items, including respondents' sex, race, and the religious affiliation of the institution attended. Following data collection, weights were introduced to approximate findings if every 2004 respondent completed the follow-up survey; weighted results were then used to generate reported findings (Astin et al., 2011a, 2011b).

Table 1

*Demographic Characteristics of CSBV Respondents*

<b>Variable</b>	<b><i>n</i></b>	<b>Percent</b>
<b>Sex</b>		
Male	4,693	32.31%
Female	9,834	67.69%
<b>Race/Ethnicity</b>		
White/Caucasian	11,585	79.75%
Black/African-American	408	2.81%
Hispanic or Latino	489	3.37%
Asian American/Asian	807	5.56%
Other single racial identity	271	1.87%
Multiracial	827	5.69%
<i>No Response</i>	<i>140</i>	<i>0.96%</i>
<b>Religious Affiliation of Institution</b>		
Public ( <i>n</i> =13)	2,517	17.33%
Nonsectarian ( <i>n</i> =28)	3,215	22.13%
Catholic ( <i>n</i> =34)	3,352	23.07%
Other Church-Affiliated ( <i>n</i> =22)	2,205	15.18%
Evangelical ( <i>n</i> =39)	3,238	22.29%
<b>Total</b>	<b>14,527</b>	

Regarding religious preferences, the CSBV provided 20 options from which respondents could choose. Tabulated responses from each survey are displayed in Table 2. Notably, students were not stagnant in their religious affiliations over time, lending credence to the supposition that some segment of college students are prone to conversion.

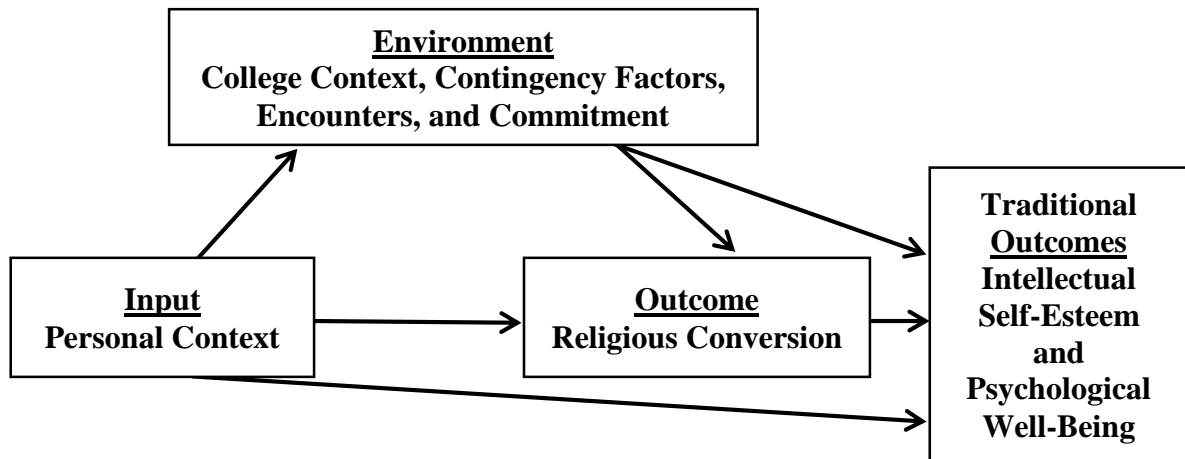
Table 2

*Longitudinal Religious Preferences of CSBV Respondents*

<b>Religious Preference</b>	<b>2004</b>		<b>2007</b>		
	<i>n</i>	Percent	<i>n</i>	Percent	Percent change
Baptist	1,454	10.01%	1,236	8.51%	-17.64%
Buddhist	119	0.82%	165	1.14%	27.88%
Church of Christ	403	2.77%	283	1.95%	-42.40%
Eastern Orthodox	94	0.65%	106	0.73%	11.32%
Episcopalian	300	2.07%	304	2.09%	1.32%
Hindu	60	0.41%	56	0.39%	-7.14%
Islamic	69	0.47%	76	0.52%	9.21%
Jewish	230	1.58%	247	1.70%	6.88%
LDS (Mormon)	87	0.60%	87	0.60%	0.00%
Lutheran	814	5.60%	742	5.11%	-9.70%
Methodist	859	5.91%	765	5.27%	-12.29%
Presbyterian	750	5.16%	725	4.99%	-3.45%
Quaker	39	0.27%	38	0.26%	-2.63%
Roman Catholic	3,935	27.09%	3,718	25.59%	-5.84%
Seventh Day Adventist	35	0.24%	20	0.14%	-75.00%
Unitarian/Universalist	65	0.45%	91	0.63%	28.57%
UCC/Congregational	163	1.12%	121	0.83%	-34.71%
Other Christian	2,580	17.76%	2,631	18.11%	1.94%
Other Religion	300	2.07%	103	0.71%	-191.26%
None	1,839	12.66%	2,165	14.90%	15.06%
Other (specify)	--	--	733	5.05%	--
<i>No response</i>	332	2.29%	115	0.79%	-188.70%
<b>Total</b>	<b>14,527</b>		<b>14,527</b>		

## Hypothesized Model

The framework used in this study was informed by work from Astin (1993), Rambo (1993), and Gooren (2005). Astin's (1993) exploration of college impact via I-E-O underscores the process of determining the effect of environments and experiences on outcomes while controlling for pre-college characteristics. The conversion models proposed by Rambo (1993) and Gooren (2005) informed specific variable selection, including those related to personal context, college context, contingency factors, encounters, and commitment.



*Figure 3.* Conceptualization of the theoretical framework for this study with combined elements from Astin's (1993) I-E-O model, Rambo's (1993) Systemic Stage model of Conversion, and Gooren's (2005) model of Conversion Careers.

**Dependent variables (outcomes).** There were four different dependent variables used in this study (see Table 3). The first two dependent variables used represented nominal conversion alternatives (1) for students who began college with a religious preference, and (2) for students who began college without a religious preference. Generally, each of these

were operationalized as an individual's self-reported change in religious preference measured over the two waves of the CSBV survey, though the nominal categories differed depending on whether or not students began college with or without a religious preference. Importantly, religious classifications were aggregated to represent Christian, Buddhist, Hindu, Muslim, Jewish, Latter-day Saints (Mormon), Unitarian Universalist, and "None" identities.

Specifically, the definition of conversion used for students beginning *with* a religious preference consisted of four nominal options, including no change in religious preference, apostasy, intensification, or tradition transition. For students beginning *without* a religious preference, options included no change in religious preference, affiliation, or intensification. Each of these categories were exclusive, meaning students were only classified in one group. Though definitions of apostasy, affiliation, and tradition transfer were established in Chapter 1, intensification requires further clarification.

Astin et al. (2011b) noted observed levels of religious commitment changed little between the first and third years of college. Therefore, intensification was operationalized by first limiting analysis to individuals with longitudinally consistent religious preferences, then calculating the difference in religious commitment scores between the first and third year of college. Individuals identified as having experienced religious intensification reported a religious preference their first year of college and increased religious commitment by one or more standard deviations by their third year; *nonreligious* intensification involved students who identified with no religious preference their first year of college and experienced a negative change in religious commitment of at least one standard deviation. In other words, religious intensification represented a meaningful, positive change in the level of



commitment an individual had within a static belief system, while nonreligious commitment suggests diminishing belief in God over time.

The remaining dependent variables were two specific college outcomes measured by Astin et al. (2011b)—intellectual self-esteem and psychological well-being. While the CSBV included 8 college outcome measures, these specific outcomes warranted inclusion, particularly in light of previously identified correlates of conversion. Each outcome was measured at both time points of the CSBV survey, and time 2 values were used as dependent variables.

From the CSBV, intellectual self-esteem was a five item scale representing personal assessments of “academic ability; writing and mathematical abilities; intellectual self-confidence; and... drive to achieve,” (Astin et al., 2011b, p. 117). Though not a perfect measure, this outcome could conceivably capture elements of self-doubt (Gooren, 2005; Halama, 2014; Rambo, 1993) or improved self-esteem (Halama & Lačná, 2011; Kahn & Greene, 2004; O’Neill, 2014; Schnitker et al., 2014; Zinnbauer & Pargament, 1998) noted in the conversion literature.

Psychological well-being consisted of four items, specifically indicators of *not* feeling depressed, overwhelmed, or living a life full of stress and anxiety, “as well as the student’s self-assessment of his or her `emotional health,’” (Astin et al., 2011b, p. 121). Here, more direct ties exist with the literature, including findings that suggest converts experience improved psychological well-being (Kahn & Greene, 2004) and self-esteem (Halama & Lačná, 2011; Kahn & Greene, 2004; O’Neill, 2014; Schnitker et al., 2014; Vielma, 2014; Zinnbauer & Pargament, 1998), but may do so at the cost of increased stress and conflict

(Gooren, 2010; Iyadurai, 2010). Further, religious struggle—a measure associated with religious conversion by Bryant and Astin (2008)—has also been connected to decreased psychological well-being (Astin et al., 2011b).

Table 3

*Dependent Variables used in this Study*

<b>Dependent Variables</b>	<b>Variable Coding/Notes</b>
Conversion (beginning with religious preference)	(1) No conversion experience (2) Apostate (3) Religious intensification (4) Tradition transfer
Conversion (beginning without a religious preference)	(1) No conversion experience (2) Religious affiliation (3) Nonreligious intensification
Intellectual self-esteem	Continuous variable
Psychological well-being	Continuous variable

**Input variables—Personal Context.** Among the independent variables used in this study (see Table 4), the first set represent input variables, or variables used to control for experiences and characteristics present before an individual steps foot on campus as a first-year student (Astin, 1993). This study classified input variables as personal context, variables describing the lives, experiences, and beliefs students possessed at the outset of college. As the research questions posed by this study were generally concerned with three outcomes—conversion status, and the relationship between conversion and intellectual self-esteem and psychological well-being—understanding how students related to these outcomes at the start of college was imperative. Thus, pre-college religious preference was used as an input variable for each model; pre-college measures of intellectual self-esteem and

Table 4

*Independent Variables used in Multinomial Logit Models*

<b>Independent Variables</b>	<b>Variable Coding/Notes</b>
<b>Personal Context</b>	
Pre-college religious commitment	Continuous variable
Pre-college religious engagement	Continuous variable
Pre-college ecumenical worldview	Continuous variable
Pre-college religious preference	(1) Christian (2) Buddhist (3) Hindi (4) Muslim (5) Jewish (6) Latter-day Saints/Mormon (7) Unitarian Universalist (8) None
Sex	(1) Male (2) Female
Race/ethnicity	(1) White/Caucasian (2) Black/African-American (3) Hispanic/Latino (4) Asian American/Asian (5) Other single racial identity (6) Multiracial
<b>College Context (level 1)</b>	
College major	(1) Arts and humanities (2) Social science (3) Religion or theology (4) Science (5) Math/statistics (6) Engineering (7) Health professional (8) Business (9) Education (10) Professional (11) Another major (12) Undecided
<b>Contingency Factors</b>	
Personal injury or illness	(0) No personal injury or illness (1) Personal injury or illness
Parental divorce	(0) Parents did not divorce while in college (1) Parents did divorce while in college
Death of a close family member or friend	(0) Did not experience death of close family member or friend in college (1) Experienced death of close family member or friend in college
Spiritual quest	Continuous variable
Religious struggle	Continuous variable

Table 4 Continued

<b>Encounters</b>	
Helped friends with personal problems	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
Participated in a religious mission trip	(0) Did not participate in a religious mission trip in college (1) Participated in a religious mission trip in college
Participated in a campus religious student organization	(0) Did not participate in a religious student organization in college (1) Participated in a religious student organization in college
Discussed religion with friends	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
Discussed religion with family	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
Discussed religion with professors	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
Discussed religion with staff	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
Took a religious studies class	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
Faculty encouraged search for meaning and purpose	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
Faculty encouraged religious/spiritual discussions	(1) Not at all (2) Occasionally (3) Frequently; centered on (2) Occasionally
<b>Commitment</b>	
Converted to another religion during college (self-reported)	(0) Did not convert to another religion in college (1) Converted to another religion in college
<b>College Context (level 2)</b>	
Pre-college peer mean: Religious commitment	Continuous variable
Pre-college peer mean: Religious engagement	Continuous variable
Pre-college peer mean: Ecumenical worldview	Continuous variable
Peer mean: Spiritual quest	Continuous variable
Peer mean: Religious struggle	Continuous variable
Campus religious diversity	Proportion of peers identifying as non-Christian
Proportion of campus peers experiencing some type of conversion	Based on all conversion types used in this study
Institutional religious affiliation	(1) Public (2) Nonsectarian (3) Catholic (4) Other church-affiliated (5) Evangelical

psychological well-being were also included when evaluating these potential correlates of conversion.

Additional variables for inclusion within personal context were time 1 measures of religious engagement and ecumenical worldview, as well as an indicator for matching parental religious preference, gender, and ethnicity. Together, these elements made up the personal contexts that may have primed students' future conversion experiences.

**Environment variables.** The literature suggests a number of factors contribute to conversion; these were modeled in this study as college context, contingency factors, encounters, and commitment.

**College context.** College context contained two levels of variables pertaining to the individual (or level 1) and the institution (or level 2). Individually, college major was included, while level 2 variables included time 1 measures of peer religious engagement and ecumenical worldview; time 2 measures of peer spiritual quest and religious struggle; a measure of campus religious diversity (percent of students identifying as non-Christian); and institutional religious affiliation (public, private nonsectarian, Catholic, evangelical, or other religious).

Specifically, religious engagement is a measure of external commitment (Astin et al., 2011b). This consists of nine items, including the frequency with which students attend religious services or participate in other activities related to religion or spirituality, read sacred texts, engaged in religious singing or chanting, or prayed (Astin et al., 2011b). Additional components of religious engagement clarified whether or not an individual

prayed, the number of hours spent in prayer or meditation each week, and the number of close friends who attended worship services of some kind (Astin et al., 2011b).

Ecumenical worldview is a twelve-item construct “focused on seeing the world as an interconnected whole and on feeling a personal connection with, and acceptance of, all other beings,” (Astin et al., 2011b, p. 67). Specific items measured include reported levels of connections with humanity, as well as beliefs suggesting people are good, life is interconnected, and that great religions share the core belief of love (Astin et al., 2011b). Other items represent opinions of others, such as “nonreligious people can lead lives that are just as moral as those of religious believers” and “most people can grow spiritually without being religious,” (Astin et al., 2011b, p. 67). Measures of personal commitment related to “improving the human condition; improving my understanding of other countries and cultures; and accepting others as they are,” (Astin et al., 2011b, p. 67) and the degree with which individuals rate their ability to understand others round out ecumenical worldview.

Items included in the measure of spiritual quest represent many seeking behaviors, involving “the search for meaning and purpose in life... finding answers to the mysteries of life; seeking beauty in one’s life; developing a meaningful philosophy of life; becoming a more loving person; attaining inner harmony; and attaining wisdom,” (Astin et al., 2011b, p. 28). Spiritual request also represents two forms of peer interaction—“the number of close friends searching for meaning and purpose,” (Astin et al., 2011b, p. 28) and the frequency with which discussions of life’s meaning and purpose are had within one’s peer group (Astin et al., 2011b).

Religious struggle was comprised of seven questions from the CSBV. These questions were the extent to which respondents reported “feeling unsettled about spiritual and religious matters; feeling disillusioned with religious upbringing; struggled to understand evil, suffering, and death; [and] questioned religious/spiritual beliefs,” (Astin et al., 2011b, p. 102). In addition, students were asked to report how often they felt angry with God, distant from God, and experienced religious disagreements with their family (Astin et al., 2011b).

***Contingency factors.*** Individuals may be motivated to convert as the result of an internal drive to seek new understandings of self, or because of an external crisis. Variables used to model motivating factors included experiences with personal illness or injury, parental divorce, and/or the death of a close family member or friend while in college, as well as time 2 measures of spiritual quest and religious struggle.

***Encounters.*** To model encounters with religious or spiritual difference I included measures of collegiate involvement in both curricular and co-curricular spiritual or religious environments, as well as faculty influence. Specifically, variables measuring curricular and co-curricular involvement include helping friends with personal problems, participation in a religious mission trip, participation in a campus religious student organization, engaging in discussions of religion with others, or taking a religious studies class. The two variables used to represent faculty influence are the frequencies with which faculty encourage the search for meaning or purpose and religious/spiritual in-class discussions.

***Commitment.*** Commitment to a new belief is often signaled by outward acceptance of a given religious preference. This may include self-identification as a convert, and the time 2 CSBV survey specifically asked students if they converted to another religion since

entering college. This variable was used as a measure of commitment to a changed religious preference.

### **Data Modifications**

The original CSBV data set contained 14,527 individual observations nested within 136 institutions. However, modifications were necessary to carry out the planned study.

**Limiting cases to observations with stated religious preferences and religious commitment.** To properly construct variables accurately representing religious conversion over time, clear indicators of religious preference in 2004 and 2007 were necessary. In the original data set, 332 records contain missing values for religious preference at time 1 and 115 records contain missing values for religious preference at time 2. Removing these observations resulted in a loss of 440 records (7 observations contained missing religious preference values at time 1 and time 2).

Additionally, CSBV respondents had the option of selecting “Other Religion” at each iteration, an option exercised by 294 participants at time 1 and 707 participants at time 2. While this selection suggests the respondent does *not* identify as one of the alternative options, it was nevertheless impossible to identify the specific religious preference of each “Other Religion” respondent or know with any certainty if these preferences changed over time. As such, records containing “Other” responses at either time point were also removed from analysis, a loss of 998 additional records.

Finally, to properly generate the *intensify* conversion variable, known values for religious commitment were required from each survey iteration. However, 1,039 time 1 observations did not contain values for religious commitment, and 231 observations were



missing religious commitment at time 2. In all, 1,239 observations were missing at least one value for religious commitment; these observations were removed from the data set.

**Removing institutions with small response numbers.** After removing individual cases with missing or ambiguous religious preference and religious commitment values, I next examined institutional response numbers. 136 institutions were represented in the data. Unfortunately, respondent numbers across institutions vary from a high of  $n=663$  to a low of  $n=3$ . As a result, I opted to further restrict analysis to institutions with at least 20 respondents (Mayhew, 2012).

Prior to removing these cases, I first conducted Chi-square and  $t$ -tests of religious preference, religious commitment, religious engagement, ecumenical worldview, spiritual quest, religious struggle, intellectual self-esteem, and psychological well-being between the *preserve* and *remove* groups. Notably, significant group differences were identified only for intellectual self-esteem at time 1. However, while this difference was statistically significant, it was not practically meaningful; the time 1 intellectual self-esteem mean difference was .72 ( $\mu_{\text{preserve}}=19.01, n=11,597$ ;  $\mu_{\text{remove}}=18.30, n=159$ ). Following removal, the final data set used for analysis contains 11,690 observations from 123 institutions.

### **Scale Reliability**

In light of the aforementioned alterations to the data, I next confirmed scale reliabilities. Specifically, I used Stata 13 (StataCorp, 2013b) to generate Cronbach (Cronbach, 1951) alpha ( $\alpha$ ) coefficients and compared these to the original  $\alpha$  coefficients of the full data set as presented by Astin et. al. (2011b) and confirmed prior to the case removal procedure described above. The  $\alpha$  coefficient is a common measure used to gauge scale

reliability, taking a value between 0 and 1 (Cronbach, 1951; DeVellis, 2012). While there is not a concrete lower threshold for  $\alpha$ , values between .6 and .65 may be considered acceptable but undesirable, while coefficients above .65 are considered acceptable (DeVellis, 2012). By this metric, the scales used in this study each produced acceptable coefficients.

Table 5

*Alpha Comparisons between Full and Revised Data Sets*

<b>Factor Variable</b>	<b>Alpha</b>	
	<b>Full Data Set</b>	<b>Revised Data Set</b>
Religious commitment (time 1)	0.96	0.97
Religious commitment (time 2)	0.96	0.97
Religious engagement (time 1)	0.87	0.88
Ecumenical worldview (time 1)	0.72	0.68
Spiritual quest (time 2)	0.82	0.80
Religious struggle (time 2)	0.77	0.76
Intellectual self-esteem (time 1)	0.64	0.65
Intellectual self-esteem (time 2)	0.66	0.67
Psychological well-being (time 1)	0.66	0.67
Psychological well-being (time 2)	0.67	0.67

**Approach to Missing Data**

I next examined the data for missing values within observations. Generally, the presence of missing values was low. Of the 11,690 cases present in the data nearly 96% of the observations contained either no missing values ( $n=9,115$ ; 77.97%) or a single missing value ( $n=2,102$ ; 17.98%). Among individual variables, the measure of degree aspiration from the first survey iteration contained the highest number of missing values (1, 286 missing values), followed by an indicator variable denoting matching parent/child religious

preference from the first survey (567 missing values) and the time 1 measure of psychological well-being (229 missing values).

Given the presence of missing data, I calculated the number of cases lost should I employ listwise deletion. This number varied depending on the covariates selected (see model specifics below), but calculations suggested I would lose between 4% and 17% of the observations depending on the model. While listwise deletion ensures accurate estimates of several statistics including standard errors, confidence intervals, and *p*-values, it does so at the cost of full-case evaluation and may result in overall bias (Allison, 2009). Rather than proceed with missing values, I instead employed multiple imputation to allow analysis using all 11,690 observations.

