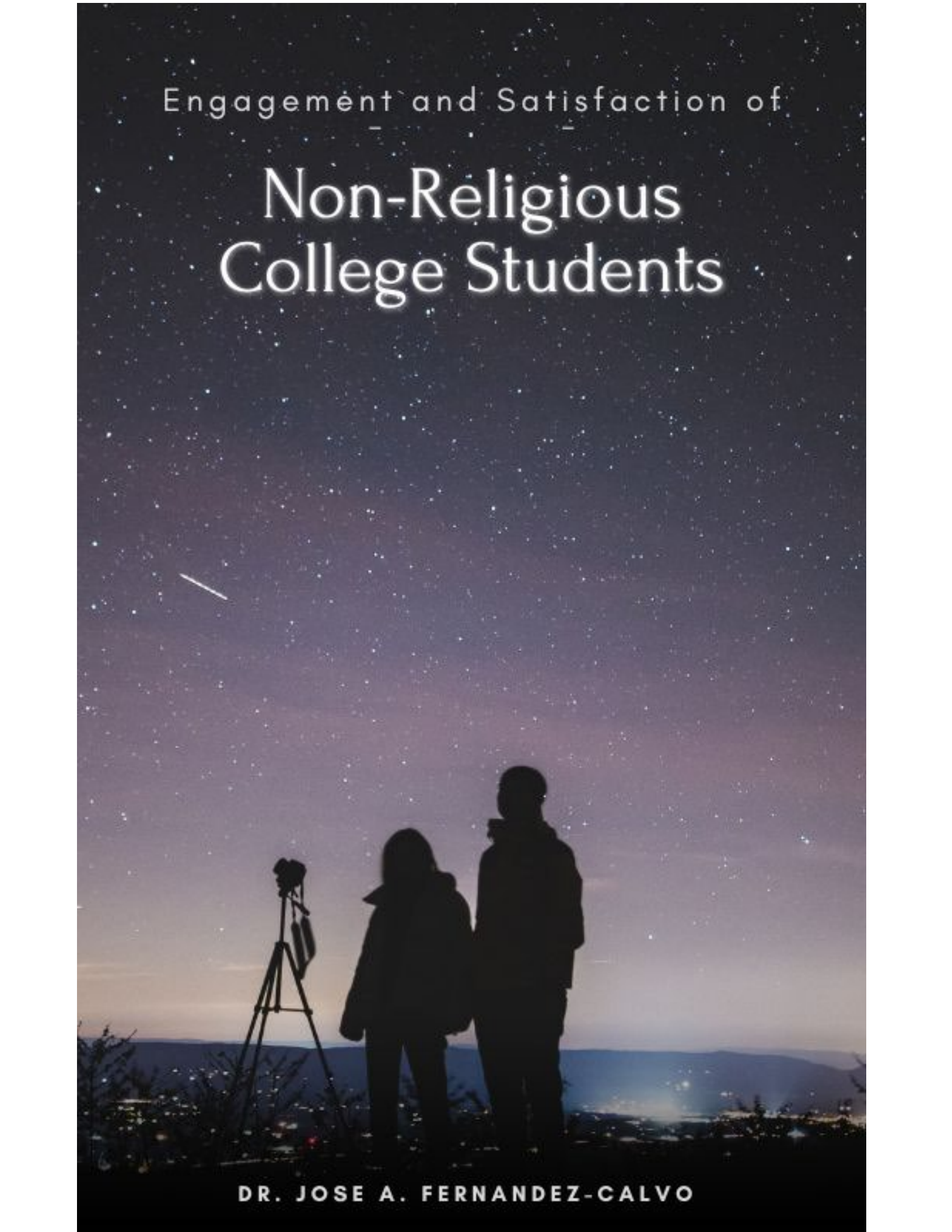


A full-page background image showing the silhouettes of a man and a woman standing on a rooftop, looking up at a starry night sky. A telescope on a tripod is visible to the left. The city lights of a town are visible in the distance below the horizon.