Multiple imputation is a procedure widely regarded as a preferred method for handling missing values (Allison, 2009; Manly & Wells, 2015). Rather than create a single data set for use, multiple imputation develops a series of data sets, each containing differently drawn values (Allison, 2009). When used in analysis, results are obtained from each data set individually, and are then pooled to produce a singular set of estimates inclusive of all respondents (Allison, 2009; Manly & Wells, 2015; Rubin, 1987). A key assumption of multiple imputation is that data are missing either completely at random (MCAR) or at random (MAR) (Allison, 2009; Manly & Wells, 2015). Using Little's Test of Chi-Squared for MCAR, developed for Stata by Li (2013), I first determined the missing data were not MCAR ( $\chi^2(2965) = 3548.51, p < .001$ ).

In contrast to MCAR, the assumption of MAR has been described as "conditionally missing at random," (Graham, 2009, p. 553). In other words, while missing values may not

be completely random by themselves, when conditioned on available data these missing values then become random (Azur, Stuart, Frangakis, & Leaf, 2011). Unfortunately, there is no statistical test for the MAR assumption (Azur et al., 2011), but the assumption can be logically explored. For example, students without a religious preference may be less likely to respond to certain items on a survey about religious and spiritual beliefs. As long indicators for religious preference exist within the data, however, and there is no reason to believe missing nonreligious student responses will differ from observed nonreligious student responses, religious preference can be used as a control in the imputation process. Given the number of observed variables available for inclusion in the imputation process (including complete observations for religious preference at each time point), the MAR assumption appeared reasonable.

I next used Stata's (2013b) *mi* command suite to perform multiple imputation using chained equations, an approach suited for estimation when missing variables are not solely continuous (Manly & Wells, 2015). Initially, the imputation model contained 93 variables for imputation, containing a sizeable number of individual survey items used to create factor variables and several categorical variables (including institution id). However, this model and successive iterations thereof, proved too complicated, resulting in chained equations that failed to converge. As a result, I simplified the imputation model by imputing values for each factor instead of individual factor items. Additionally, categorical variables used to measure matching parent/child pre-college religious preference were removed as well. While removing this measure resulted in the loss of an independent variable for future analysis, closer inspection of the observed cases revealed at least one parent matched the pre-college

religious preference of the child 93% of the time; when accounting for institutional id, religious preferences matched 100% of the time at 15 institutions. Given the sizeable proportion of cases where matches occurred and the problematic nature of estimating this variable categorically in the imputation model, I opted to remove this variable from analysis. Together, these steps resolved the imputation issues.

Initially, 20 variables with missing values were estimated using predictive mean matching (PMM), a technique designed to impute values mirroring those found in completed observations (Allison, 2015); 13 complete variables were used as additional predictors of missing values, including specific institution affiliation to account for the fact students were nested within institutions. Briefly, PMM estimates predicted values for every case (even those without missing values), identifies a number of cases with predicted values close to each missing observation, then randomly selects one value to use in the imputed data set. Notably, Allison (2015) suggested increasing the number of cases ( $k$ ) used for matching when conducting PMM in Stata where the default option is  $k=1$ . However, caution must be used as increasing  $k$  comes at the cost of introducing increased bias into the imputed data (Eddings & Marchenko, 2012). Therefore, I followed Allison's (2015) recommendation and increased the case count to  $k=5$ .

First, I generated a data set consisting of two imputations, each generated after 50 iterations of the chained equation. Once developed, I visually inspected mean and SD distributions of imputed variables ensuring no visible trend in the estimates was produced (Social Science Computing Cooperative, 2013; StataCorp, 2013b); see Appendix B.

Seeing no visible evidence of trending estimates across 50 iterations, I produced a final data set for analysis containing 25 imputations, each saved after 25 iterations.

Once generated, I examined the full data set using the *middiagplots* (Eddings & Marchenko, 2012) add-on for Stata. This program allows users to closely compare observed and imputed data to ensure the imputed data is appropriate for use in full analysis. Using the *middiagplots* command, I produced comparison tables for imputed variables using the first imputation. Sizeable differences in the observed distributions are suggestive of problems in the imputation model (Eddings & Marchenko, 2012). While distribution patterns for most variables were acceptable, the imputed distribution of pre-college religious engagement was problematic. As a result, I returned to the initial imputation model, changed the imputation method used to impute this variable from PMM to linear regression, then produced a new multiply imputed data set (again containing 25 imputations, each saved after 25 iterations).

Following this second imputation, I again inspected the revised data using *middiagplots*. Imputed values for pre-college religious engagement were noticeably improved, and no other issues were evident. Appendix C contains observed, imputed, and completed statistics for eleven categorical variables used in analysis, as well as plots of cumulative distribution functions for all derived variables including both pre- and in-college psychological well-being and intellectual self-esteem, pre-college religious engagement, pre-college ecumenical worldview, in-college spiritual quest, and in-college religious struggle.

### **Model Specification**

Two different forms of models were used in this study—multinomial logistic regression and linear regression.

**Multilevel, multinomial logistic regression.** As previously indicated, multilevel (or hierarchical) multinomial logistic regression is appropriate when conducting analysis on an unordered, categorical dependent variable (Raudenbush & Bryk, 2002). The conversion variable used in this study represented just such a case, as there is no natural order between response options. Given  $M$  possible categories for the outcome, the response,  $R$ , is  $m$  with probability  $\text{Prob}(R = m) = \phi_m$ , for  $m = 1, \dots, M$  (Raudenbush & Bryk, 2002). In this case, the dependent variable, conversion, had either  $M = 4$  options when examining students with a religious preference (no conversion, apostasy, intensification, or tradition transfer), or  $M = 3$  options when examining students without a religious preference (no conversion, affiliation, or intensification)

In multilevel multinomial logistic regressions, one category is selected as a reference category. In this study, students who do not convert served as the reference category for comparison with other groups. As noted by Raudenbush & Bryk (2002), the multinomial logit link function for each category  $m = 1, \dots, M - 1$  is:

$$\eta_{mij} = \log\left(\frac{\phi_{mij}}{\phi_{Mij}}\right) = \log\left(\frac{\text{Prob}(R_{ij} = m)}{\text{Prob}(R_{ij} = M)}\right)$$

where  $i$  represents an individual nested within  $j$  institution type. In other words “the outcome at level 1 is this the log-odds of falling into category  $m$  relative to category  $M$ ,” (Raudenbush & Bryk, 2002, p. 326), or the log-odds of experiencing a particular type of conversion relative to no conversion at all.

The structural model for a multilevel multinomial logistic regression depends on the number of categorical responses used by the dependent variable. Again, conversion in this study had  $M = 4$  or  $M = 3$  potential response options, thus there are  $M - 1$  level 1 equations used. These are generally represented as:

$$\eta_{mij} = \beta_{0j(m)} + \sum_{q=1}^{Q_m} \beta_{qj(m)} X_{qij}$$

where  $m = 1, 2, \dots, x$  respectively.

Similarly, multiple equations are used to model level 2. These are represented as:

$$\beta_{0j(m)} = \gamma_{00(m)} + \sum_{s=1}^{S_q} \gamma_{qs(m)} W_{sj} + u_{qj(m)}$$

for  $q = 0, \dots, Q_m$  (Raudenbush & Bryk, 2002).

When applied to this study, the logits at level 1 and level 2 represented a function of variables representing personal contexts, college contexts, encounters, and commitment with intercepts varied randomly by institution.

**Multilevel linear regression.** The second research question measuring potential correlates of conversion used one of two continuous dependent variables. As such, a standard multilevel linear model was used. The final structure for level 1 was represented as:



$$Y_{ij} = \beta_{0j} + \beta_1 \dots \beta_x + r_{ij}$$

where  $Y_{ij}$ , the outcome of interest (either intellectual self-esteem or psychological well-being), represented the difference in the outcome on average at institution ( $\beta_{0j}$ ) based on the effects of student entry characteristics and select college experiences including conversion ( $\beta_1 \dots \beta_x$ ) and error ( $r_{ij}$ ). The level 2 structure was represented as

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \dots \gamma_x + u_{0j}$$

where the average outcome value at the institution ( $\beta_{0j}$ ) is a function of institutional and peer group characteristics ( $\gamma_{01} \dots \gamma_x$ ), and error ( $u_{0j}$ ).

When exploring the relationship between conversion and intellectual self-esteem, variables included those used in the previous multilevel multinomial model, plus those identified in Table 6.

Table 6

*Additional Independent Variables used in Models Predicting In-College Intellectual Self-Esteem*

<b>Independent Variables</b>	<b>Variable Coding/Notes</b>
<b><i>Intellectual Self-Esteem</i></b>	
Conversion	(1) No conversion experience (2) Religious affiliation (3) Nonreligious intensification (4) Apostate (5) Religious intensification (6) Tradition transfer
Pre-college intellectual self-esteem	Continuous variable
High school GPA	(1) D (2) C (3) C+ (4) B- (5) B (6) B+ (7) A- (8) A or A+; centered on (5) B
Pre-college degree aspiration	(1) No degree, other degree, or less than Bachelor's (2) Bachelor's degree (3) Graduate/professional degree

In this model, all level 2 variables remained unchanged.

When exploring the relationship between conversion and psychological well-being, level 1 variables included those used in the earlier multilevel multinomial model, plus those identified in Table 7.

Table 7

*Additional Independent Variables used in Models Predicting In-College Psychological Well-Being*

<b>Independent Variables</b>	<b>Variable Coding/Notes</b>
<b><i>Psychological Well-Being</i></b>	
Conversion	(1) No conversion experience (2) Religious affiliation (3) Nonreligious intensification (4) Apostate (5) Religious intensification (6) Tradition transfer
Pre-college psychological well-being	Continuous variable

Again, level 2 variables again remained unchanged.

Each linear regression model was first estimated using only the dependent variable (either intellectual self-esteem or psychological well-being) and the main covariate of interest—conversion type. Next, these models were estimated (a) inclusive of conversion type and all input variables, then (b) conversion type, input variables, and college experiences, and finally (c) all previous covariates and all level two variables.

### **Ethical Issues and Potential Limitations**

This study, like others, possessed limitations. To begin, software limitations hampered idealized analysis. While Stata 13 presents a range of estimation options available with multiply imputed data, multilevel multinomial logistic regression is not presently supported. Given this situation, I estimated different multinomial models within the confines of Stata's restrictions. Specifically, for each multinomial conversion dependent variable (religious and nonreligious conversion), I first estimated single level multinomial logistic regression models using multiply imputed data with standard errors clustered by institution. Next, I estimated multilevel models with listwise deletion, again clustering standard errors by institution. While these models ultimately produced similar findings, the (current) inability to estimate the model as designed for this study remains a limitation.

Additionally, findings from this study are limited to relationships of correlation. Without adjusting the methodological approach, it is impossible to say, for example, that crisis *causes* conversion or conversion leads to higher intellectual self-esteem. My reported findings accurately reflect this limitation, noting when and where significant associations occur but clearly stating that directionality is empirically unknown.

Also, as in other studies of college student conversion, this study relied on self-reported data, the assumption being students represented their beliefs and experiences accurately. Unfortunately, past studies of conversion suggest this may not be the case (Gooren, 2010; Heirich, 1977). However, the longitudinal nature of the CSBV mitigates some of these risks. For example, students are not asked to identify their first year religious preference retrospectively during their third year of college. Instead, the time 1 and time 2 surveys accurately reflect each student's religious preference *at exactly that time*. Nevertheless, other survey questions do ask students to recall experiences, thus the limitation remains applicable.

Finally, while Astin et al. (Astin et al., 2011a, 2011b) incorporated weights into their analysis, I chose not to do so. While weights were provided by HERI, my analysis required removing observations from the original data set. Weights from the remaining observations no longer accurately represented results from the full, first-year response pool, and I do not have access to the data necessary to rebalance weights accordingly. Specifically, this includes specific sample and institutional information either not provided or deidentified by HERI (Astin et al., 2011a). As a result, the scope of my findings are not necessarily generalizable to the original 2004 respondents, or all college students nationally.

## **Chapter Summary**

This chapter outlined the proposed methodological steps necessary to answer the research questions posed in this study. I began with a description of the CSBV survey, then discussed the particular independent and dependent variables necessary for analysis. I next discussed the problems presented by missing data, the proposed solution (multiple

imputation), and presented specific descriptions of the two approaches required to fulfill the aims of this study—namely, multilevel multinomial logistic regression and multilevel linear regression, respectively. Finally, I concluded the chapter with a brief statement on potential ethical issues and limitations faced by this design.

## **CHAPTER 4: FINDINGS**

In this study, I examined religious conversion among college students. Of specific interest was, first, identifying particular experiences and/or environments significantly correlated with religious conversion and, second, determining whether or not religious conversion was associated with two specific college outcomes—intellectual self-esteem and psychological well-being. To address the research questions, I relied on data collected by the Higher Education Research Institute (HERI) as part of the College Student Beliefs and Values (CSBV) survey.

The CSBV contained longitudinal student-level data initially collected from first-year students in 2004 and again in 2007. Of note, the data contained records of religious preference at each time point, a number of factor variables representing religious and spiritual constructs at each iteration, and individual items documenting events students did or did not experience the first three years of college. Using these data, I created multiple variables to capture differing forms of religious conversion, including apostasy, religious intensification, and tradition transfer among students entering college with a religious preference, and religious affiliation and nonreligious intensification among students without a religious preference. I then used multilevel multinomial logistic regression models to determine significant correlates of conversion, and finally used multilevel linear regression to identify relationships between different conversion experiences and intellectual self-esteem and psychological well-being.

## **Descriptive Review of Remaining Data**

Before estimating models for analysis, I first reviewed descriptive statistics of note; these are displayed below in Table 8, Table 9, and Table 10. Table 9 depicts the dichotomous experiential variables used in this study, while Table 10 displays descriptive statistics for the ordinal and continuous variables used. As in the original sample, the data used for analysis remained majority-female, majority-White, and majority-Christian. Nevertheless, men, students of other racial and ethnic backgrounds, and those representing other religious preferences were present in the data set. Further, the majority of college students analyzed in this study did not experience personal injury or illness, have their parents divorce, or experience the death of a close family member or friend while in college. Moreover, most students did not participate in a religious mission trip or join a religious student organization, and the vast majority of students did not self-report a religious conversion experience despite their possible classification as a convert in this study.

Table 11 documents movement between religious preference options over time and provides interesting insight into the traditions that gained and lost adherents. Notably, Judaism (+3.9%), no preference (+19.7%), Islam (+21%), Unitarian Universalism (+23.7%), and Buddhism (+27.9%) each increased over time, while Christianity, Hinduism, and the Latter-day Saints experienced attrition, losing 4.5%, 4%, and 1.3% of their first-year student populations respectively by year three. In sum, Table 11 suggests a majority of students maintained alignment within a particular religious preference ( $n=10,548$ ), but a sizeable portion reported new beliefs after three years in college, either through tradition transfer, apostasy, or religious affiliation (total  $n=1,142$ ).

Table 8

*Descriptive Information for Useable Data*

	No conversion	Religious affiliation	Nonreligious intensification	Apostasy	Religious intensification	Tradition transfer	Total <i>n</i>	Total %
<b>Sex</b>								
Male	2,953	110	31	257	363	44	3,758	32.15%
Female	6,381	214	57	416	763	101	7,932	67.85%
<b>Race/ethnicity</b>								
White	7,623	224	63	558	915	93	9,476	81.06%
Black	230	9	1	12	37	8	297	2.54%
Hispanic	297	15	2	18	44	5	381	3.26%
Asian	489	39	13	36	58	20	655	5.60%
Other	668	34	9	47	69	18	845	7.23%
No race/ethnicity selected	27	3	0	2	3	1	36	0.31%
<b>Pre-college religious preference</b>								
Christian	7,969	0	0	605	1,075	94	9,743	83.34%
Buddhist	45	0	0	23	10	15	93	0.80%
Hindu	27	0	0	7	7	11	52	0.44%
Islamic	33	0	0	5	5	6	49	0.42%
Jewish	148	0	0	14	23	10	195	1.67%
LDS (Mormon)	67	0	0	3	4	5	79	0.68%
Unitarian Universalist	36	0	0	16	2	4	58	0.50%
No pre-college religious preference	1,009	324	88	0	0	0	1,421	12.16%



Table 8 Continued

<b>College major</b>								
Arts and Humanities	1461	67	18	149	158	30	1883	16.11%
Social Sciences	2525	106	28	224	299	50	3232	27.65%
Religion or Theology	226	2	0	4	17	3	252	2.16%
Science	1566	49	16	110	203	18	1962	16.78%
Math/Statistics	187	9	1	21	27	2	247	2.11%
Engineering	392	15	6	37	33	3	486	4.16%
Health Professional	610	16	5	33	84	13	761	6.51%
Business	1285	28	11	55	190	15	1584	13.55%
Education	806	13	1	19	89	5	933	7.98%
Professional	97	7	0	5	12	1	122	1.04%
Another Major	163	12	2	13	14	5	209	1.79%
Undecided	16	0	0	3	0	0	19	0.16%
<b>Religious affiliation of institution</b>								
Public ( <i>n</i> =13)	1,529	71	24	127	162	18	1,931	16.52%
Nonsectarian ( <i>n</i> =26)	1,966	112	38	227	190	52	2,585	22.11%
Catholic ( <i>n</i> =29)	2,150	60	16	148	310	46	2,730	23.35%
Other church-affiliation ( <i>n</i> =21)	1,466	59	9	123	181	17	1,855	15.87%
Evangelical ( <i>n</i> =34)	2,223	22	1	48	283	12	2,589	22.15%
<b>Total</b>	<b>9,334</b>	<b>324</b>	<b>88</b>	<b>673</b>	<b>1,126</b>	<b>145</b>	<b>11,690</b>	<b>100.00%</b>

Table 9

*Dichotomous Variable Descriptive Information for Useable Data*

	No conversion	Religious affiliation	Nonreligious intensification	Apostasy	Religious intensification	Tradition transfer	Total <i>n</i>	Total %
<b>Personal injury or illness in college</b>								
No	6,741	218	65	430	768	100	8,322	71.19%
Yes	2,593	106	23	243	358	45	3,368	28.81%
<b>Parents divorced while in college</b>								
No	9,045	315	87	648	1095	140	11,330	96.92%
Yes	289	9	1	25	31	5	360	3.08%
<b>Death of close family member or friend in college</b>								
No	6,066	220	58	452	712	97	7,605	65.06%
Yes	3,268	104	30	221	414	48	4,085	34.94%
<b>Participated in religious mission trip in college</b>								
No	7,513	292	86	644	884	131	9,550	81.69%
Yes	1,821	32	2	29	242	14	2,140	18.31%
<b>Participated in religious student organization</b>								
No	6,279	251	82	608	755	107	8,082	69.14%
Yes	3,055	73	6	65	371	38	3,608	30.86%
<b>Converted to another religion in college</b>								
No	9,252	287	87	608	1095	114	11,443	97.89%
Yes	82	37	1	65	31	31	247	2.11%
<b>Total</b>	<b>9,334</b>	<b>324</b>	<b>88</b>	<b>673</b>	<b>1,126</b>	<b>145</b>	<b>11,690</b>	<b>100.00%</b>

Table 10

*Ordinal and Continuous Variable Descriptive Information for Useable Data*

<b>Variable</b>	<b><i>n</i></b>	<b>Mean</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>
Pre-college Religious Engagement	11,569	24.231	8.410	9.000	43.000
Pre-college Ecumenical Worldview	11,551	32.645	4.464	12.000	45.000
Spiritual Quest	11,668	23.984	4.376	9.000	34.000
Religious Struggle	11,619	12.283	2.954	6.205	21.000
Helped friends with personal problems in college	11,675	0.642	0.497	-1.000	1.000
Discussed religion/spirituality with friends	11,670	0.229	0.623	-1.000	1.000
Discussed religion/spirituality with family	11,667	0.061	0.693	-1.000	1.000
Discussed religion/spirituality with professors	11,668	-0.310	0.700	-1.000	1.000
Discussed religion/spirituality with college staff	11,646	-0.523	0.657	-1.000	1.000
Taken a religious studies class in college	11,624	-0.056	0.714	-1.000	1.000
Faculty encouraged questions of meaning and purpose	11,636	0.170	0.674	-1.000	1.000
Faculty encouraged religious/spiritual discussions	11,635	-0.139	0.723	-1.000	1.000
Peer Mean Factor: Religious Engagement	11,690	23.950	4.952	15.095	35.113
Peer Mean Factor: Ecumenical Worldview	11,690	32.544	1.238	29.082	35.425
Peer Mean Factor: Spiritual Quest	11,690	23.986	0.952	21.141	27.483
Peer Mean Factor: Religious Struggle	11,690	12.292	0.713	10.330	14.122
Campus religious diversity (% non-Christian)	11,690	20.633	17.385	0.000	100.000
Percentage of campus experiencing conversion	11,690	20.154	7.594	4.167	62.766
Pre-college Intellectual Self-Esteem	11,597	19.012	2.721	5.000	25.000
In-college Intellectual Self-Esteem	11,562	18.800	2.784	5.000	25.000
High school GPA	11,601	6.999	1.160	2.000	8.000
Pre-college degree aspiration	10,404	2.764	0.476	1.000	3.000
Pre-college Psychological Well-Being	11,461	9.578	1.919	4.000	14.000
In-college Psychological Well-Being	11,563	8.845	1.929	4.000	14.000

Table 11

*Longitudinal Religious Preference Changes Among Useable Survey Respondents*

Pre-College Religious Preference	Ending Religious Preference								Total	Percent change
	Christian	Buddhist	Hindu	Muslim	Jewish	Latter-day Saints	Unitarian Universalist	None		
Christian	9,044	34	9	15	12	4	20	605	9,743	-4.52%
Buddhist	10	55	1	2	1	0	1	23	93	27.91%
Hindu	6	4	34	1	0	0	0	7	52	-4.00%
Muslim	4	2	0	38	0	0	0	5	49	20.97%
Jewish	8	0	0	1	171	1	0	14	195	3.94%
Latter-day Saints	3	0	0	0	2	71	0	3	79	-1.28%
Unitarian Universalist	2	0	1	1	0	0	38	16	58	23.68%
None	245	34	5	4	17	2	17	1,097	1,421	19.72%
<b>Total</b>	<b>9,322</b>	<b>129</b>	<b>50</b>	<b>62</b>	<b>203</b>	<b>78</b>	<b>76</b>	<b>1,770</b>	<b>11,690</b>	

Not evident from Table 11, however, are students who experienced intensification of belief within the same religious preference. Of note, 88 students who identified with no religious preference became demonstrably less religiously committed over time, and 1,126 students who identified with the same religious preference on both surveys became more committed to their beliefs. Adjusting for these conversion experiences, 80% ( $n=9,334$ ) of the students surveyed had no discernable conversion experience, while 20% did ( $n=2,356$ ). To better understand the factors and experiences associated with religious conversion, however, more in-depth analysis was required.

Finally, I examined correlations between independent variables as well as the relationship between each independent variable and the dependent variable used in each model. A number of dependent variable/independent variable relationships differed directionally when the simple correlations were compared to the full model; these are explored more fully below.

### **Multinomial Logistic Regression Models**

The first group of findings discussed relate to religious conversion and, more specifically, the life experiences and collegiate environments correlated with some form of religious conversion. Unfortunately, Stata does not provide a mechanism for estimating multilevel multinomial logit models with multiply imputed data; one must choose between a single-level multinomial logistic regression model with multiply imputed data or a multilevel multinomial logistic model without.

Given these alternatives, I first estimated single level multinomial logit models with standard errors constrained at the institution level using Stata's *mi estimate: mlogit* command

suite. This approach incorporated the multiply imputed data and allowed use of all observations ( $n = 10,269$  students with pre-college religious preference grouped within 123 institutions;  $n = 1,421$  students without a pre-college religious preference grouped within 104 institutions). Next, I estimated multilevel multinomial models with shared random effects at the institution level using Stata's *GSEM* command suite. Because this approach does not make use of multiply imputed data, analysis was limited to 9,842 complete observations with a pre-college religious preference grouped within 123 institutions (representing 96% of the full data set) and 1,329 complete observations without a pre-college religious preference grouped within 102 institutions (representing 94% of the complete data).

Estimates produced by the single and multilevel models were generally similar with few significant differences between them. Thus, given the greater precision of multilevel models where nested data are present (Bickel, 2007) and the low percentage of missing observations from each model (4% and 6%, respectively), only findings from the multilevel multinomial models are reported below and displayed in Tables 12 and 13. In these tables, the coefficients reported are relative risk ratios (rr). When all else is held constant, these ratios reveal the relative risk (or likelihood) a student will identify as a particular type of religious convert relative to having no discernable conversion experience the first three years of college. Coefficients greater than 1 indicate an increased likelihood of identifying as a convert, while coefficients less than 1 suggest the student is less likely to identify as a convert. Importantly, direct comparison of the coefficients across models (e.g., from students who began college with a religious preference to those who began without a stated

religious preference) is not possible given the difference in samples and independent variables used (Mood, 2010).

Table 12

*Results from Multilevel Multinomial Logistic Regression Models Comparing Conversion Typologies with Non-Conversion for Students Beginning College with a Religious Preference*

	<b>Apostate</b>		<b>Religious Intensification</b>		<b>Tradition Transfer</b>	
	<b>RR</b>	<b>SE</b>	<b>RR</b>	<b>SE</b>	<b>RR</b>	<b>SE</b>
<b>Personal Context</b>						
Religious Engagement	0.865 ***	0.011	0.855 ***	0.007	0.947 *	0.022
Ecumenical Worldview	1.033 **	0.012	0.932 ***	0.009	1.014	0.026
Pre-college religious preference <sup>a</sup>						
Buddhist	3.517 **	1.599	0.609	0.280	49.098 ***	27.009
Hindu	3.100 *	1.586	1.019	0.481	58.411 ***	35.433
Muslim	1.791	0.870	0.969	0.467	7.007 *	5.782
Jewish	0.389 **	0.131	0.665	0.183	4.931 **	2.753
Latter-day Saints/Mormon	1.372	1.408	0.614	0.328	12.507 *	14.555
Unitarian Universalist	1.039	0.517	0.250	0.193	4.560 **	2.594
Female <sup>b</sup>	0.784 *	0.085	1.035	0.086	1.073	0.236
Race/ethnicity <sup>c</sup>						
Black/African-American	0.651	0.234	1.246	0.263	1.371	0.512
Hispanic/Latino	0.517 *	0.144	1.026	0.176	0.466	0.263
Asian American/Asian	0.495 *	0.162	1.288	0.232	0.296 *	0.144
Other racial/ethnic identity	0.869	0.172	0.880	0.147	0.976	0.369
No racial/ethnic identity selected	0.506	0.694	1.069	0.716	6.416	6.836



Table 12 Continued

<b>College Context (level 1 variables)</b>						
College major <sup>d</sup>						
Arts and Humanities	1.371 *	0.170	1.040	0.108	1.238	0.320
Religion or Theology	0.764	0.426	0.664	0.167	0.702	0.595
Science	0.820	0.099	1.197 *	0.108	0.705	0.230
Math/Statistics	1.893 *	0.539	1.715 *	0.391	0.704	0.634
Engineering	1.317	0.281	0.941	0.245	0.678	0.432
Health Professional	0.864	0.188	1.174	0.198	1.434	0.973
Business	0.554 **	0.111	1.124	0.130	1.026	0.308
Education	0.427 **	0.120	0.982	0.129	0.568	0.331
Professional	0.684	0.387	0.953	0.453	0.982	0.653
Another Major	0.906	0.264	0.625	0.172	1.087	0.687
Undecided	5.364 *	4.077	---	---	---	---
<b>Contingency Factors</b>						
Personal injury or illness during college	1.397 ***	0.114	1.165 *	0.081	1.293	0.257
Parents divorced while in college	0.879	0.206	0.843	0.194	0.660	0.324
Death of close family member or friend in college	0.800 *	0.074	0.986	0.064	0.856	0.173
Spiritual Quest	0.992	0.013	1.086 ***	0.011	1.014	0.031
Religious Struggle	1.198 ***	0.018	0.940 ***	0.010	1.097 *	0.045

Table 12 Continued

<b>Encounters</b>						
Helped friends with personal problems in college <sup>e</sup>	0.880	0.079	1.051	0.071	0.933	0.187
Participated in a religious mission trip in college	0.545 *	0.141	1.286 **	0.120	0.467	0.262
Participated in a religious student organization in college	0.388 ***	0.066	1.185	0.112	0.754	0.171
Discussed religion/spirituality with friends <sup>e</sup>	1.548 ***	0.155	1.622 ***	0.121	1.894 **	0.423
Discussed religion/spirituality with family <sup>e</sup>	0.557 ***	0.047	1.279 ***	0.090	0.618 *	0.116
Discussed religion/spirituality with professors <sup>e</sup>	0.830	0.087	0.795 **	0.059	0.879	0.165
Discussed religion/spirituality with college staff <sup>e</sup>	0.943	0.107	1.082	0.075	1.186	0.236
Taken a religious studies class in college <sup>e</sup>	0.877	0.065	1.258 ***	0.078	1.410 *	0.220
Faculty encouraged questions of meaning and purpose <sup>e</sup>	0.938	0.087	1.019	0.076	0.956	0.150
Faculty encouraged religious/spiritual discussions <sup>e</sup>	1.144	0.110	1.100	0.082	1.094	0.266
<b>Commitment</b>						
Converted to another religion in college	12.029 ***	2.567	3.177 ***	0.675	42.045 ***	11.702

Table 12 Continued

<b>College Context (level 2 variables)</b>						
Peer Mean Factor: Religious Engagement	1.044	0.027	1.114 ***	0.016	1.145	0.088
Peer Mean Factor: Ecumenical Worldview	1.047	0.066	1.062	0.042	0.988	0.175
Peer Mean Factor: Spiritual Quest	0.985	0.086	0.853 **	0.040	0.955	0.195
Peer Mean Factor: Religious Struggle	1.277 *	0.154	1.089	0.078	0.811	0.273
Campus religious diversity (% non-Christian)	1.011 *	0.005	1.002	0.004	1.007	0.015
Percentage of campus experiencing conversion	1.064 ***	0.007	1.021 **	0.008	1.141 ***	0.009
Institutional Religious Affiliation <sup>f</sup>						
Nonsectarian	0.934	0.118	0.859	0.083	0.983	0.386
Catholic	0.767	0.142	0.965	0.121	1.184	0.533
Other Church-Affiliated	0.913	0.124	0.824	0.087	0.375 *	0.185
Evangelical	0.861	0.241	0.817	0.133	0.570	0.600
M1[id] Constrained	2.718		2.718		2.718	
Constant	0.000	0.000	1.258	1.275	0.001	0.002

*Note.* \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . RR represents the relative risk of experiencing a particular type of conversion relative to no conversion. <sup>a</sup> Christianity represents the comparison group for pre-college religious preference. <sup>b</sup> Males represent the comparison group for females. <sup>c</sup> White students represent the comparison group for racial/ethnic identities.

<sup>d</sup> Social-science majors represent the comparison group for college major. <sup>e</sup> These variables are centered on “Occasionally.”

<sup>f</sup> Public institutions represent the comparison group for religiously affiliated institutions.

Table 13

*Results from Multilevel Multinomial Logistic Regression Models Comparing Conversion Typologies with Non-Conversion for Students Beginning College without a Religious Preference*

	<b>Religious Affiliation</b>		<b>Nonreligious Intensification</b>	
	<b>RR</b>	<b>SE</b>	<b>RR</b>	<b>SE</b>
<b>Personal Context</b>				
Religious Engagement	1.089 ***	0.022	1.173 ***	0.036
Ecumenical Worldview	1.030	0.017	1.082 **	0.032
Female <sup>a</sup>	0.834	0.189	0.958	0.274
Race/ethnicity <sup>b</sup>				
Black/African-American	1.398	0.604	0.333	0.482
Hispanic/Latino	1.503	0.487	0.743	0.546
Asian American/Asian	1.196	0.330	0.964	0.257
Other racial/ethnic identity	1.247	0.369	0.702	0.285
No racial/ethnic identity selected	0.875	0.665	---	---
<b>College Context (level 1 variables)</b>				
College major <sup>c</sup>				
Arts and Humanities	0.915	0.208	1.061	0.316
Religion or Theology	0.431	0.343	---	---
Science	0.743	0.153	0.780	0.266
Math/Statistics	1.542	0.781	0.534	0.559
Engineering	1.067	0.350	0.752	0.368
Health Professional	2.136	0.831	3.251	2.171
Business	1.163	0.324	2.601 **	0.923
Education	1.265	0.480	0.343	0.343
Professional	5.492 **	3.219	---	---
Another Major	2.694	1.675	1.461	1.088
Undecided	---	---	---	---
<b>Contingency Factors</b>				
Personal injury or illness during college	0.866	0.179	0.806	0.216
Parents divorced while in college	0.986	0.444	0.300	0.325
Death of close family member or friend in college	1.062	0.185	1.187	0.297
Spiritual Quest	0.993	0.017	1.007	0.030
Religious Struggle	1.086 **	0.029	0.890	0.055

Table 13 Continued

<b>Encounters</b>				
Helped friends with personal problems in college <sup>d</sup>	0.986	0.206	1.104	0.297
Participated in a religious mission trip in college	2.167	1.230	1.051	0.923
Participated in a religious student organization in college	5.383 ***	1.607	1.971	0.904
Discussed religion/spirituality with friends <sup>d</sup>	0.680	0.135	0.887	0.249
Discussed religion/spirituality with family <sup>d</sup>	1.655 ***	0.225	1.117	0.268
Discussed religion/spirituality with professors <sup>d</sup>	0.848	0.166	0.996	0.259
Discussed religion/spirituality with college staff <sup>d</sup>	1.628 *	0.332	1.086	0.458
Taken a religious studies class in college <sup>d</sup>	1.336	0.206	0.832	0.252
Faculty encouraged questions of meaning and purpose <sup>d</sup>	1.203	0.162	0.830	0.191
Faculty encouraged religious/spiritual discussions <sup>d</sup>	0.649 **	0.107	1.276	0.328
<b>Commitment</b>				
Converted to another religion in college	20.361 ***	8.762	2.539	2.936
<b>College Context (level 2 variables)</b>				
Peer Mean Factor: Religious Engagement	1.023	0.048	1.003	0.067
Peer Mean Factor: Ecumenical Worldview	0.909	0.101	0.877	0.132
Peer Mean Factor: Spiritual Quest	1.238	0.207	1.207	0.264
Peer Mean Factor: Religious Struggle	0.718	0.198	0.821	0.297
Campus religious diversity (% non-Christian)	0.978 *	0.009	0.998	0.010
Percentage of campus experiencing conversion	1.066 ***	0.010	1.033	0.019
Institutional Religious Affiliation <sup>e</sup>				
Nonsectarian	1.073	0.259	0.924	0.315
Catholic	0.691	0.218	0.835	0.489
Other Church-Affiliated	0.901	0.295	0.492	0.230
Evangelical	1.007	0.530	0.179	0.186
M1[id] Constrained	2.718		2.718	
Constant	0.047	0.122	0.014	0.059

Note. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . RR represents the relative risk of experiencing a particular type of conversion relative to no conversion. <sup>a</sup> Males represent the comparison group for females. <sup>b</sup> White students represent the comparison group for racial/ethnic identities. <sup>c</sup> Social-science majors represent the comparison group for college major. <sup>d</sup> These variables are centered on “Occasionally.” <sup>e</sup> Public institutions represent the comparison group for religiously affiliated institutions.

**Personal context.** The first group of findings discussed include all personal context variables. These variables represented the Input variables described by Astin (1993) and controlled for numerous pre-college experiences and characteristics. Specifically, these included pre-college measures of religious engagement and ecumenical worldview, pre-college religious preference, sex, and racial/ethnic identity.

To begin, pre-college religious engagement was significantly associated with every conversion experience, though the nature of the relationship differed depending on whether or not the student began college with or without a stated religious preference. Perhaps intuitively, students beginning college with a specified religious preference and higher levels of religious engagement were less likely to become apostates ( $RR = .865, p < .001$ ) or transfer to a new religious tradition ( $RR = .947, p < .05$ ). Higher pre-college religious engagement also decreased the likelihood of religious intensification among religiously affiliated students; given a one-unit increase in religious engagement, students were 14.5 percentage points less likely to religiously intensify ( $RR = .855, p < .001$ ). Alternatively, for students who began college without a stated religious preference, a one-unit increase in religious engagement increased the relative risk of both religious affiliation ( $RR = 1.089, p < .001$ ) and nonreligious intensification ( $RR = 1.173, p < .001$ ) relative to no conversion.

On its face, the relationship between religious engagement and both religious and nonreligious intensification may seem counterintuitive. However, these findings are likely due to the way in which these classifications were operationalized; religious intensification represents at least a one standard deviation increase in religious commitment over time, while nonreligious commitment represents at least a one standard deviation decrease in religious

commitment. Religious commitment and religious engagement are highly correlated,  $r = .851$ , thus students with high religious commitment are also generally religiously engaged. As a result, students who start with already high levels of religious engagement have less room to grow (or religiously intensify) over time, while those with low levels of engagement have less room to fall (or nonreligiously intensify).

Next, pre-college ecumenical worldview was associated with increased likelihood apostasy ( $RR = 1.033, p < .01$ ) and nonreligious intensification ( $RR = 1.082, p < .01$ ), but decreased the prospect of religious intensification ( $RR = .932, p < .001$ ). As ecumenical worldview serves as an indicator of one's appreciation and knowledge of other religious traditions and cultures (Astin et al., 2011b), these findings suggest those with greater exposure to diverse perspectives are more likely to become (or become *more*) nonreligious and less likely to intensify in a given religious tradition.

Pre-college religious preference was also significantly linked with apostasy and tradition transfer, but *not* religious intensification. Regarding apostasy, students who identified as Buddhist ( $RR = 3.517, p < .01$ ) or Hindu ( $RR = 3.100, p < .05$ ) were more likely to leave their religious traditions than were Christian students, while Jewish students ( $RR = .389, p < .01$ ) were less likely to become apostates. Interestingly, though, the simple correlation between identifying as Jewish and apostasy was positive, suggesting—at least initially—that Jewish students were *more* likely than Christian students to forego their religious affiliation. However, when religious engagement was used in conjunction with Judaism to predict apostasy, the relationship between Judaism and apostasy reversed. Perhaps this reversal is indicative of differences between students who identify as culturally

Jewish and those engaged in the religious practice of Judaism; while the former appear less likely to shed a (cultural) Jewish identity, the latter are more likely to cease affiliating with any religious tradition.

Importantly, students of all non-Christian religious traditions were each more likely to experience tradition transfer than were Christian students (Buddhist:  $RR = 49.098, p < .001$ ; Hindu:  $RR = 58.411, p < .001$ ; Muslim:  $RR = 7.007, p < .05$ ; Jewish:  $RR = 4.931, p < .01$ ; Latter-day Saints/Mormon:  $RR = 12.507, p < .05$ ; and Unitarian Universalist:  $RR = 4.560, p < .01$ ), a finding suggesting religious minority students may experience strong motivations to pursue alternative religious identities in college. However, these specific findings should be interpreted cautiously given the relatively small number of students within each religious minority group.

Finally, sex and racial/ethnic identity appear to have limited relationships with religious conversion. Of note, identifying as a female only decreased the likelihood of apostasy relative to no conversion ( $RR = .784, p < .05$ ); sex was not significantly associated with experiencing any other type of conversion. When compared to White students, Hispanic ( $RR = .517, p < .05$ ) were also less likely to become apostates. Importantly, there were no instances where students who failed to report a racial/ethnic identity were also classified as nonreligious intensifiers. As a result, no findings are presented for this particular group.

That said, while the final model indicated Asian students were each less likely to become apostates ( $RR = .495, p < .05$ ) or transfer traditions ( $RR = .296, p < .05$ ), the correlation coefficients for identifying as Asian and the conversion typologies of apostasy



and tradition transfer were each positive. The cause of this reversal is connected with religious affiliation—specifically, indicators for Buddhism, Hinduism, and Islam. Put simply, while Asian students at large may be more likely to become apostates or leave their religious tradition altogether, controlling for specific religious minority affiliations indicates remaining Asian students are less likely to convert (either by apostasy or tradition transfer). This appears an important distinction and may speak to the difficulty of maintaining a religious minority affiliation in an often Christian-majority context.

**College Context (level 1 variables).** The only level 1 variables represented in college context were indicators of academic major as reported the third year of college. In several instances, these variables were significantly related to different forms of religious conversion.

Among students with a specific pre-college religious preference, the relative risk of apostasy relative to no conversion increased for students majoring in arts and humanities ( $RR = 1.371, p < .05$ ), math/statistics ( $RR = 1.893, p < .05$ ), and among those with an undecided major ( $RR = 5.364, p < .05$ ) when compared to students majoring in the social sciences. However, only 19 students reported being undecided in their college major selection; 16 of these were classified as non-converts and the remaining 3 individuals were classified as apostates. As a result, only relative risk ratios are provided for apostasy, and caution should be used when interpreting this finding given the small number of students represented. Conversely, students majoring in business ( $RR = .554, p < .01$ ) and education ( $RR = .427, p < .01$ ) were significantly less likely to become apostates. The likelihood of experiencing religious intensification also increased for students majoring in science ( $RR = 1.197, p < .05$ )

and math/statistics ( $RR = 1.715, p < .05$ ), a finding again likely related to the construction of the intensification classifications and the room with which individuals have to increase or decrease in religious commitment over time. For students majoring in science and math/statistics, they may simply have more room to grow religiously because they start college with lower levels of religious commitment generally.

For students who began college without a religious preference, the relative risk of religious affiliation relative to no conversion increased for students with professional majors ( $RR = 5.492, p < .01$ ), while the relative risk of nonreligious intensification increased for students majoring in business ( $RR = 2.601, p < .01$ ). Taken together, these findings indicate particular academic environments may serve to reinforce students' existing beliefs or call them into question.

**Contingency Factors.** Contingency factors represented measures of specific experiences and viewpoints that may have served as internal or external motivators for conversion. These variables included in-college experience with injury or illness, parental divorce, and death of a close family member or friend, as well as measures of spiritual quest and religious struggle. Of the experiential (or externally motivating) variables, personal illness or injury increased the likelihood of apostasy relative to no conversion ( $RR = 1.397, p < .001$ ) and religious intensification ( $RR = 1.165, p < .05$ ), but did not significantly alter the relative risk of tradition transfer, religious affiliation, or nonreligious intensification. That students who experience illness or injury are more likely to abandon or further embrace religion suggests these events may serve as decision points in students' religious journeys. For some, illness or injury may bring about critical questions that move them toward

apostasy, while other students may seek comfort in religion. Among other contingency events, having a friend or close family member die significantly decreased the relative risk of apostasy ( $RR = .800, p < .05$ ), but accounted for no change in the prospect of experiencing any other form of conversion. Interestingly, parental divorce did not alter the likelihood of conversion at all.