Engagement and Satisfaction of

# Non-Religious College Students

DR. JOSE A. FERNANDEZ-CALVO

Demographic changes have led to students without a religious affiliation now representing about half of the incoming cohorts. How college students' engagement, satisfaction, and performance differ between religiously affiliated and unaffiliated students was analyzed using a dataset of 16,148 student from 141 institutions.

*The study found that religiously unaffiliated students were significantly worse off in almost all engagement and satisfaction aspects of their college experience.*



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# Engagement and Satisfaction of Non-Religious College Students

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UNIVERSITY OF MIAMI

ENGAGEMENT AND SATISFACTION  
OF NON-RELIGIOUS COLLEGE STUDENTS

By

José Alberto Fernández-Calvo

A DISSERTATION

Submitted to the Faculty  
of the University of Miami  
in partial fulfillment of the requirements for  
the degree of Doctor of Education

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August 2022



UNIVERSITY OF MIAMI

A dissertation submitted in partial fulfillment of  
the requirements for the degree of  
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ENGAGEMENT AND SATISFACTION OF NON-RELIGIOUS COLLEGE  
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Engagement, and Satisfaction of Non-Religious College Students

Abstract of a dissertation at the University of Miami.

Dissertation supervised by Professors Soyeon Ahn and Carol-Anne Phekoo.

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Higher education research on the effects of religious affiliation on student engagement and satisfaction has overwhelmingly focused on religious students. Demographic changes have led to students without a religious affiliation now representing about half of the incoming cohorts. The current study addresses that large and growing gap in the literature. How college students' engagement, satisfaction, and performance differ between religiously affiliated and unaffiliated students was analyzed using a HERI-UCLA dataset of 16,148 student from 141 institutions. The study found that religiously unaffiliated students were significantly worse off in almost all aspects of their college experience, they were less engaged and less satisfied, albeit with small/medium effect sizes. No difference was found in the two group's GPAs. When testing the differences between the constructs in the Structural Equation Model, little evidence was found that students' religious affiliation moderated the relationship between student engagement and student satisfaction, or the relationship between student engagement and performance.

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## **Chapter 1: Introduction**

Today's students enter American colleges, as they have done for almost 400 years, with hopes and goals. As ever, the world around them is fraught with challenge and change, strife and crisis, which seem to loom especially large in the 21st century and recently with the COVID pandemic. Unlike members of the Baby Boom generation born 1946-1964, today's college students face much more competition for good jobs upon graduation (Horowitz, 2018). According to the Strada Network, a national organization that conducts educational research, students in the pandemic era struggle with stress, anxiety, loneliness, and family and financial problems (Anderson, 2020). College tuition continues to rise and student debt to explode in this country. Almost one third of U.S. college students must go into debt to complete college, according to Investopedia: "The average student loan debt reached a record high of \$40,904 in 2021. Collectively, they owe about \$1.75 trillion" (Kurt, 2022, par. 1). In this environment, what role does religion (or the lack thereof) play, or not play, in how students engage in college and feel about their experiences?