Moving to measures of internal motivation, spiritual quest was largely insignificant across the conversion types, though religiously affiliated students with higher values of spiritual quest were more likely to intensify in their beliefs ( $RR = 1.086, p < .001$ ) relative to non-converts. Experiencing religious struggle, however, was an important predictor in the likelihood of experiencing four of the five conversion types evaluated. Specifically, higher levels of religious struggle increased the likelihood of apostasy ( $RR = 1.198, p < .001$ ) and tradition transfer ( $RR = 1.097, p < .05$ ), but decreased the chance of religious intensification ( $RR = .940, p < .001$ ) for religiously affiliated students. Further, religious struggle also increased the likelihood of religious affiliation for nonreligious students ( $RR = 1.086, p < .01$ ), suggesting either nonreligious students who struggle sought answers within a specific religious tradition, or, once affiliated, encountered struggles within their new traditions. Taken together, contingency factors appear to be more meaningful to students who began college with a religious preference than to those without, though the strength and direction of the relationship varied depending on the specific contingency factor and conversion type in question.

**Encounters.** Of the in-college encounters with religious or spiritual difference included in these models, the first to significantly alter the relative risk of experiencing any

form of religious conversion was participating in a religious mission trip. Religious students who indicated they had participated in such an experience were less likely to be apostates ( $RR = .545, p < .05$ ) and more likely to religiously intensify ( $RR = 1.286, p < .01$ ). Not surprisingly, participation in a religious student organization also significantly lowered the relative risk of apostasy ( $RR = .388, p < .001$ ) among religious students and increased the likelihood of religious affiliation among students without a pre-college religious preference ( $RR = 5.383, p < .001$ ).

Also accounted for in this section were discussions with friends, family, faculty, and staff of a religious or spiritual nature. Importantly, these variables were each measured on a 3-point scale (1 = “Not at all”, 2 = “Occasionally”, 3 = “Frequently”) and centered for analysis on “Occasionally.” First, religious students who frequently engaged in religious or spiritual discussions with friends were more likely to experience apostasy ( $RR = 1.548, p < .001$ ), religious intensification ( $RR = 1.622, p < .001$ ), and tradition transfer ( $RR = 1.894, p < .01$ ). However, these conversations resulted in no significant changes to the relative risk of religious affiliation or nonreligious intensification among nonreligious students.

Importantly, the simple correlation between apostasy and conversations of a religious or spiritual nature with friends is negative, generally suggesting that students who frequently engage in these discussions with friends are *less* likely to become apostates. Why, then, does the final model suggest the opposite? Analyses indicate these discussions with friends are related to other variables in the model, namely religious engagement and involvement in a religious student organization. When incorporated in the model together, the relative risk of apostasy increases with more frequent conversations. In other words, it may be that many

students who frequently engage in religious or spiritual discussions with peers often do so within the framework of their own religious engagement or as members of religious student organizations, acts which may reinforce beliefs and make one less likely to abandon religion. Once these conversational contexts are accounted for, however, frequent religious and spiritual discussions with peers occurring in other contexts make apostasy the more likely outcome.

Frequent conversations with family members also produced significant differences in the likelihood of conversion for both religious and nonreligious students. Specifically, the relative risk of apostasy ( $RR = .557, p < .001$ ) and tradition transfer ( $RR = .618, p < .05$ ) relative to non-conversion were significantly lowered when students frequently talked about religion or spirituality with family, while the likelihood of religious intensification ( $RR = 1.279, p < .001$ ) increased. Further, among students without a pre-college religious preference, frequent family conversations also increased the likelihood of religious affiliation ( $RR = 1.655, p < .001$ ).

Frequent conversations with faculty also decreased the prospect of religious intensification ( $RR = .795, p < .01$ ) among religiously affiliated students. However, as with apostasy above, this relationship is not so clear-cut. Singularly, the correlation between religious and spiritual discussions with faculty and religious intensification is positive, suggesting students who engage in these discussions are more likely to religiously intensify. However, accounting for frequent participation in a religious studies class alters this relationship. Again, it appears controlling for the context of particular discussions proves important in determining the final relationship with conversion. In this instance, students

who frequently discuss religion or spirituality with faculty may largely do so in the context of a religious studies class. Once controlled, faculty conversations occurring in other contexts beyond religious studies courses appear connected to a lower likelihood of religious intensification. This finding raises important questions about the general nature of these discussions, the settings within which they occur, and the academic discipline(s) of the faculty involved.

Finally, frequent conversations with college staff only increased the likelihood of religious affiliation among nonreligious students ( $RR = 1.628, p < .05$ ). In short, it appears frequent discussions of a religious or spiritual nature—especially those between friends and family members—may be meaningful in students’ stories of conversion. However, where frequent conversations with friends increased the likelihood of any conversion type for religiously affiliated students, frequent conversations with family members may simply reinforce existing familial religious traditions as evidenced by the decreased likelihood of apostasy and tradition transfer and the increased likelihood of religious intensification and religious affiliation.

The final variables of the encounters block were also measured using the same 3-point Likert scale described above and were similarly centered at “Occasionally.” From these items, frequent enrollment in religious studies classes increased the relative risk of experiencing religious intensification ( $RR = 1.258, p < .001$ ) and tradition transfer ( $RR = 1.410, p < .05$ ) among religiously affiliated students, and exposure to faculty who frequently encouraged religious or spiritual discussion in class decreased the likelihood of religious affiliation among students without a pre-college religious preference ( $RR = .649, p < .01$ );

exposure to faculty who frequently encouraged discussions of meaning and purpose did not alter the likelihood of student conversion at all.

Interestingly, the simple correlation between religious affiliation and exposure to faculty who frequently encouraged religious or spiritual discussion in class is positive, while results from the full model suggest a negative relationship. Closer inspection suggests this variable is closely related to frequent enrollment in religious studies courses, and introducing this variable into the model alters the direction of the relationship between faculty discussions and religious affiliation from positive to negative. In other words, the religious and spiritual discussions faculty encourage *outside* of religious studies classes may, in fact, discourage religious affiliation—a finding that again raises questions about these contexts and the academic discipline(s) of the faculty involved.

**Commitment.** The only variable used to operationalize one's commitment to conversion was a measure of self-reported religious conversion in college. Notably, students who self-reported experiencing religious conversion significantly increased the relative risk of identifying with apostasy ( $RR = 12.029, p < .001$ ), religious intensification ( $RR = 3.177, p < .001$ ), tradition transfer ( $RR = 42.045, p < .001$ ), and religious affiliation ( $RR = 20.361, p < .001$ ) each relative to no conversion. Self-reported conversion, however, had no significant impact on the likelihood of experiencing nonreligious intensification relative to no conversion. These findings suggest students are generally aware of their own religious journeys, an assertion perhaps not surprising in the obvious cases of apostasy, tradition transfer, or religious affiliation. However, that students who experienced religious intensification would also self-identify as converts suggests a conscious (re)dedication to

belief and the self-awareness necessary to recognize increased religious commitment over time.

**College Context (level 2 variables).** The final variables analyzed were institution-level items further defining the college context. The first four items included peer measures of religious engagement, ecumenical worldview, spiritual quest, and religious struggle. As previous results seemed to suggest, peer behaviors appeared influential in religious conversion. First, campuses with higher levels of peer religious engagement were associated with an increased likelihood of religious intensification ( $RR = 1.114, p < .001$ ), while campuses with higher levels of peer spiritual-quest—a measure used to represent the search for purpose and meaning—were associated with a lower likelihood of religious intensification ( $RR = .853, p < .01$ ).

However, the relationship between peer spiritual quest and religious intensification is not so straightforward. While the full model indicates a negative relationship, the simple correlation between peer spiritual quest and religious intensification is positive. Generally speaking, attending a college with higher levels of peer questing behavior is associated with a higher likelihood of religious intensification. Yet, when a measure of peer religious engagement is introduced to the model, the direction of the relationship between peer spiritual quest and religious intensification changes. This finding suggests the nature of peer spiritual quest matters; are students engaged in narrow quests associated with their own religious engagement, or are these quests unrelated to a particular religious framework? When controlling for the former, the latter significantly reduces the likelihood of religious intensification relative to no conversion.



Similarly, peer religious struggle shares a complex relationship with apostasy. In the full model, high levels of peer religious struggle were associated with a higher relative risk of apostasy ( $RR = 1.277, p < .05$ ), while the simple correlation indicates a negative relationship. The key factor in changing the direction of this relationship again appears to be peer religious engagement. In other words, institutions with high rates of peer religious struggle are generally less likely to produce apostates, but the introduction of a peer religious engagement measure alters the direction of this relationship. As above, perhaps it is the context of the religious struggle that matters. Seeing one's peers struggle religiously within the context of a particular framework (as evidenced by high levels of peer religious engagement) may reduce the chance of apostasy. Yet, once accounted for, broader religious struggles might cast doubt on the validity of religious beliefs, leading to higher rates of apostasy.

Indicators of religious diversity (measured as the percent of non-Christian respondents from a given campus) and the percent of each institution's respondents that experienced some form of religious conversion (e.g., apostasy, religious intensification, tradition transfer, religious affiliation, or nonreligious intensification) were also used to represent college context. Of these, increased levels of campus religious diversity were associated with an increased likelihood of apostasy ( $RR = 1.011, p < .05$ ) for religious students and a decreased likelihood of religious affiliation ( $RR = .978, p < .05$ ) for nonreligious students, perhaps revealing students with less exposure to a Christian-majority campus culture feel less pressure to maintain or adopt religious beliefs. Interestingly, higher rates of peer conversion were significantly related to higher relative risks of apostasy ( $RR = 1.064, p < .001$ ), religious intensification ( $RR = 1.021, p < .01$ ), tradition transfer ( $RR =$

1.141,  $p < .001$ ) and religious affiliation ( $RR = 1.066$ ,  $p < .001$ ), each relative to non-conversion. Yet again, peer behavior appears an important predictor of student conversion and may serve to normalize religious conversion or further expose students to alternative beliefs and ideas.

Finally, indicators for campus religious affiliation were included as measures of campus context. Notably, just one type of campus was related to significantly different relative risk of conversion; compared to public institutions, “other church-affiliated” schools were linked with a decreased likelihood of tradition transfer ( $RR = .375$ ,  $p < .05$ ). Thus, campus environments as a whole may play an important role in conversion, but this appears to be largely linked to peer behavior rather than the religious affiliation of the institution itself.

### **Multilevel Linear Regression Models**

Next, I estimated a series of models determining what, if any, association different religious conversion experiences had on intellectual self-esteem and psychological well-being. I first reviewed simple correlations between each of the predictor variables and the dependent variables, then produced models for each outcome using only control variables. Finally, I estimated complete models with dichotomous indicators for each conversion type (apostasy, religious intensification, tradition transfer, religious affiliation, and nonreligious intensification; no conversion was used as the comparison category). Each model incorporated multiply imputed data and was estimated with clustered robust standard errors using the *mi estimate: mixed* command. All 11,690 observations were available for analysis in these models.

**Intellectual Self-Esteem.** Table 14 contains results from models used to predict intellectual self-esteem. Notably, the direction of the relationship between pre-college ecumenical worldview and intellectual self-esteem in the final model differs when compared to the correlation matrix; this was the only significant predictor of intellectual self-esteem to change direction. That said, this item was used only as a control variable in this model, and the primary independent variables of interest—indicator variables for each conversion type—remained directionally consistent.

Model 1,  $F(56, 933,313.2) = 159.7, p < .001$ , contained only control variables and excluded dichotomous indicators for each type of religious conversion. Importantly, the RVI statistic indicates the average relative increase in variance due to missing data in the model, and a value closer to zero suggests missing data have less of an effect on the estimates (StataCorp, 2013a). In this model,  $RVI = .041$ . Further, the Largest FMI statistic can help determine whether an appropriate, minimum number of imputations were performed for the estimated model. A rule of thumb suggests the minimum number of imputations should equal  $100 \times FMI$  (StataCorp, 2013a). In this case,  $\text{Largest FMI} = .112$ , thus  $100 \times .112 = 11.2$  minimum imputations were recommended. The 25 imputations used to estimate this model are more therefore sufficient. Finally, the intraclass correlation coefficient (ICC) for this model was .007, indicating 0.7% of the total variance in intellectual self-esteem was accounted for by clustering student observations within institutions.

Table 14

*Results from Multilevel Linear Models Predicting In-College Intellectual Self-Esteem*

	Control model		Full model	
	$\beta$	SE	$\beta$	SE
<b>Conversion status<sup>a</sup></b>				
Religious affiliation	---	---	-0.286 *	0.139
Nonreligious intensification	---	---	-0.040	0.226
Apostate	---	---	0.200 *	0.093
Religious intensification	---	---	0.131	0.070
Tradition transfer	---	---	0.255	0.263
<b>Personal Context</b>				
Pre-college Religious Engagement	-0.012 **	0.002	-0.010 *	0.004
Pre-college Ecumenical Worldview	-0.022 ***	0.000	-0.021 ***	0.006
Pre-college religious preference <sup>b</sup>				
Buddhist	-0.354	0.266	-0.402	0.324
Hindu	0.250	0.415	0.197	0.291
Muslim	-0.133	0.633	-0.159	0.280
Jewish	-0.061	0.690	-0.044	0.154
Latter-day Saints/Mormon	0.009	0.975	-0.009	0.289
Unitarian Universalist	0.265	0.392	0.258	0.313
None	0.044	0.599	0.186	0.097
Female <sup>c</sup>	-0.605 ***	0.000	-0.603 ***	0.054
Race/ethnicity <sup>d</sup>				
Black/African-American	-0.344 *	0.016	-0.347 *	0.143
Hispanic/Latino	-0.555 ***	0.000	-0.546 ***	0.152
Asian American/Asian	-0.386 ***	0.000	-0.379 **	0.109
Other racial/ethnic identity	-0.183 *	0.025	-0.181 *	0.082
No racial/ethnic identity selected	-0.420	0.372	-0.417	0.469
Pre-college Intellectual Self-Esteem	0.527 ***	0.000	0.527 ***	0.015
High school GPA <sup>e</sup>	0.245 ***	0.000	0.244 ***	0.021
Pre-college degree aspiration <sup>f</sup>				
No degree	-0.158	0.325	-0.159	0.161
Graduate/professional degree	0.151 **	0.004	0.148 **	0.053

Table 14 Continued

<b>College Context (level 1 variables)</b>				
<b>College major<sup>g</sup></b>				
Arts and Humanities	-0.148 *	0.018	-0.151 *	0.062
Religion or Theology	-0.760 ***	0.000	-0.761 ***	0.133
Science	0.067	0.339	0.067	0.070
Math/Statistics	0.824 ***	0.000	0.816 ***	0.125
Engineering	0.237 *	0.037	0.239 *	0.113
Health Professional	-0.120	0.260	-0.119	0.107
Business	0.342 ***	0.000	0.348 ***	0.069
Education	-0.115	0.145	-0.110	0.080
Professional	-0.301	0.118	-0.288	0.193
Another Major	-0.323	0.050	-0.314	0.165
Undecided	-1.316	0.060	-1.335	0.705
<b>Contingency Factors</b>				
Personal injury or illness during college	0.012	0.803	0.007	0.047
Parents divorced while in college	-0.062	0.612	-0.060	0.122
Death of close family member or friend in college	-0.100 *	0.021	-0.099 *	0.044
Spiritual Quest	0.081 ***	0.000	0.080 ***	0.006
Religious Struggle	-0.025 **	0.001	-0.026 **	0.008
<b>Encounters</b>				
Helped friends with personal problems in college <sup>h</sup>	-0.003	0.947	-0.003	0.047
Participated in a religious mission trip in college	-0.106	0.066	-0.106	0.057
Participated in a religious student organization in college	-0.004	0.934	0.005	0.045
Discussed religion/spirituality with friends <sup>h</sup>	-0.044	0.331	-0.055	0.045
Discussed religion/spirituality with family <sup>h</sup>	-0.076	0.062	-0.068	0.040
Discussed religion/spirituality with professors <sup>h</sup>	0.081	0.056	0.082	0.042
Discussed religion/spirituality with college staff <sup>h</sup>	0.021	0.591	0.022	0.039
Taken a religious studies class in college <sup>h</sup>	0.010	0.778	0.010	0.037
Faculty encouraged questions of meaning and purpose <sup>h</sup>	0.033	0.324	0.034	0.033
Faculty encouraged religious/spiritual discussions <sup>h</sup>	0.079 *	0.048	0.075	0.040
<b>Commitment</b>				
Converted to another religion in college	0.169	0.219	0.132	0.137

Table 14 Continued

<b>College Context (level 2 variables)</b>				
Peer Mean Factor: Religious Engagement	-0.018	0.225	-0.019	0.015
Peer Mean Factor: Ecumenical Worldview	0.039	0.339	0.038	0.041
Peer Mean Factor: Spiritual Quest	0.082	0.134	0.083	0.054
Peer Mean Factor: Religious Struggle	-0.192 **	0.004	-0.193 **	0.066
Campus religious diversity (% non-Christian)	0.002	0.003	0.001	0.003
Percentage of campus experiencing conversion	0.008	0.074	0.007	0.005
Institutional Religious Affiliation <sup>i</sup>				
Nonsectarian	0.201	0.071	0.200	0.111
Catholic	0.129	0.346	0.132	0.138
Other Church-Affiliated	0.140	0.221	0.144	0.114
Evangelical	0.250	0.124	0.247	0.162
Constant	7.368	0.000	7.322	0.982

Note. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . <sup>a</sup> Non-converts represent the comparison group for religious conversion typologies. <sup>b</sup> Christianity represents the comparison group for pre-college religious preference. <sup>c</sup> Males represent the comparison group for females. <sup>d</sup> White students represent the comparison group for racial/ethnic identities. <sup>e</sup> High school GPA centered at a “B” average. <sup>f</sup> Bachelor’s degree represents the comparison category for degree aspiration. <sup>g</sup> Social-science majors represent the comparison group for college major. <sup>h</sup> These variables are centered on “Occasionally.” <sup>i</sup> Public institutions represent the comparison group for religiously affiliated institutions.

From the control-only model, a number of variables significantly predicted intellectual self-esteem. Among the personal context variables, both pre-college religious engagement ( $\beta = -.012, p < .01$ ) and pre-college ecumenical worldview ( $\beta = -.022, p < .001$ ) were significantly and negatively associated with intellectual self-esteem. Additionally, when compared with males, female students also reported lower levels of intellectual self-esteem ( $\beta = -.605, p < .001$ ). Further, when compared with White students, all other specified racial/ethnic identities were significantly and negatively related with intellectual self-esteem, including Black/African-American students ( $\beta = -.344, p < .05$ ), Hispanic/Latino students ( $\beta = -.555, p < .001$ ), Asian/Asian American students ( $\beta = -.386, p < .001$ ), and students with other non-White racial/ethnic identities ( $\beta = -.183, p < .05$ ).

Beyond the personal context variables discussed above, three additional input variables were used in models predicting intellectual self-esteem. Specifically, these included a pre-college measure of intellectual self-esteem, self-reported high school GPA (centered at a “B” average), and dichotomous indicators of pre-college degree aspirations—either no degree or graduate/professional degree with aspiring for a bachelor’s degree used as the reference category. Of these additional context variables, three shared positive, significant relationships with intellectual self-esteem. Specifically, students with higher pre-college measure of intellectual self-esteem ( $\beta = .527, p < .001$ ), students with high school grade point averages higher than a “B” average ( $\beta = .245, p < .001$ ), and students who aspired for a graduate or professional degree ( $\beta = .151, p < .01$ ) were each predicted to have higher levels of intellectual self-esteem their third year of college.

College major was also related to differing levels of intellectual self-esteem. When compared to students majoring in the social sciences, students with majors in the arts and humanities ( $\beta = -.148, p < .05$ ) and religion or theology ( $\beta = -.760, p < .05$ ) reported significantly lower levels of intellectual self-esteem. Conversely, students majoring in math or statistics ( $\beta = .824, p < .001$ ), engineering ( $\beta = .237, p < .05$ ), and business ( $\beta = .342, p < .001$ ) reported significantly higher intellectual self-esteem.

Among contingency factors, two variables were significantly and negatively related to intellectual self-esteem, including experiencing the death of a close family member or friend in college ( $\beta = -.100, p < .05$ ) and increased religious struggle ( $\beta = -.025, p < .01$ ). Students with heightened levels of spiritual quest, however, reported significantly higher levels of intellectual self-esteem ( $\beta = .081, p < .001$ ).

From the remaining control variables, only two more demonstrated significant associations with intellectual self-esteem—exposure to faculty who frequently encouraged religious and spiritual discussions in the classroom was positively related with intellectual self-esteem ( $\beta = .079, p < .05$ ), while higher levels of peer religious struggle were negatively associated with this outcome ( $\beta = -.192, p < .01$ ).

Following estimation of the control-only model, I estimated a final model including the main variables of interest. This model,  $F(61, 871, 219.2) = 187.1, p < .001$ , contained all control variables as well as dichotomous indicators for each type of religious conversion. From the full model,  $RVI = .044$  and  $\text{Largest FMI} = .111$ , again suggesting missing data have little effect on the estimates and the number of imputations ( $M=25$ ) was more than sufficient (StataCorp, 2013a). Additionally, the intraclass correlation coefficient (ICC) for this model



remained .007. Notably, control variables significantly associated with third-year intellectual self-esteem in the control-only model remained so in every case except one—faculty encouragement of in-class religious or spiritual discussions ( $\beta = .075, p > .05$ ).

From the variables of interest, two conversion experiences appeared related to intellectual self-esteem when controlling for all other factors. First, compared to students who did not experience any form of religious conversion the first three years of college, non-religious students who ultimately affiliated with a religious tradition reported significantly lower levels of intellectual self-esteem in the third year of college ( $\beta = -.286, p < .05$ ). Alternatively, students who began college with a religious preference and became apostates by year three held higher levels of intellectual self-esteem than did peers who experienced no religious conversion ( $\beta = .200, p < .05$ ). In other words, students who leave a religious tradition are more intellectually self-confident, while those who become religious view themselves as intellectually less capable.

**Psychological Well-Being.** Finally, I explored connections between religious conversion and psychological well-being. As before, I first reviewed correlations between each independent variable and the dependent variable, then estimated two models predicting third-year psychological well-being (see Table 15). These models were estimated in the same fashion as those used to predict intellectual self-esteem, though some covariates used to estimate intellectual self-esteem were not included in the psychological well-being models (e.g., high school GPA). Two independent variables significantly predictive of psychological well-being differed in direction from the initial correlation matrix to the final model—pre-

college ecumenical worldview and majoring in math/statistics. Again, however, these variables represent control variables in the model.

Importantly, however, the relationship between apostasy and psychological well-being also reversed. While apostasy alone was negatively correlated with psychological well-being, the final model suggests apostates had higher psychological well-being; religious struggle appears to be the primary reason behind the changed directionality. It appears, then, that apostasy itself was not bad for one's psychological well-being; it was apostasy accompanied by religious struggle that proved problematic. When apostates did not experience struggle, however, they had higher psychological well-being.

Table 15

*Results from Multilevel Linear Models Predicting In-College Psychological Well-Being*

	<b>Control model</b>		<b>Full model</b>	
	$\beta$	SE	$\beta$	SE
<b>Conversion status<sup>a</sup></b>				
Religious affiliation	---	---	0.062	0.117
Nonreligious intensification	---	---	-0.242	0.176
Apostate	---	---	0.168 *	0.073
Religious intensification	---	---	0.164 **	0.055
Tradition transfer	---	---	-0.189	0.182
<b>Personal Context</b>				
Pre-college Religious Engagement	0.003	0.003	0.006	0.003
Pre-college Ecumenical Worldview	0.019 ***	0.004	0.020 ***	0.004
Pre-college religious preference <sup>b</sup>				
Buddhist	-0.190	0.195	-0.171	0.203
Hindu	-0.248	0.264	-0.214	0.264
Muslim	-0.170	0.241	-0.150	0.245
Jewish	-0.321 **	0.118	-0.296 *	0.118
Latter-day Saints/Mormon	-0.179	0.184	-0.165	0.189
Unitarian Universalist	-0.133	0.210	-0.122	0.216
None	-0.172 **	0.055	-0.110	0.064
Female <sup>c</sup>	-0.516 ***	0.036	-0.514 ***	0.036
Race/ethnicity <sup>d</sup>				
Black/African-American	-0.275 **	0.099	-0.278 **	0.100
Hispanic/Latino	-0.075	0.074	-0.074	0.074
Asian American/Asian	0.079	0.063	0.078	0.063
Other racial/ethnic identity	-0.116	0.071	-0.115	0.072
No racial/ethnic identity selected	-0.117	0.295	-0.118	0.291
Pre-college Psychological Well-Being	0.390 ***	0.012	0.390 ***	0.012

Table 15 Continued

<b>College Context (level 1 variables)</b>				
College major <sup>e</sup>				
Arts and Humanities	-0.121 *	0.047	-0.123 *	0.048
Religion or Theology	-0.050	0.124	-0.047	0.124
Science	-0.114 *	0.044	-0.115 *	0.045
Math/Statistics	0.084	0.111	0.072	0.112
Engineering	0.046	0.103	0.045	0.104
Health Professional	-0.348 ***	0.067	-0.348 ***	0.068
Business	0.160 **	0.048	0.163 **	0.048
Education	0.026	0.063	0.028	0.063
Professional	-0.227	0.131	-0.229	0.130
Another Major	-0.011	0.113	-0.007	0.113
Undecided	0.012	0.450	0.001	0.454
<b>Contingency Factors</b>				
Personal injury or illness during college	-0.306 ***	0.033	-0.310 ***	0.033
Parents divorced while in college	-0.177 *	0.084	-0.176 *	0.084
Death of close family member or friend in college	-0.114 ***	0.029	-0.114 ***	0.029
Spiritual Quest	-0.003	0.004	-0.004	0.004
Religious Struggle	-0.168 ***	0.006	-0.168 ***	0.006
<b>Encounters</b>				
Helped friends with personal problems in college <sup>f</sup>	-0.148 ***	0.032	-0.149 ***	0.032
Participated in a religious mission trip in college	0.093 *	0.043	0.089 **	0.043
Participated in a religious student organization in college	0.057	0.034	0.057	0.034
Discussed religion/spirituality with friends <sup>f</sup>	0.027	0.036	0.019	0.036
Discussed religion/spirituality with family <sup>f</sup>	0.033	0.028	0.032	0.028
Discussed religion/spirituality with professors <sup>f</sup>	0.016	0.034	0.019	0.034
Discussed religion/spirituality with college staff <sup>f</sup>	0.050	0.027	0.049	0.027
Taken a religious studies class in college <sup>f</sup>	0.017	0.027	0.015	0.027
Faculty encouraged questions of meaning and purpose <sup>f</sup>	0.019	0.025	0.019	0.025
Faculty encouraged religious/spiritual discussions <sup>f</sup>	0.079 **	0.030	0.078 *	0.031
<b>Commitment</b>				
Converted to another religion in college	0.032	0.118	0.012	0.123

Table 15 Continued

<b>College Context (level 2 variables)</b>				
Peer Mean Factor: Religious Engagement	-0.013	0.010	-0.014	0.010
Peer Mean Factor: Ecumenical Worldview	0.011	0.028	0.011	0.028
Peer Mean Factor: Spiritual Quest	0.028	0.037	0.030	0.037
Peer Mean Factor: Religious Struggle	0.038	0.050	0.034	0.050
Campus religious diversity (% non-Christian)	0.001	0.002	0.001	0.002
Percentage of campus experiencing conversion	-0.004	0.003	-0.004	0.003
Institutional Religious Affiliation <sup>g</sup>				
Nonsectarian	-0.065	0.072	-0.063	0.072
Catholic	-0.122	0.086	-0.118	0.087
Other Church-Affiliated	-0.053	0.072	-0.054	0.072
Evangelical	0.017	0.110	0.019	0.110
Constant	6.093	0.781	6.041	0.781

Note. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . <sup>a</sup> Non-converts represent the comparison group for religious conversion typologies. <sup>b</sup> Christianity represents the comparison group for pre-college religious preference. <sup>c</sup> Males represent the comparison group for females. <sup>d</sup> White students represent the comparison group for racial/ethnic identities. <sup>e</sup> Social-science majors represent the comparison group for college major. <sup>f</sup> These variables are centered on “Occasionally.” <sup>g</sup> Public institutions represent the comparison group for religiously affiliated institutions.

The first model I estimated,  $F(53, 1.1e+06) = 213.2, p < .001$ , contained only control variables; the control-only model  $RVI = .04$ , the Largest FMI = .048, and the ICC = 0.003.

From the covariates included in the personal context block, six proved significant predictors of psychological well-being in the third year of college. First, higher levels of pre-college ecumenical worldview were positively related to psychological well-being ( $\beta = .019, p < .001$ ). Alternatively, Jewish students ( $\beta = -.321, p < .01$ ), students with no pre-college religious affiliation ( $\beta = -.172, p < .01$ ), females ( $\beta = -.516, p < .001$ ), and Black students ( $\beta = -.275, p < .01$ ) were predicted to have lower levels of psychological well-being than their Christian, male peers, and White peers, respectively. Finally, and not surprisingly, higher pre-college levels of psychological well-being were positively associated with higher year-three levels of psychological well-being ( $\beta = .390, p < .001$ ).

When compared to students majoring in the social sciences, four groups of students were significantly differentiated. Students majoring in the arts and humanities ( $\beta = -.121, p < .05$ ), science ( $\beta = -.114, p < .05$ ), and the health professions ( $\beta = -.348, p < .001$ ) possessed significantly lower levels of psychological well-being. However, students majoring in business ( $\beta = .160, p < .01$ ) were predicted to have significantly higher levels of psychological well-being.

The next block of variables, those related to contingency factors, contained a number of significant predictors of psychological well-being. Specifically, suffering personal injury or illness in college ( $\beta = -.306, p < .001$ ), having one's parents divorce while in college ( $\beta = -.177, p < .05$ ), experiencing the death of a close friend or family member ( $\beta = -.114, p < .05$ ),

.001), and having higher levels of religious struggle ( $\beta = -.168, p < .001$ ) all shared significant negative associations with psychological well-being.

Of the remaining list of control variables, only three shared significant relationships with psychological well-being; these variables were all included in the encounters block. First, frequently helping friends with personal problems ( $\beta = -.148, p < .001$ ) was negatively associated with psychological well-being. Alternatively, participating in a religious mission trip while in college ( $\beta = .093, p < .05$ ) and experience with classes in which faculty encouraged religious or spiritual discussions ( $\beta = .079, p < .01$ ) were each positively associated with psychological well-being.

Next, I estimated a final model predicting year-three psychological well-being inclusive of the controls previously discussed and the conversion variables of interest. In this final model,  $F(58, 1.2e+06) = 209.81, p < .001$ , the RVI = .04, the Largest FMI = .05, and the ICC = 0.003. Adding the conversion variables significantly altered the relationship of just one control variable with psychological well-being—entering college without a religious affiliation was no longer a significant predictor of psychological well-being.

Controlling for all else, students who experienced religious affiliation, nonreligious intensification, and tradition transfer were no more or less emotionally well off than their peers who did not convert. However, among students who began college with a religious preference, apostates ( $\beta = .168, p < .05$ ) and students who experienced religious intensification ( $\beta = .164, p < .01$ ) each demonstrated significant and positive relationships with psychological well-being. Thus, it appears students with pre-college religious

affiliations may each benefit emotionally from drastically different conversion experiences, a finding that might speak more generally to the benefits of clarifying one's religious beliefs.

### **Chapter Summary**

While the college years may represent a period of religious stability for many students, findings from this study echo the work of previous scholars suggesting students are not so static in their expressed religious identities (Halama, 2014; Halama et al., 2013; Halama & Lačná, 2011; Iannaccone, 1990; Regnerus & Uecker, 2006). Across the five distinct conversion typologies examined, a number of specific life experiences or environmental factors were significantly associated with student apostasy, religious intensification, tradition transfer, religious affiliation, and nonreligious intensification relative to non-conversion. Moreover, while religious conversion generally shared no significant association with students' intellectual self-esteem, those who became apostates or who religiously affiliated in college were measurably different in this outcome. Specifically, intellectual self-esteem was higher among apostates but lower for students who experienced religious affiliation. Finally, both apostates and students whose religiosity intensified in college had higher psychological well-being.

In the coming chapter, I will first explore these findings in more detail, then discuss implications for research, theory, policy, and practice. Finally, I will provide suggested avenues for future research on college student religious conversion.



## CHAPTER 5: DISCUSSION

The existing religious conversion literature recognizes the transformative nature of conversion while suggesting young adults represent a population primed to experience the phenomenon (Gooren, 2005, 2010; Halama, 2014; Halama et al., 2013; Halama & Lačná, 2011; Iannaccone, 1990; Rambo, 1993; Regnerus & Uecker, 2006). Further, conversion has previously been associated with a number of correlated outcomes that have the potential to hinder or support students' academic and emotional well-being (Edmondson & Park, 2009; Gooren, 2005; Halama & Lačná, 2011; Iyadurai, 2010; Kahn & Greene, 2004; O'Neill, 2014; Rambo, 1993; Schnitker et al., 2014; Zinnbauer & Pargament, 1998). Unfortunately, empirical studies of religious conversion among college students specifically are generally lacking (O'Neill, 2014). As a result, our understanding of the events and environments that contribute to student religious conversion is limited, as is a conceptualization of conversion's relationship with intellectual and emotional health.

Using a framework comprised of Rambo's (1993) Systemic Stage Model of Conversion, Gooren's (2005) conceptualization of Conversion Careers, and Astin's (1993) Input-Environment-Outcome (I-E-O) model, I addressed two research questions in this study, namely:

1. What personal and institutional factors are associated with the choice to religiously convert in college? This question was answered for two distinct groups of students—those who began college with a religious preference, and those who did not.
2. How does religious conversion relate to the non-spiritual college outcomes of intellectual self-esteem and psychological well-being?

Data from HERI's College Student Beliefs and Values survey were used to address these questions, while specific model decisions were guided by the extant literature of religious conversion and college student religious and spiritual development.

Briefly, a number of important findings emerged from this study. First, the general lack of consistent, significant predictors of conversion across all five typologies suggests conversion is not a one-size-fits-all experience. Rather, each type of conversion should be approached as a unique form of change within the context of distinct inputs and life experiences, some of which are particularly meaningful in determining the likelihood of conversion. Additionally, this study indicates the likelihood of religious conversion directly relates to engagement with others, though whether or not these encounters increase or decrease the likelihood of conversion depend on the nature of the experience and the type of conversion in question. Also evident from the findings are students' personal awareness of change. Across all but one type of conversion, students' self-reported status as a convert drastically increased the prospect of being defined as a convert—even in situations where students' self-reported religious preferences did not change over time (e.g., religious intensification). Finally, as the literature of conversion suggests, this study found associations between specific conversion experiences and students' intellectual and emotional health. What emerges, then, is a complex picture of religious conversion that reinforces the work of previous scholars while identifying important questions and directions for future research.

## **Implications for Research and Theory**

This study demonstrated there are significant experiential and environmental elements associated with religious conversion, though these elements often differed in their relationship with specific conversion typologies. Among religiously affiliated students, for example, religious struggle increased the likelihood of apostasy but decreased the likelihood of religious intensification. This finding supports previous work indicating religious conversion is rarely driven by a single set of experiences, but is rather the product of complex personal and relational events (Gooren, 2005; Rambo, 1993). In this study, significant predictors emerged from each facet of the conceptual framework—personal context, college context, contingency factors, encounters, and commitment—and were differentiated across conversion experiences. Together, these results highlight the need to include a range of demographic and experiential variables to better understand more nuanced frameworks of religious conversion. In short, there are critical differences in the conversion experiences of today's college students, and painting conversion with a broad brush risks minimizing or missing these differences altogether. That said, several thematic findings did emerge.

First, among pre-college demographic variables, affiliation as a religious minority—regardless of the religion itself—significantly increased the likelihood of experiencing tradition transfer relative to no conversion. Additionally, entering college as a Buddhist or Hindu increased the likelihood of apostasy as well. In contrast, none of the minority traditions were significantly associated with religious intensification. In other words, religious minority students are no more or less likely than Christians to intensify in their

faith, but are more likely to leave their pre-college religious affiliations behind. Taken together, these findings appear in-line with scholarship indicating religious minority students are more likely to struggle spiritually in college (Bryant, 2007b; Bryant & Astin, 2008).

Importantly, this study does not explain *why* religious minority students behave in this manner. Perhaps these students found themselves entering campus environments in which they were surrounded by new religious influences, an experience that encouraged religious exploration and, ultimately, conversion (Rambo, 1993). Were this the case, this finding would not be altogether troubling. However, it is also possible some students left their traditions because they felt unsupported on campus and in the surrounding community. In these instances, religious conversion may be viewed not as pursuit of *the* truth, so to speak, but rather the acceptance of a convenient truth. Ultimately, these findings illustrate a distinct difference in the conversion behaviors of religious minority students relative to Christian students and raise important questions regarding the nature of these conversion experiences and the personal and environmental factors shaping them.

Surprisingly, external moments of crisis played little role in predicting the likelihood of conversion generally. In fact, of the three events evaluated in this study, the best predictor of religious conversion was experiencing personal injury or illness in college. That said, this experience significantly altered the likelihood of undergoing just 2 of the 5 types of conversion—apostasy or religious intensification. Perhaps this finding is indicative of the difficulty operationalizing a concept like crisis. After all, what represents a significant crisis for one individual may not for another; what is important is whether or not the event(s) trigger change in the individual (Rambo, 1993). Alternatively, this finding may also lend

further credence to assertions that external crises need not predicate religious conversion at all (Gooren, 2010; Kahn & Greene, 2004; Rambo, 1993).

Interestingly, however, religious struggle significantly increased the likelihood of apostasy, tradition transfer, and religious affiliation while decreasing the likelihood of religious intensification. As operationalized in both this study and the CSBV, religious struggle measured the extent to which students questioned and felt unsettled with their religious beliefs (Astin et al., 2011b), and findings from the CSBV revealed students' experience with external crises intensified religious struggle (Astin et al., 2011b). Thus, it may be that religious struggle serves as an intermediate point between crisis and conversion; while experiencing the death of a family member may not lead directly to a conversion experience, it might incite the critical reflection indicative of religious struggle that ultimately leads to a conversion experience.

Gooren (2010) suggested internal turmoil of this type was a powerful motivator of religious conversion, an assertion buoyed by research linking religious struggle with increased incidents of religious conversion (Bryant & Astin, 2008). Findings from this study further demonstrate the critical role of struggle in students' search for religious clarity, but clearly important questions remain. Notably, because both the in-college religious struggle and conversion variables were created from third-year survey responses, the directionality of this finding cannot be known. Certainly, religious struggle may have driven some students to adopt new religious beliefs. But, for others, religious conversion may have resulted in increased religious struggle as students grappled with the realities of their new (non)religious identities. Nevertheless, that a connection between struggle and conversion exists is evident.

This study also revealed important links between one's family, one's peers, and religious conversion. Rambo (1993) and Gooren (2005; 2010) each recognized this and, in the present study, several types of encounters generally changed the likelihood of becoming a religious convert. Of note, frequent religious and spiritual conversations with family were specifically associated with increased prospects of religious intensification and affiliation while significantly decreasing the likelihood of apostasy or tradition transfer. This is perhaps indicative of young adults' tendency to embrace the religious traditions of their parents, particularly in the presence of frequent parental communication and within the context of close family relationships (Halama et al., 2013; Longo & Kim-Spoon, 2014; Putnam & Campbell, 2010). Moreover, given that students who frequently discussed religion and spirituality with family were more likely to grow in their faith or adopt religion and less likely to become apostates or move to another tradition, it is also conceivable these family interactions operated as anchors of faith.

Yet, while parental conversations decreased the likelihood of certain conversion experiences (e.g., apostasy and tradition transfer), both frequent discussions with friends and higher rates of peer conversion only increased the likelihood of individual religious conversion. Notably, previous scholarship suggests peer networks exert ample influence on individuals' religious and spiritual activities, including calls to explore or join religious movements (Foubert et al., 2015; Jindra, 2011; Vielma, 2014). Further, Astin et al. (2011b) identified peer influence as an important factor in decreasing ecumenical worldview, while others have observed the power of peer religious participation on individual rates of religious engagement (Bryant, 2007a; J. P. Hill, 2009; Lee, 2002b; Small & Bowman, 2011).

In the context of this study, these findings suggest there is also a strong peer effect on student religious conversion. To begin, frequent discussions of a religious or spiritual nature with friends drastically increased the likelihood of apostasy, religious intensification, and tradition transfer, each relative to maintaining a static religious identity. In fact, the relative risk ratios for each of these events were some of the largest observed in this study, suggesting this behavior is not only statistically significant, but practically meaningful as well. In addition, attending college at an institution with a higher percentage of peer conversion also increases the prospect of conversion, with greater likelihood of apostasy, religious intensification, tradition transfer, and religious affiliation.

What is particularly striking about each of these examples is not that peers are influential, but rather they are not influential in only one direction. In other words, campus peers do not seem to be an omnipresent force only pulling students away from religion (e.g., only toward apostasy). Rather, it appears one's peer group is influential in conversion generally, but the direction of the pull toward or away from a particular religious perspective likely depends on both the specific peer group in question and the nature of students' interactions. This assertion is borne out in the case of apostasy.

Recall the direction of the relationship between apostasy and frequent conversations with friends changed from negative in a bivariate model to positive in the full model, with religious engagement and involvement in a religious student organization appearing to be the primary drivers of direction change. Thus, among religiously affiliated students at least, religious conversations with friends are both meaningful and largely shaped by the environments in which they occur; conversations in the context of a religious student

organization or occurring alongside increased personal religious engagement may reinforce beliefs and reduce the likelihood of apostasy, while the religious discussions taking place outside these environments may be more critical or involve less religiously homogenous individuals.

It is also interesting to consider the ways in which students are (or are not) aware of their peers' conversion experiences. Again, higher percentages of campus conversion were significantly associated with increased prospects of individual conversion, but how much of the collective campus conversion experience is actually known to members of the campus community, and in what ways are these experiences broadcast? Unfortunately, this study does not provide answers to these questions. Nevertheless, that a positive relationship between peer and individual religious conversion exists demonstrates the powerful social nature of religious conversion in the college context.

Within the context of these peer interactions, students likely gain awareness of different beliefs and perspectives. In this study, ecumenical worldview—a measure of acceptance and appreciation for other beliefs (Astin et al, 2011b)—was positively associated with apostasy and nonreligious intensification, but negatively so with religious intensification. Smith and Stewart (2011) suggested being receptive to alternative ideas accompanied an openness to religious conversion yet, in the present context, this openness appears singularly related to the likelihood of becoming less religious. It seems, then, that students exposed to and accepting of increasingly diverse religious beliefs might have some trouble reconciling these perspectives while growing within their own religious traditions. Instead, this exposure appears connected to stagnation within an existing framework (as



evidenced by the decreased likelihood of religious intensification), the loss of a religious preference (e.g. apostasy), or a more fervent lack of religious commitment (e.g., nonreligious intensification).