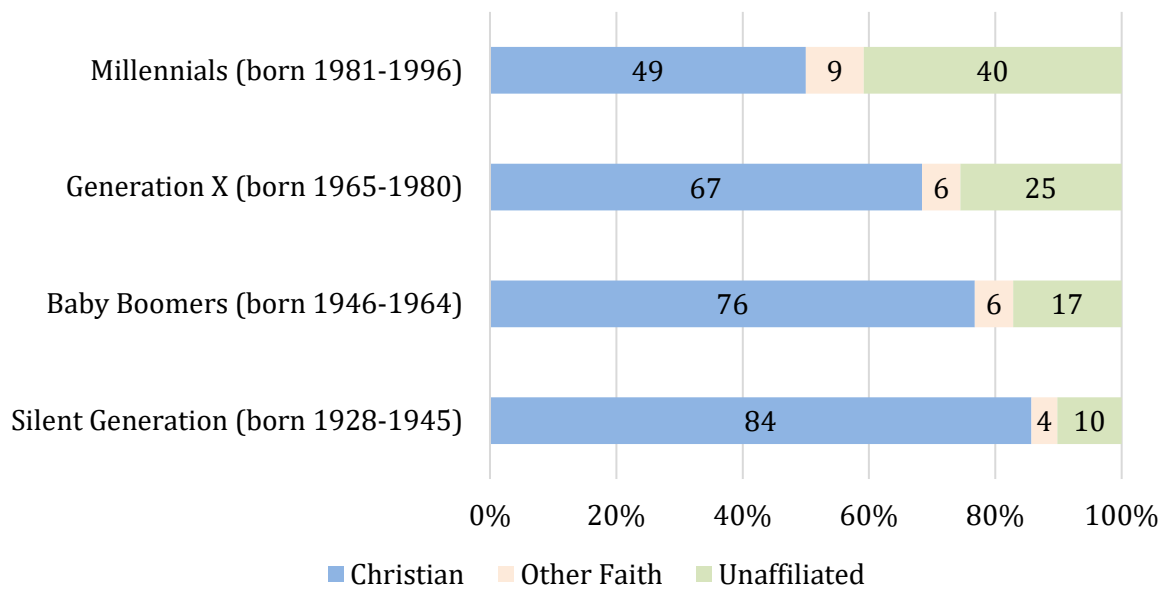
According to Gallup, membership in houses of worship in the United States has continued to decrease, to 47% of Americans in 2020—the first time the measure fell below 50% in 80 years of Gallup's tracking (Jones, 2021). In 2018, 50% of Americans said they belonged to a church, synagogue or mosque, while 70% said so in 1999 (Jones, 2021).

Perhaps not surprising, then, is that younger adults also reflect a greater disaffiliation with organized religion. As depicted in Figure 1, there has been a steady growth of the religiously unaffiliated in the United States including atheists, agnostics,

and those that are spiritual but not religious. While the Silent Generation (those above the age of 77 in 2022) where 85% Christian, 4% other religions, and 10% unaffiliated, the Millennial Generation (aged 26 to 41 in 2022) were only 49% Christian, 9% other religions, and 40% religiously unaffiliated (Pew, 2019).

**Figure 1**

*Large Generation Gap in American Religion*



*Note: Percentage of U.S. adults by religious affiliation by generation. Don't know/refused not shown. Aggregated Pew Research Center political surveys conducted January 2018-July 2019 on the telephone. (Pew, 2019)*

The generational gap shown in Figure 1 is not static, across all generations the share of unaffiliated is growing. Data from Harvard's Cooperative Election Study (Schaffner et al, 2021) show an increase from 2008 to 2021 in the unaffiliated from 12% to 18% for the Silent Generation, from 17 to 26% for the Baby Boomers, from 25% to 36% for the Generation X, and from 33% to 45% for Millennials. The same data shows a

growth from 39% in 2016 to 48% in 2021 of the religiously unaffiliated for those born after 1996, aka Generation Z.

### **Historical Context of Religion in Higher Education**

Generational change in religious affiliation over time is in marked contrast to America at the dawn of higher education in colonial America, and even in the mid-20<sup>th</sup> century. When American higher education began during the Colonial Era (1636-1789), the nine foundational institutions were all religious institutions, albeit representing different Christian denominations (Cohen, 2010; Rudolph, 1990; Thelin, 2019). During the Emergent Nation period from 1790 to 1869, higher education institutions grew in number and evolved in purpose and corporate culture (Cohen, 2010), with religious denominations growing skeptical of the perceived intellectualism that developed in many colleges, most famously at “Godless Harvard” (Rudolph, 1990). The University of Virginia exemplifies the innovation in both architecture and educational mission of new state institutions that were created without specific religious affiliations. Law and medical schools grew in numbers and reputation, which together with other changes in curricula, led to a diminished importance of religious teachings within academia (Cohen, 2010; Rudolph, 1990; Thelin, 2019).