For current scholars of religious pluralism (see, for example, Eck, 2006), this finding may cause concern. While pluralism scholars suggest encounters with difference do not require abandoning one's own identity (Eck, 2006), this study suggests that—at least for some students—this is a more likely outcome. Of particular importance, too, is the timing of the measures used to evaluate this relationship. Notably, ecumenical worldview represents pre-college attitudes, while the religious conversion variables relied on change in belief between the first and third year of college. In other words, it is possible to review these findings with some clarity in the timeline; whether a student's conversion experience occurred their first, second, or third year of college, it nevertheless occurred *after* a measure of ecumenical worldview was collected. While stating definitively that higher ecumenical worldview caused conversion would be problematic, these findings raise important questions about ecumenical worldview and student conversion.

That said, these results should also be taken with a degree of caution. While, for example, apostasy is significantly associated with higher levels of ecumenical worldview, a one unit increase in pre-college ecumenical worldview only increases the likelihood of apostasy by 3.3% relative to non-conversion. Even the largest significant finding related to ecumenical worldview suggests non-religious students are just 8.2% more likely to non-religiously intensify relative to non-converts. In short, these findings are statistically

significant, but—perhaps—questionable in their practical significance and may benefit from additional attention in future studies.

Ultimately these findings reinforce previous work highlighting the important role religious role models, family, and friends play in belief change (Foubert et al., 2015; Gooren, 2010; Gunnoe & Moore, 2002; Putnam & Campbell, 2010; Rambo, 1993; Regnerus & Uecker, 2006; Vielma, 2014). While directionality cannot be established from these data, encounters and discussions with others are clearly important components of students' conversion stories. Perhaps through these experiences, alternative beliefs are normalized, encouraged, accepted, and confirmed.

Interestingly, students themselves appeared acutely aware of changes in their religious perspectives. While this finding may seem intuitive in some instances (e.g., tradition transfer), students who identified as converts were also more likely to experience religious intensification within the same tradition. In fact, self-identifying as a convert significantly increased the likelihood of experiencing all forms of conversion save nonreligious intensification, suggesting students' self-identified conversion status may outwardly signal strong commitments to new beliefs.

Both Rambo (1993) and Gooren (2010) recognized commitment as a critical component of the conversion process, one in which individuals accept their new beliefs and begin identifying as members of a specific community. Importantly, this study indicates these new communities need not represent new religious associations (e.g., apostates) or even clear breaks from the past, as students who identified as converts were also more likely to religiously intensify over time while maintaining a consistent, specific religious preference.

Admittedly, grouping all Christian denominations within a single “Christian” category may cloud this finding; some portion of students may have experienced religious intensification along with denomination change, a form of conversion not explored in this study. Nevertheless, this finding supports assertions that conversion represents multiple forms of religious change as opposed to simple movement between major religious traditions (Cummings, 2012; Kahn & Greene, 2004; O’Neill, 2014; Rambo, 1993; Rambo & Farhadian, 2014; Schnitker et al., 2014; Suh & Russell, 2014; Wesselmann et al., 2015) and further legitimizes students’ agency in defining their own religious identities (Moulin, 2013).

Of note, however, is the numeric discrepancy between students classified as converts ( $n = 2,356$ ) compared to those who self-identified as religious converts ( $n = 247$ ). While the conversion classifications developed for this study relied on students’ self-reported change in either religious preferences or religious commitment, it is clear that—at least for some students—these changes failed to rise to the level of religious conversion based on their own understanding of the term. That said, Gooren (2010) suggested a number of stages existed in the conversion process, including both pre-affiliation and affiliation. In each of these stages, individuals have not yet reached the point of conversion, but instead might be visiting or in the process of evaluating new religious beliefs. In this sense, then, the numerical difference between self-appointed and classified converts may be explained as students trying on new religious identities but not (yet) feeling ready enough to classify themselves as religious converts.

Finally, significant correlations were observed between specific types of conversion and both intellectual self-esteem and psychological well-being when controlling for a host of

input and experiential variables. This aligns with extant literature suggesting converts may experience changes in intellectual or emotional health (see, for example, Iyadurai, 2014; Kahn & Greene, 2004; O'Neill, 2014; Zinnbauer & Pargament, 1998). Findings suggest that, in three of the four instances where significant differences were observed, converts generally appeared better off than their non-converting peers. Specifically, apostates experienced higher intellectual self-esteem and psychological well-being, and students who religious beliefs intensified also experienced greater psychological well-being. Conversely, nonreligious students who affiliated with a religious tradition in college experienced decreased intellectual self-esteem. While these findings suggest conversion was not related to the intellectual or emotional health of students across the board, they do indicate students who embrace, intensify in, or, alternatively, walk away from religion are notably different from their peers.

Regarding intellectual self-esteem, results indicating both positive (apostates) and negative (religious affiliation) relationships between religious conversion and this self-assessed measure of academic ability and drive (Astin et al., 2011b) are particularly intriguing. Here, again, lack of directionality is important to acknowledge. In other words, did students who abandoned religion become more intellectually self-confident as a result? Or, alternatively, did students with greater intellectual self-esteem determine they no longer needed religious beliefs to explain life's big questions—those of origin, meaning, and purpose?

Unfortunately the current study cannot answer these questions, and previous studies do little to explain the intellectual differences between apostates and those who religiously

affiliate. However, related scholarship indicates that, for example, evangelical Christian students feel intellectually and socially slighted by peers, faculty, and staff because of their religious beliefs (Bryant, 2005; Moran, Oliver, & Lang, 2007), suggesting that some students feel their religious perspectives are actively devalued by others on campus.

Moreover, findings from this study seem to indicate faculty have a detrimental impact on student religiosity—when religious students engage in frequent conversations of a religious or spiritual nature with faculty, they are less likely to religiously intensify, while non-religious students who report having faculty that encouraged in-class discussions of religion and spirituality were less likely to religiously affiliate. What messages, then, do faculty send about the value of religion in these interactions? Perhaps, either intentionally or unintentionally, students interpret these encounters as particularly dismissive of religion.

Ultimately, if students perceive their campus environment to be generally hostile to religion, it is certainly plausible those leaving religion may feel intellectually vindicated. After all, in environments where faculty may be lauded for being intellectual leaders, students may experience boosts to their intellectual self-confidence when they find themselves in agreement. Conversely, students who embrace religion may pay a perceived intellectual price for doing so, knowing (or believing) their religious beliefs run counter to those of their faculty.

As for psychological well-being, both apostates and students whose religious beliefs intensified were associated with greater emotional health than their peers who did not convert. This finding runs in agreement with literature suggesting that—among other things—conversion can lead to improved outlooks on life, increased self-esteem, and

newfound confidence (see, for example, Kahn & Greene, 2004; O'Neill, 2014; Schnitker et al., 2014; Vielma, 2014; Zinnbauer & Pargament, 1998). However, previous work also indicates religious conversion may be accompanied by increased stress or hostility as converts discard beliefs held by parents, family, and friends (Iyadurai, 2010), or with regret as converts second-guess their decision (Gooren, 2010; Halama, 2014; Rambo, 1993). That these forms of conversion only positively predict emotional health is especially interesting.

Regarding apostates, previous scholarship exploring the lives of religiously unaffiliated students indicates these individuals often endure difficult relationships with family members (Small, 2011). Moreover, campus environments can be particularly challenging for nonreligious students where plentiful community-specific involvement opportunities exist for religiously affiliated students, but not so for the religiously unaffiliated (Liddell & Stedman, 2011). And while secular and nonreligious student organizations are becoming more prevalent on campus (Liddell & Stedman, 2011; Niose, 2011), their absence or limited visibility may curtail self-affirmation and limit perceived support for openly-identified nonreligious students (Heiner, 2008; LeDrew, 2013; Niose, 2011; J. M. Smith, 2013).

Given these challenges, it is conceivable that (relatively) new nonreligious students would possess lower psychological well-being, a measure of emotional health, stress, anxiety, and depression (Astin et al., 2011b). However, findings from this study suggest that, despite these hurdles, apostates are more emotionally well-off than their peers. It could be the data used in this study was collected too late in life to capture some of the family distress associated with apostasy; some evidence suggests the path to religious disaffiliation may

have reached an “acceptance” phase by the late-teens or early twenties (LeDrew, 2013). In addition, research on atheists indicates the coming out process can be one that is liberating, freeing, and leads to increased self-confidence as one takes ownership of their identity (J. M. Smith, 2011). While atheists themselves may only make up only a small portion of the students who selected “none” for their religious preference, this experience may speak to a larger phenomenon—owning one’s (non)religious identity may be an emotionally beneficial act.

Of course, the distance between religion and apostasy may also be dependent on the strengths of one’s beliefs, and findings from this study suggest religious struggle is an important experience that shapes the nature of the relationship between apostasy and psychological well-being. Again, while the simple correlation between apostasy and psychological well-being was negative, accounting for students’ experiences with religious struggle reversed the direction of this relationship. As previously stated, this finding suggests apostates who experienced religious struggle paid an emotional cost on the road to apostasy, but those who did not struggle religiously benefited psychologically.

But what of students whose religious beliefs intensify? Students were classified as having religiously intensified when they demonstrated consistency in religious preference but experienced an increase in religious commitment of more than one standard deviation. Notably, Astin et al. (2011b) found most students—more than 70%—demonstrated no meaningful change in religious commitment over time. Among the students who experienced increased religious commitment, prayer, reading sacred texts, and engaging in religious chanting or singing were specific activities that largely effected this change (Astin

et al., 2011b). Also of interest, self-reflection and meditation positively effected religious commitment as well, and students often seemed to conflate these activities with prayer (Astin et al., 2011b). In short, many of the activities associated with increased religious commitment are likely accompanied by emotional wellness.

Finally, while these findings indicate apostasy and religious intensification are related to psychological well-being, they do not explain these relationships causally. While it may be that apostasy, for example, leads to greater psychological well-being as suggested above, it is equally possible that students with higher psychological well-being eventually gave up their faith in God, perhaps not feeling an emotional need to continue associating with their religious tradition. Likewise, students may find added peace or happiness through increased religious commitment, but it is also possible that emotionally-well students might deepen faith commitments if they view God as responsible for their current state-of-mind.

Ultimately, what is perhaps most interesting in these findings is that both apostasy and religious intensification share positive relationships with psychological well-being. These conversion experiences represent near polar-opposites—the forsaking of or the intense growth in a religious tradition—yet each are associated with emotional health. Perhaps the narrative, then, is that students who take time to clarify their religious outlook ultimately benefit from the process; the road to knowing who they are and what they believe may be more important than the destination itself.

### **Implications for Policy and Practice**

Among the students observed in this study, more than 20% experienced some form of religious conversion in the first three years of college. Though not a majority, these students



represent a sizeable portion of individuals who engaged questions of religious belief and—presumably—found their initial answers wanting. How, then, can colleges and universities best support students in the throes of religious conversion? And, further, why should they?

Today's higher education institutions face increased calls to address student development holistically (Astin et al., 2011b). This includes providing space for students to examine "learning and knowledge in relation to an exploration of self," (Astin et al., 2011b, p. 7), the consequences of which may lead to any number of outcomes, including religious conversion. Incumbent in this call, then, are the resources necessary to facilitate this process, including staff training and awareness of the religious and spiritual issues common among students.

This study contributes to our understanding of these issues by highlighting specific attributes and experiences suggestive of an individual's likelihood of conversion. Of particular note, students who entered college identifying as a religious minority student—Buddhist, Hindu, Muslim, Jewish, Latter-day Saints, or Unitarian Universalist—were all more likely to abandon these identities in favor of another religious tradition when compared to Christian students. While this study did not address why these students were willing to adopt new religious traditions, one possibility might be the lack of visible or perceived support for these tradition on-campus. In fact, previous work suggests religious minority students do not experience high degrees of support and space for spiritual expression on campus (Rockenbach et al., 2014), a consequence of which may be seeking out beliefs that engender a greater degree of support. As such, institutions might critically examine the resources and support available to religious minority students personally and

organizationally. For example, does the college have working relationships with diverse clergy either on-campus or in the community, and are these relationships well-publicized? Are religiously-affiliated student organizations present on-campus, and how active is their presence? While these steps may not alter the trend of tradition transfer among religious minority students, they may ensure students are moving voluntarily to new traditions rather than out of (perceived) necessity.

Additionally, this study confirms the important role peers play in religious conversion. Among religiously affiliated students, frequent conversations with friends about religious or spiritual matters significantly increased the likelihood of becoming an apostate, of intensifying religious beliefs, or of transferring to a new religious tradition. Perhaps more notable, as the proportion of one's peers converting increased, so too did the likelihood of experiencing *any* type of conversion relative to non-conversion, save nonreligious intensification. Both in conversation and by example, then, it appears students explore avenues for conversion and find affirmation from their respective campus communities.

As these findings speak to the influence of peer relationships, campus professionals may wish to take steps ensuring students are prepared to engage in these types of conversations. Residence halls represent a prime arena for these interventions given the concentrated populace living within their walls. Thus, residence life staff may be especially well positioned to further conversations via in-hall programs, for example. In a similar fashion, new student orientation programs that welcome incoming students to campus often include messages of respect for campus diversity. In what ways, though, do these programs incorporate appreciation for religious or spiritual diversity into the discussion? These

programs, and orientation leaders more specifically, may represent important role models in creating additional awareness of religious diversity specifically in much the same way they have increased awareness of campus diversity more generally.

While these represent but two opportunities for campus professionals to help students engage their peers, countless others certainly exist. Ultimately, though, important considerations must be made not to preference one belief over another. After all, religious conversion is not inherently “good” or “bad.” What is critical is helping students find campus environments that allow them the space to explore religious beliefs without the pressure to conform to a set of campus norms.

Moreover, previous research indicates some students turn to counseling centers when they encounter religious or spiritual problems in college (Johnson & Hayes, 2003). While religious conversion represents just one such issue, findings from this study suggest campus counselors may encounter more students in transition on campuses with higher rates of peer conversion. Contextualizing conversion within a specific campus environment, then, may help campus counselors and mental health professionals better anticipate the resources and support their students might seek, including knowledge of specific, faith-related campus and community resources. Moreover, apostates who experienced religious struggle were associated with lower psychological well-being, while those who did not experience struggle had higher psychological well-being. As such, helping these students work through their religious struggles may ultimately lessen or eliminate the emotional toll of apostasy.

Finally, the relationships between apostasy, religious intensification, and religious affiliation to emotional and intellectual health is both intriguing and requires additional

attention. First, that students who adopt a religious preference in college were negatively associated with intellectual self-esteem is troubling. Perhaps this is symptomatic of messages—real or perceived—students receive regarding the necessity of religion. Today’s collegiate environments (rightly) promote critical inquiry and the pursuit of knowledge. Is it possible, however, that these endeavors imply at some level that turning to religion equates to being less intellectually capable? Faculty and staff can and do play important roles shaping the campus environment, and attention should be paid to the messages (intentional or not) students receive about the value of religion. Creating forums in which diverse viewpoints are encouraged may help those who religiously affiliate feel valued as members of the academic community.

And, while both apostates and religious intensifiers had higher psychological well-being, the real focus should perhaps rest on the work these students put into identifying and owning these outcomes. In that vein, what support resources do institutions provide for students questioning their religious beliefs? As previously mentioned, access to (more) diverse clergy may help students find avenues to grow within their religious traditions, but this largely addresses just one side of the equation. Given that nonreligious students, too, often feel a distinct lack of community on campus, institutions can help normalize these nonreligious perspectives in multiple ways, including support for distinctly nonreligious student groups like atheist or secular student organizations, identifying nonreligious staff or community members able to support nonreligious students (e.g., humanist, agnostic, or atheist chaplains), and including nonreligious voices in meaningful campus programs such as vigils or celebrations.

### **Additional Limitations**

While a number of limitations were presented in Chapter 3, two additional limitations observed throughout the analysis warrant further mention. First, observations were limited to the students and the institutions that participated in the CSBV. As a result, the participant pool represents a somewhat idiosyncratic sample consisting of predominantly white, female, Christian students largely enrolled at religious institutions (and, in particular, evangelical Christian institutions). Thus, the findings from this study likely do not represent the experience of all college students.

In addition, certain conversion experiences presented challenges in operationalization. Specifically, student respondents were presented twenty religious options with which to identify on the CSBV. However, nineteen of these represented religious beliefs while only one, “none,” captured nonreligious perspectives. What is unknown, then, is the extent to which “nones” identified as atheist, agnostic, questioning, or some other perspective not reflected in the available options. Nevertheless, I used “none” to develop measures of apostasy or religious affiliation depending on the pre-college religious affiliation provided by the student, an assumption that may not be reasonable in every instance.

### **Future Research**

This study represents one of few empirical efforts describing religious conversion among college students. While the aforementioned findings serve as important contributions to the literature, opportunities to further our understanding of conversion abound. To begin, this study presented a theoretical framework with combined elements of Astin’s (1993) I-E-O model, Rambo’s (1993) Systemic Stage model of Conversion, and Gooren’s (2005) model of

Conversion Careers to explore religious conversion among college students. As this framework had not been tested previously, a critical question to consider was the usefulness of the framework—and the theories of which it was comprised—to explain student conversion. To a large extent, the framework proved successful in doing so, though opportunities for further testing exist.

First, a number of variables representing the personal context proved important factors in likelihood of experiencing religious conversion. From Astin's (1993) I-E-O-model, these variables serve as inputs to account for individuals' pre-college experiences. But they also represent important, individual factors identified by both Rambo (1993) and Gooren (2005), factors that likely influence the ways in which one views the world. While students' sex and racial/ethnic background largely proved insignificant in predicting the likelihood of conversion, pre-college religious affiliations and measures of religious engagement and ecumenical worldview were all largely significant, both statistically and in a practical sense.

However, exploring additional or different measures of personal context could further our understanding of the relationship between these factors and religious conversion. This might include indicators of previous exposure to religious difference or diversity more broadly. Moreover, entering college as a religious minority student significantly increased the likelihood of transferring to a new religious tradition. Future studies could seek to better explain the nature and cause of these movements—how did students encounter new beliefs, what drew them to explore these alternative traditions further, and why, ultimately, did they convert?

Both Rambo (1993) and Gooren (2005) also understood the critical role of social interaction in religious conversion. Rambo (1993) conceived of two stages—encounter and interaction—in which the individual convert is first introduced to and then encapsulated in a new series of beliefs, while Gooren (2010) understood social networks could play an important role in the conversion experience. Results from this study only further these assertions. Whether encounters with others further an individual's belief or bring about change, it is clear that engaging in frequent religious and spiritual conversations with others (especially parents or friends) significantly and largely impact the likelihood of religious conversion. Evidence suggests being surrounded by peers undergoing conversion experiences furthers the prospect of an individual doing the same. In short, the important social aspects of conversion identified in the conceptual framework were readily observed in this study. What is not known, however, is *why*.

While the influence of peers on conversion seems particularly evident, the nature and timing of this effect lacks clarity. For example, do students engage in frequent religious and spiritual discussions with peers and then convert? Or, alternatively, are these discussions products of the conversion experience? Additionally, we do not know how widespread these discussions are, nor what they entail (e.g., are they combative, affirming, or something else?). Lastly, it appears attending college where a high percentage of one's peers convert largely predicts the likelihood of individual conversion. Why, though, does this happen, and how are students aware of their peer's conversion experiences (assuming, of course, they are)?

In addition, the first outcome identified in this framework—religious conversion—did not define the experience in a singular manner (e.g., tradition transfer only). This echoes the

work of Rambo (1993) and Gooren (2005), as each indicated conversion could include a number of distinct understandings and experiences. Findings from this study seem to confirm this assumption; conversion can be defined in multiple ways, and the factors associated with religious conversion often differ across unique conversion experiences. However, future research on student conversion might seek to investigate these typologies in greater detail, either through more targeted empirical study or via in-depth qualitative research.

For example, nonreligious intensification remains largely unexplained by this study. Only three independent variables emerged as significant predictors of nonreligious intensification—pre-college measures of ecumenical worldview, religious engagement, and majoring in business (compared to social science). In each instance, these variables increased the likelihood of nonreligious intensification, but much remains unknown. Numerically, this represents the smallest conversion typology examined ( $n = 88$ ), and future studies may benefit first by specifically targeting this group of students for observation. Assuming a larger sample, future efforts may also differentiate this conversion type from others; it may be that different experiences are important when an already nonreligious individual becomes even *less* religiously inclined. Alternatively, future studies may also determine whether or not nonreligious intensification is a conversion experience at all. After all, this was the only conversion typology in which self-reported conversion did not significantly predict the experience. As a result, students who experienced nonreligious conversion in this study may not even view themselves as having changed in any measurable sense. Narrative, longitudinal studies of nonreligious students could shed light on the ways



in which these students experience and understand their nonreligious worldview development over time.

More broadly, obtaining greater insight into the beliefs of students who identified as “none” (e.g., having no religious preference) might clarify findings related to apostasy and religious affiliation—are these students truly nonreligious, or do they possess more nuanced views that complicate grouping them together? Similarly, the measure of religious and nonreligious intensification (movement greater than one standard deviation over time) was developed somewhat arbitrarily, and future efforts may instead explore intensification as a continuous measure. Opportunities also exist to investigate other conversion experiences not explored here, including denominational movement within Christianity or self-reported commitment levels related to new religious beliefs (e.g., self-classification as a convert compared to self-classification as an affiliate). In these pursuits, crystalizing the different ways students conceive of and experience religious conversion will only further our understanding of the phenomenon.

Regarding the college outcomes evaluated in this study, scholars would benefit from further insight into the relationships between conversion—specifically apostasy, religious intensification, and religious affiliation—and intellectual self-esteem and psychological well-being. The present study indicated apostates, religious intensifiers, and nonreligious students who affiliated with a religious tradition differed from their peers in these outcomes, but was largely unable to address the cause of this differentiation. While findings from this study and others may, for example, suggest that academic environments intellectually discount religious perspectives, concrete understandings are unknown. Additional research into the

motivations and associated outcomes of these conversion typologies could address the directionality of these relationships and suggest methods of supporting these students both during and after conversion.

Generally, further work investigating the relationship between religious conversion and other aspects of student well-being could also prove beneficial to our understanding of the conversion experience. These might include clarity of purpose, emotional health, changed personal relationships, or the use of coping mechanisms. These have each been associated with religious conversion in previous studies, but were largely unexplored in the present effort. Nevertheless, findings from this study suggest religious conversion may prove consequential for students in parts of life seemingly unrelated to change in religious identity.

Additionally, the contingency factors used in this framework would benefit from further development. Notably, these factors largely consisted of various forms of crises, either external or internal. As previously discussed, these crises—particularly the external events—were largely insignificant in predicting the likelihood of conversion. However, this failing may be more associated with model specification than with the framework itself. Ultimately, individuals decide to convert for *some* reason(s), and this framework would benefit from further investigation into these contingency factors.

In this study, nonfindings related to crises may be accounted for, at least in part, by the low numbers of students who experienced them. For example, just 3% of the students in this study reported their parents divorced in the three-year survey window. However, it could also be that crisis as operationalized here is simply too limited. Future studies could further explore the role of crisis in student conversion by not limiting these events to the

three used here; qualitative approaches might be especially well suited for this task and may uncover additional aspects of crisis particular to students and student conversion (e.g., academic performance issues, relationship troubles, or homesickness). Scholars may also wish to explore additional contingency factors that might not be classified as crises, so to speak. In the college context, an example might include sharing a living space with someone who holds different religious beliefs. Again, qualitative efforts might prove especially useful in this task.

Finally, it bears repeating that findings from this study are not causal. While some directional conclusions may seem intuitive, the nature of this study design prevented establishing firm causal relationships between individual factors, religious conversion, and the associated outcomes of conversion. Future studies with additional longitudinal markers may better contextualize when specific events fit within the narrative of religious conversion and provide greater insight into how students progress from one religious preference to another, while qualitative investigations would allow student voices to directly describe how, when, and why they made the choice to convert.

## **Conclusion**

College students today are faced with a myriad of concerns. And while ever-increasing numbers of students prioritize financial success, students are also overwhelmingly interested in the spiritual pursuits of finding purpose, clarifying values, and increasing self-understanding (Astin et al., 2011b). In that vein, this study incorporated the holistic conversion theories of Rambo (1993) and Gooren (2005) with Astin's (1993) I-E-O model to examine a critical component of these interests—religious conversion. Specifically, I sought

to first determine the personal and environmental characteristics associated with student religious conversion as defined by one of five distinct typologies, then explore conversion's relationship with two traditional college outcomes, intellectual self-esteem and psychological well-being.

Findings support this conceptualization, indicating the likelihood of religious conversion was based on a number of personal and contextual factors, though these often differed in effect and direction depending on the specific conversion typology in question. Results also demonstrated connections between conversion and measures of intellectual and emotional health, extending previous work suggesting there are consequences associated with religious conversion that may impact one's life outside the religious arena. Together, these findings further revealed the complex nature of religious conversion, provide theoretical and practical implications for practice, and suggest additional pathways for future research.

In closing, this study demonstrated the importance of understanding conversion in college students. Of the 11,690 students observed in this study, fully 20% experienced some form of religious conversion. This is not a rare event, and this figure only includes students with demonstrated religious differences between surveys. Thus, it is likely more students were grappling with these questions, but doing so in ways not observed or accounted for in this study. And, while the purpose of higher education is not to prevent or facilitate religious conversion per se, certainly student development is (or should be) a core tenet of the mission. Institutions of higher education serious about holistic student development must, then,

recognize the sizeable population of students engaged in these questions and identify means to support their growth.

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## APPENDICES

## APPENDIX A—Reliability Estimates of Selected CSBV Spiritual/Religious Outcomes

Table 16

### Reliability Estimates of Selected CSBV Spiritual/Religious Outcomes

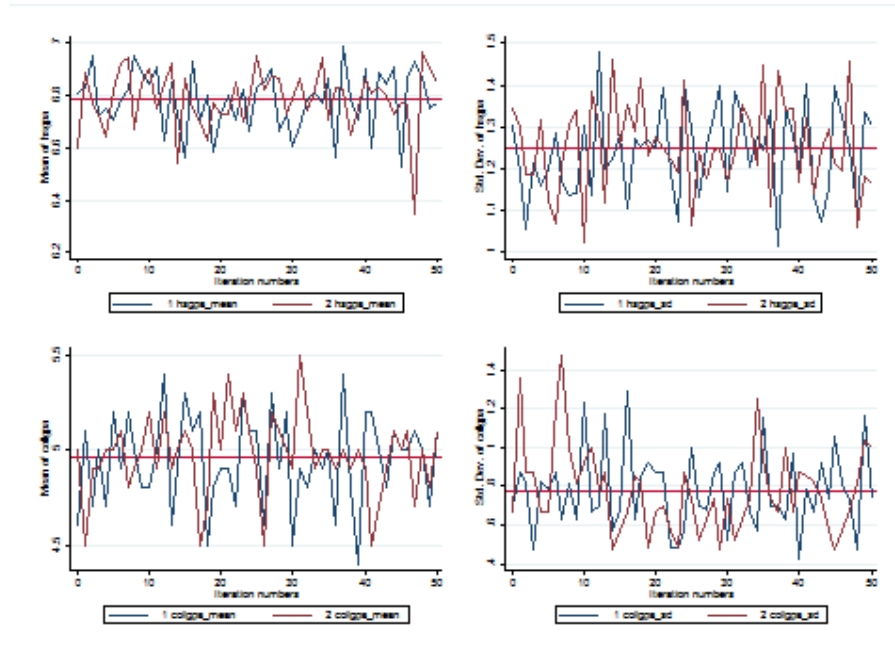
	Alpha Reliability	
	Time 1	Time 2
<i>Spiritual Quest</i> (alpha)	.83	.82
Searching for meaning/purpose in life (3 point scale)		
Having discussions about the meaning of life with my friends		
Searching for meaning/purpose in life (4 point scale)		
Finding answers to the mysteries of life		
Attaining inner harmony		
Attaining wisdom		
Seeking beauty in my life		
Developing a meaningful philosophy of life		
Becoming a more loving person		
<i>Ecumenical Worldview</i> (alpha)	.72	.70
Having an interest in different religious traditions		
Believing in the goodness of all people		
Feeling a strong connection to all humanity		
Understanding of others		
Accepting others as they are		
Improving my understanding of other countries and cultures		
Improving the human condition		
All life is interconnected		
Love is at the root of all the great religions		
Nonreligious people can lead lives that are just as moral as those of religious believers		
We are all spiritual beings		
Most people can grow spiritually without being religious		

	Alpha Reliability	
	Time 1	Time 2
<i>Religious Commitment</i> (alpha)	.96	.97
Seeking to follow religious teachings in my everyday life		
Religiousness		
I find religion to be personally helpful		
I gain spiritual strength by trusting in a Higher Power		
Feeling a sense of connection with God/Higher Power that transcends my personal self		
Felt loved by God		
My spiritual/religious beliefs:		
Are one of the most important things in my life		
Provide me with strength, support, and guidance		
Give meaning/purpose to my life		
Have helped me develop my identity		
Help define the goals I set for myself		
<i>Religious Struggle</i> (alpha)	.75	.77
Feeling unsettled about spiritual and religious matters		
Feeling disillusioned with my religious upbringing		
Struggled to understand evil, suffering, and death		
Felt angry with God		
Questioned religious/spiritual beliefs		
Felt distant from God		
Disagreed with family about religious matters		
<i>Religious Engagement</i> (alpha)	.87	.88
Attended a religious service		
Attended a class, workshop, or retreat on matters related to religion/spirituality		
Reading sacred texts		
Religious singing/chanting		
Other reading on religion/spirituality		
Prayer		
Do you pray?		

Prayer/meditation  
Go to church/temple/other house of worship

Table 16 Continued

**APPENDIX B—Mean and Standard Deviation Convergence Patterns for Imputed Variables**



*Figure 4.* Mean and standard deviation convergence patterns for variables hsgpa and collgpa over 2 imputations with 50 iterations each.

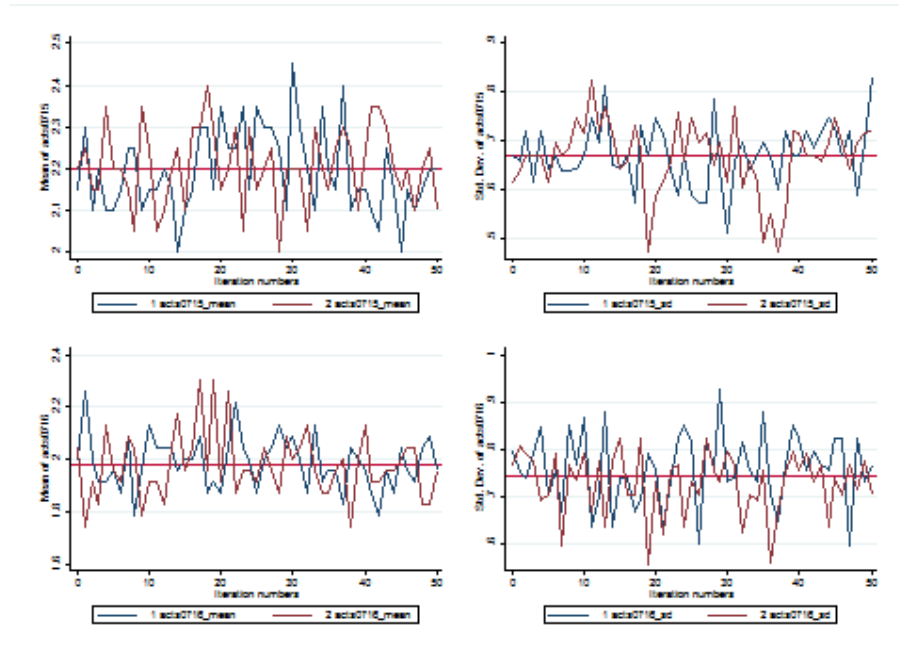


Figure 5. Mean and standard deviation convergence patterns for variables acts0715 and acts0716 over 2 imputations with 50 iterations each.

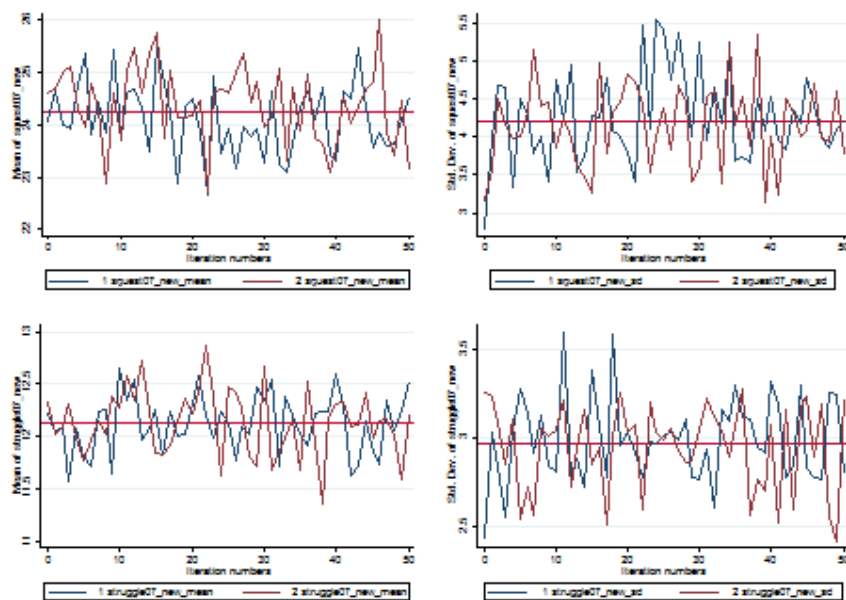
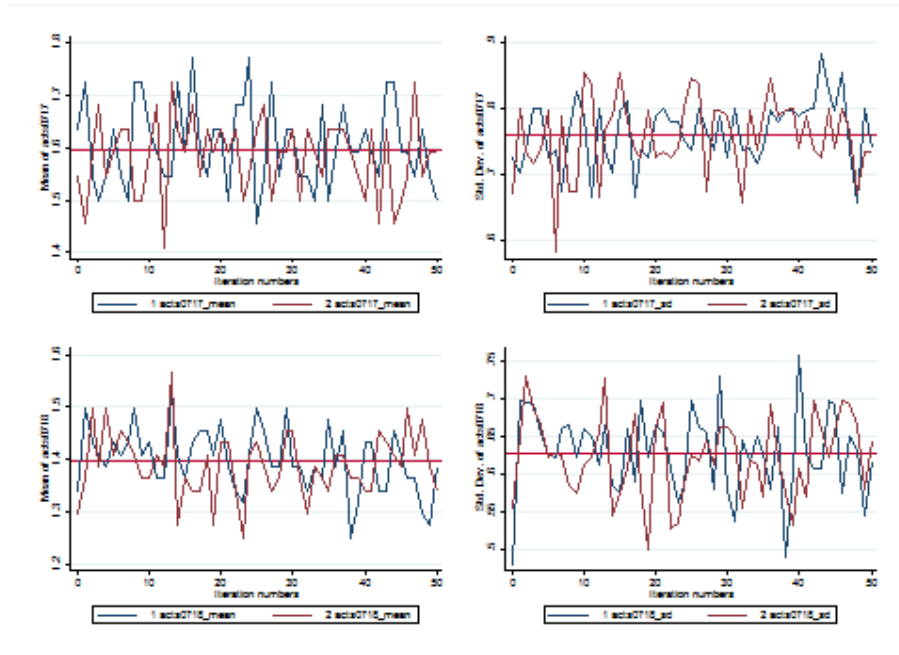


Figure 6. Mean and standard deviation convergence patterns for variables squest07\_new and struggle07\_new over 2 imputations with 50 iterations each.



*Figure 7.* Mean and standard deviation convergence patterns for variables acts0717 and acts0718 over 2 imputations with 50 iterations each.



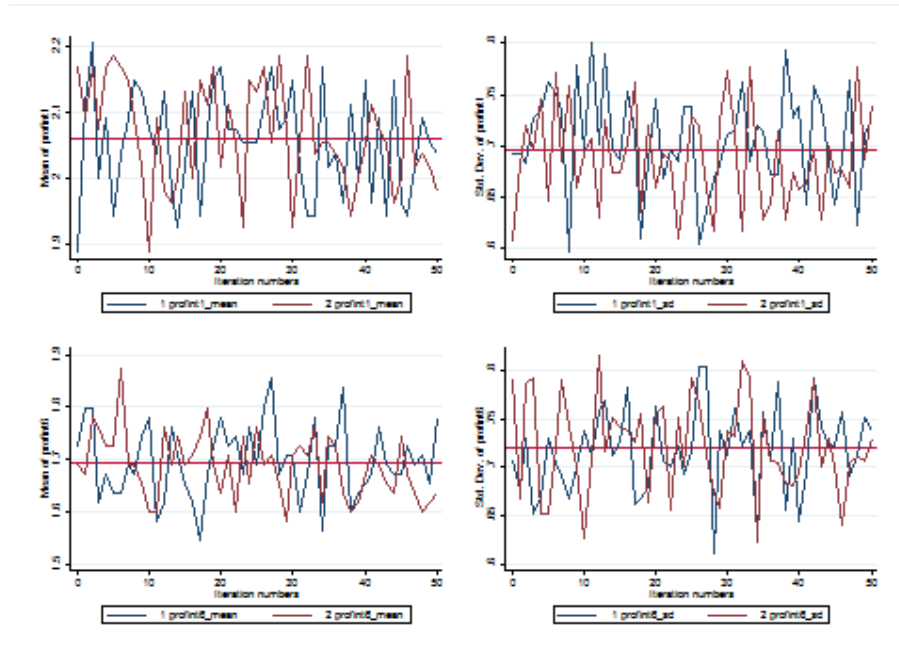


Figure 8. Mean and standard deviation convergence patterns for variables profint1 and profint6 over 2 imputations with 50 iterations each.

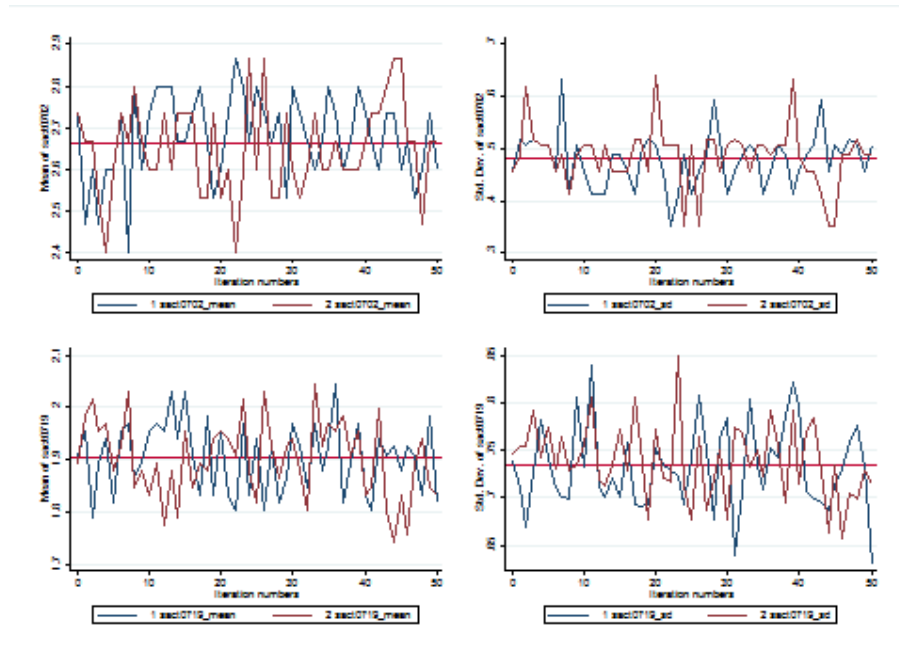


Figure 9. Mean and standard deviation convergence patterns for variables sact0702 and sact0719 over 2 imputations with 50 iterations each.

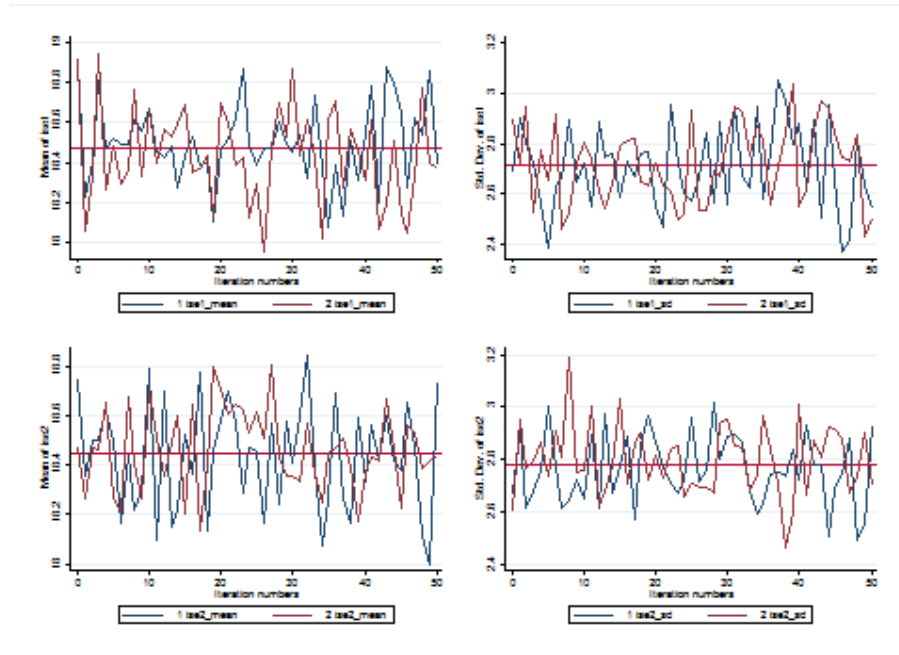


Figure 10. Mean and standard deviation convergence patterns for variables ise1 and ise2 over 2 imputations with 50 iterations each.

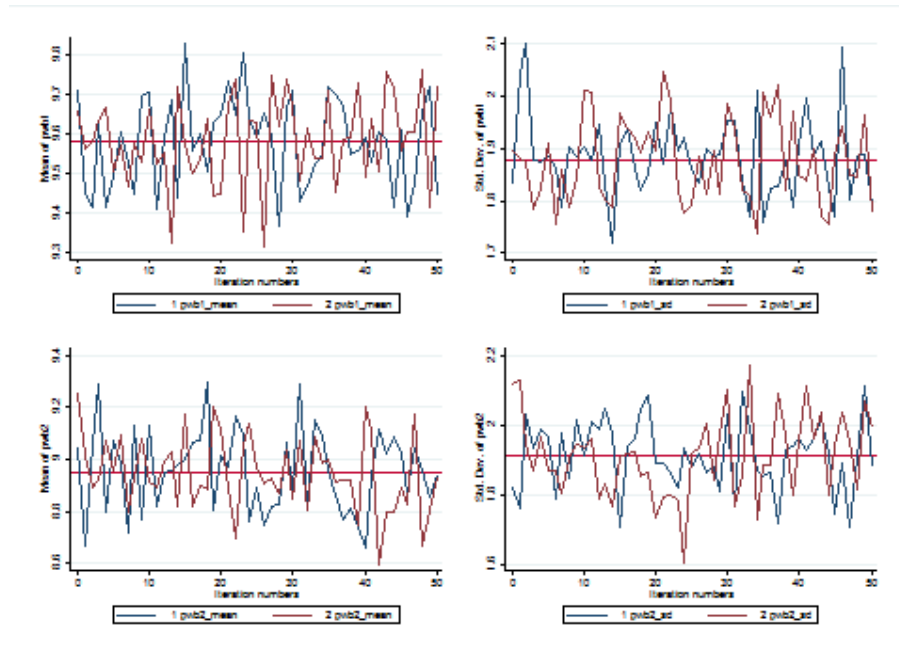


Figure 11. Mean and standard deviation convergence patterns for variables pwb1 and pwb2 over 2 imputations with 50 iterations each.

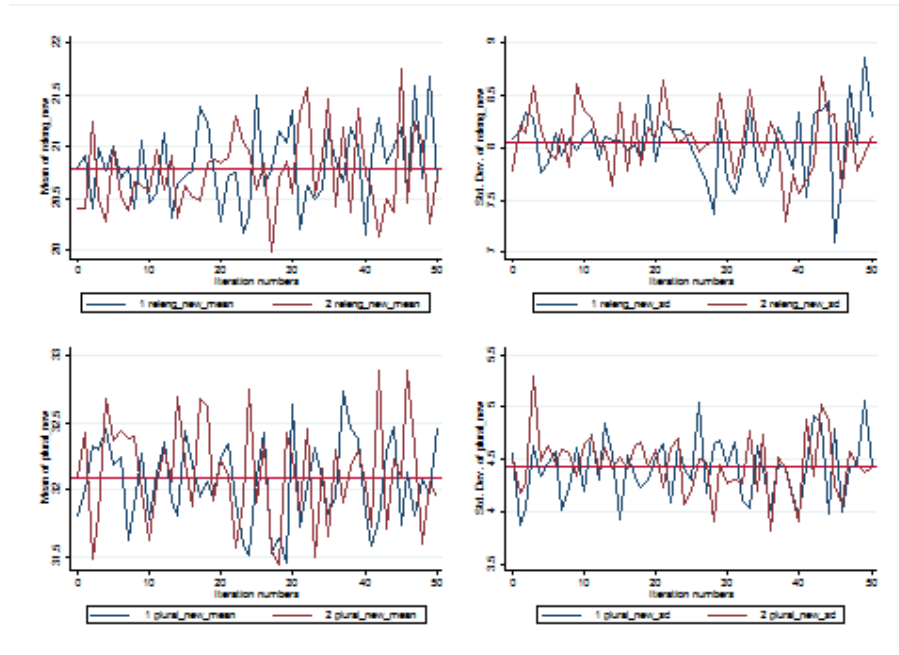


Figure 12. Mean and standard deviation convergence patterns for variables releng\_new and plural\_new over 2 imputations with 50 iterations each.

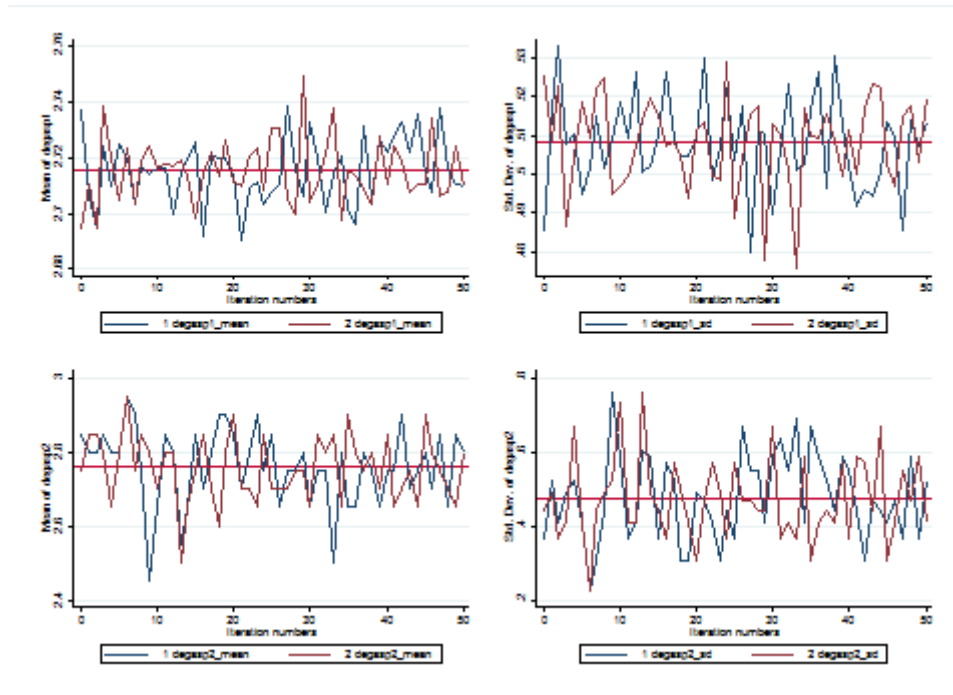


Figure 13. Mean and standard deviation convergence patterns for variables degasp1 and degasp2 over 2 imputations with 50 iterations each.

## APPENDIX C—Observed, Imputed, and Completed Information for Imputed Variables

Table 17

### *Observed, Imputed, and Completed Statistics for Categorical Variables*

Variable and response options	Proportions for $m=1$		
<b>Pre-college degree aspiration</b>	<b>Observed (<math>n=10,404</math>)</b>	<b>Imputed (<math>n=1,286</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
No degree, other, or less than Bachelor's degree	.023	.023	.024
Bachelor's degree	.191	.226	.194
Graduate/professional degree	.787	.751	.783
<b>In-college degree aspiration</b>	<b>Observed (<math>n=11,670</math>)</b>	<b>Imputed (<math>n=20</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
No degree, other, or less than Bachelor's degree	.025	.000	.025
Bachelor's degree	.192	.100	.192
Graduate/professional degree	.782	.900	.782
<b>Helped friends with personal problems</b>	<b>Observed (<math>n=11,675</math>)</b>	<b>Imputed (<math>n=15</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
Not at all	.008	.067	.008
Occasionally	.341	.267	.341
Frequently	.651	.667	.651
<b>Discussed religion/spirituality with friends</b>	<b>Observed (<math>n=11,670</math>)</b>	<b>Imputed (<math>n=20</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
Not at all	.106	.150	.106
Occasionally	.559	.450	.559
Frequently	.335	.400	.335
<b>Discussed religion/spirituality with family</b>	<b>Observed (<math>n=11,667</math>)</b>	<b>Imputed (<math>n=23</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
Not at all	.212	.304	.212
Occasionally	.516	.391	.515
Frequently	.273	.304	.273
<b>Discussed religion/spirituality with professors</b>	<b>Observed (<math>n=11,668</math>)</b>	<b>Imputed (<math>n=22</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
Not at all	.448	.545	.448
Occasionally	.415	.273	.414
Frequently	.138	.182	.138
<b>Discussed religion/spirituality with college staff</b>	<b>Observed (<math>n=11,646</math>)</b>	<b>Imputed (<math>n=44</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
Not at all	.614	.705	.615
Occasionally	.295	.227	.294
Frequently	.091	.068	.091
<b>Enrolled in a religious studies class in college</b>	<b>Observed (<math>n=11,624</math>)</b>	<b>Imputed (<math>n=66</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
Not at all	.284	.379	.285
Occasionally	.487	.394	.487
Frequently	.228	.227	.228
<b>Faculty encouraged exploration of questions of meaning and purpose</b>	<b>Observed (<math>n=11,636</math>)</b>	<b>Imputed (<math>n=54</math>)</b>	<b>Completed (<math>n=11,690</math>)</b>
Not at all	.156	.296	.157
Occasionally	.517	.444	.517
Frequently	.326	.259	.326

Table 17 Continued

<b>Faculty encouraged discussion of religious/spiritual matters</b>	<b>Observed (n=11,635)</b>	<b>Imputed (n=55)</b>	<b>Completed (n=11,690)</b>
Not at all	.341	.527	.341
Occasionally	.457	.382	.457
Frequently	.202	.091	.201
<b>High school GPA</b>	<b>Observed (n=11,601)</b>	<b>Imputed (n=89)</b>	<b>Completed (n=11,690)</b>
C	.003	.000	.003
C+	.007	.022	.007
B-	.022	.034	.022
B	.091	.146	.091
B+	.148	.213	.149
A-	.287	.213	.287
A or A+	.441	.371	.440
<b>College GPA</b>	<b>Observed (n=11,680)</b>	<b>Imputed (n=10)</b>	<b>Completed (n=11,690)</b>
C- or less (below 1.75)	.001	.000	.001
C (1.75-2.24)	.013	.000	.013
B-, C+ (2.25-2.74)	.064	.000	.064
B (2.75-3.24)	.247	.300	.247
A-, B+ (3.25-3.74)	.438	.300	.438
A (3.75-4.0)	.236	.400	.236

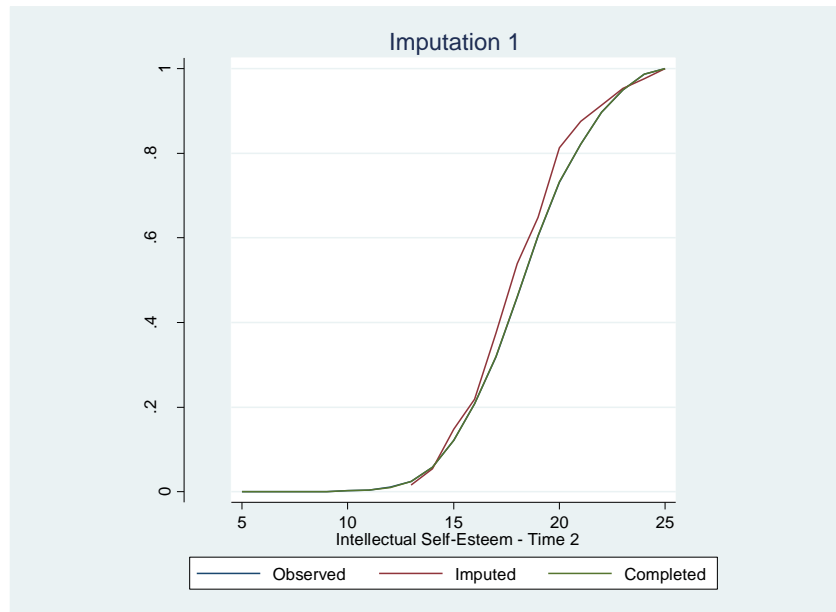


Figure 14. Observed, computed, and completed cumulative distribution plot for in-college intellectual self-esteem, m=1.

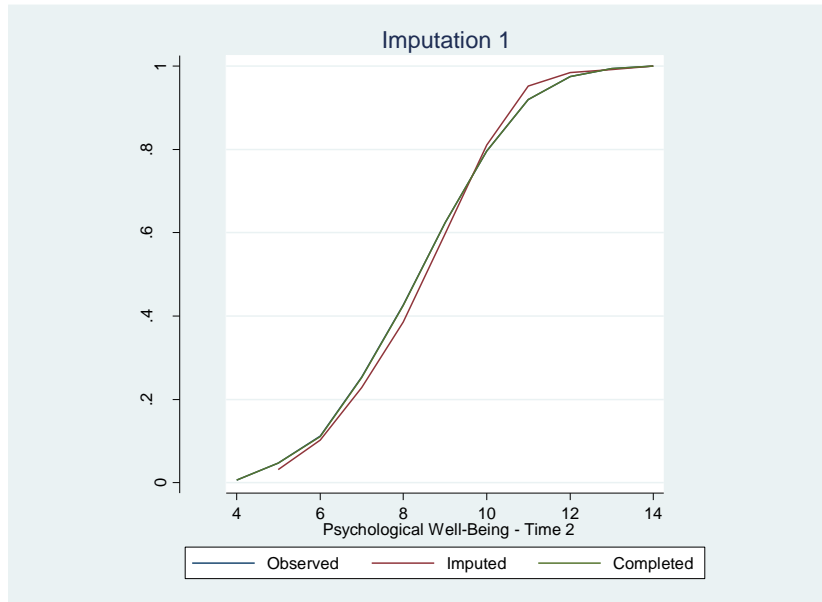


Figure 15. Observed, computed, and completed cumulative distribution plot for in-college psychological well-being,  $m=1$ .



Figure 16. Observed, computed, and completed cumulative distribution plot for pre-college religious engagement,  $m=1$ .

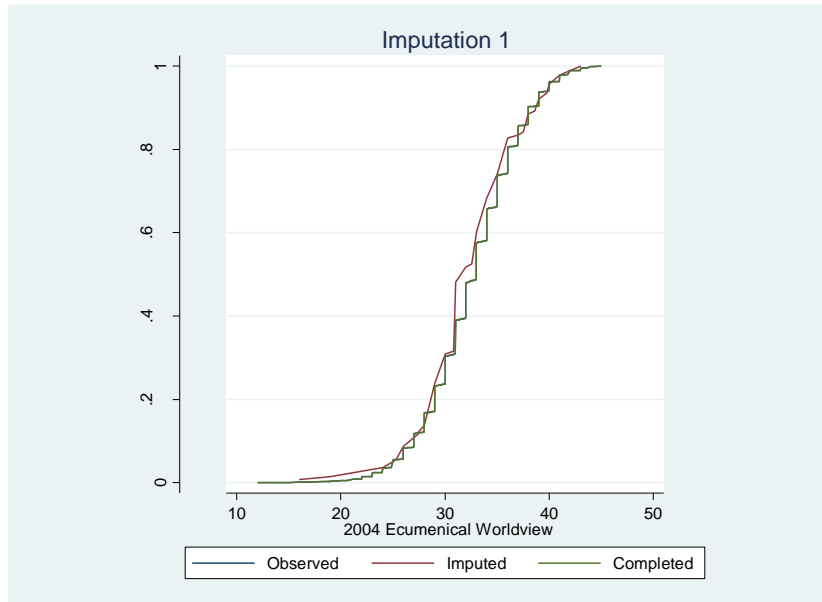


Figure 17. Observed, computed, and completed cumulative distribution plot for pre-college ecumenical worldview,  $m=1$ .

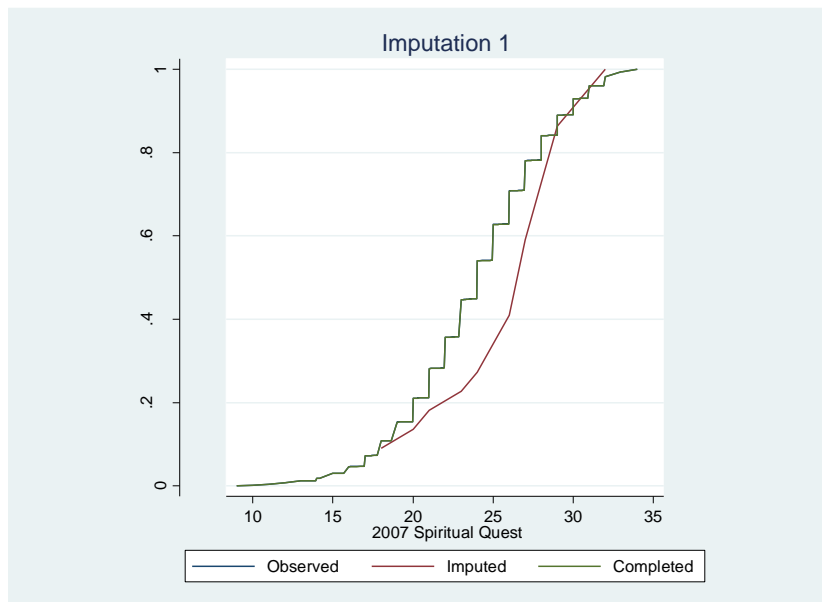


Figure 18. Observed, computed, and completed cumulative distribution plot for in-college spiritual quest,  $m=1$ .

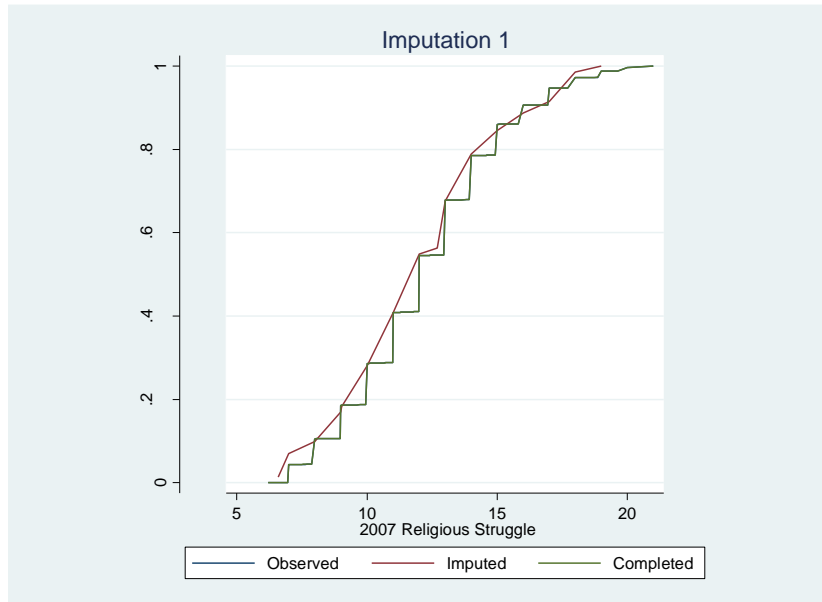


Figure 19. Observed, computed, and completed cumulative distribution plot for in-college religious struggle,  $m=1$ .

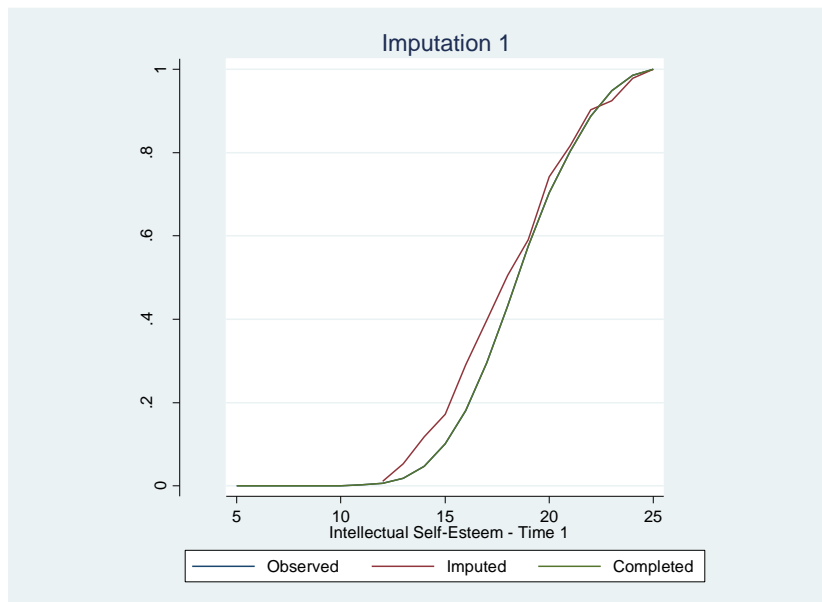
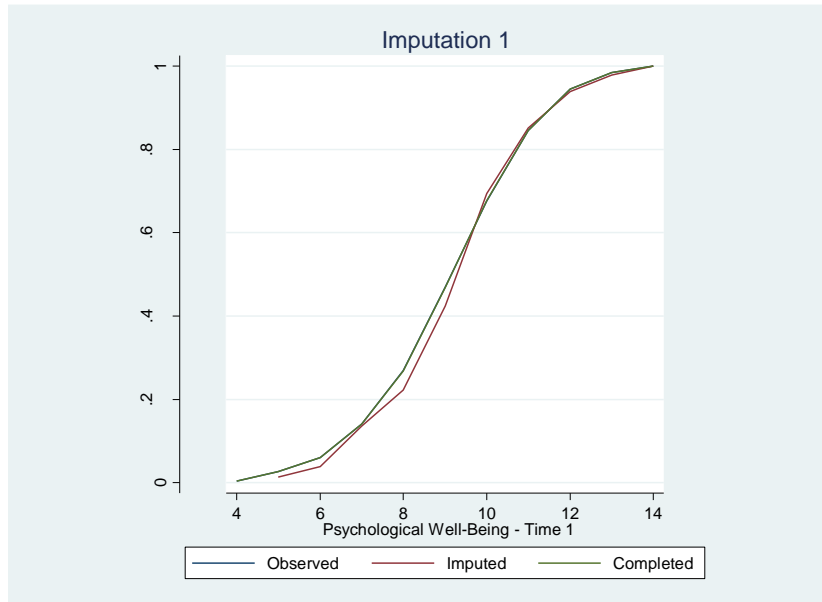


Figure 20. Observed, computed, and completed cumulative distribution plot for pre-college intellectual self-esteem,  $m=1$ .





*Figure 21.* Observed, computed, and completed cumulative distribution plot for pre-college psychological well-being,  $m=1$ .