This movement away from religion as a dominant force in education was accentuated during the Industrialization Era (1870 to 1944), when, as part of a movement toward the professionalization of the administration of higher education, clergymen ceased to dominate the position of college president (Cohen, 2010). The latter half of the 20<sup>th</sup> century saw much growth, spurred by the GI Bill, which consolidated the idea of a college education as part of the American Dream for the middle class. This growth in

numbers was accompanied by a diversification of religions among college students, faculty, and staff (Cohen, 2010; Rudolph, 1990; Thelin, 2019). Such changes in religious affiliation within the higher education student population match the changes in society shown in figure 1, as reported by polling companies like Gallup (Jones, 2021), academic researchers (Stoltzenberg, 2020) and the media (Kumar, 2021). This resulted in the religious affiliation of higher education students (or lack thereof) being an under-researched subject. Astin et al. (2011) undertook the study that led to their book *Cultivating the Spirit* because they saw a gap in the understanding of the spiritual development of students, and a lack of appreciation by colleges and universities of the need to address that gap.

### **Religious Affiliation and Identity**

The term *religiosity* is used to describe whether a person is more religious or less religious. Cutting and Walsh (2008) reviewed 177 different scales for measuring religiosity. These scales include a wide range of variables including frequency of prayer, frequency of church attendance, donations and many others. While some literature has posited that college attendance discourages participation in religious activities (Maryl & Oeur, 2009), Martin (2015) found no support for that statement and showed that in-college religiosity is a function of the religious background students had before they entered college.

Different from religiosity, the term *religious affiliation* is used to distinguish those students who identify as affiliated with an organized religion, from those students who are unaffiliated. The latter group includes atheists, agnostics, and those who, while identifying as spiritual, remain unaffiliated to an organized religion. Throughout this

study I use the terms *religiously unaffiliated* and *non-religious* as synonymous, this group of students is the main focus of my research.

*Religious identity development* begins in childhood, with religious ceremonies like baptisms, bar/bat mitzvas, confirmations, and others (Fowler, 1981). By the time students arrive in college, students are often in what Fowler describes as stage 4 of identity development: the *individuated-reflective* faith stage. This stage reflects the construction of an independent belief or worldview that is developed by students during their college years. Parks (2000) expanded the understanding of the evolution of religious identity development by considering additional factors such as the role of social context or the changes in feelings about authority, on religious identity development. Fowler (1981) and Parks (2000) did not delve into the religious identity development of minoritized groups.

The religious identity development of atheists was explored by Smith (2011), who classified their identity formation process in four stages: 1) the ubiquity of theism, 2) the atheists questioning theism, 3) the rejection of theism, and lastly stage 4) "Coming out" atheist. He argued that the atheist identity is constructed through social interaction.

As with other areas of research such as the law, critical theory has also influenced research into religious identity development of students, with a number of authors highlighting the Christian centrality and privilege evident in higher education (Fairchild, 2009; Goodman et al., 2009; Seifert, 2007). Religious affiliation (or lack thereof) is one of the many different aspects of a student's identity. Students may identify by nationality, sexual orientation, etc. All these multiple identities are influenced by the students' perception of the college environment. Josselson (1996) said "Identity is what we make of ourselves within a society that is making something of us (p. 28)".

## **Engagement, Performance, and Satisfaction with the College Experience**

“You get out what you put in to it” is an old saying that embodies how student engagement is linked to student performance and their satisfaction with college experience. Student engagement has been studied in the higher education literature for several decades, and is now viewed as one of the central characteristics that affects college students’ success. Student engagement is a complex construct that includes students’ motivation, cognition, and behavior; which, operating together, reflects students’ positive approach to learning (Alrashidi et al., 2016).

Student engagement in academic activities include class attendance, timely completion of homework, or feeling bored in class, while the social aspects of student engagement in academic activities include studying with other students, meeting with advisors or counsellors, or participating in community service as part of a class. Pace (1979; 1984) used the College Student Experiences Questionnaire to measure how students engaged with higher education institutions based on the quality of effort they put into those engagements. Pace focused on learning and development through the use of facilities provided by the colleges (dorms, libraries, etc.) and through the experiences and/or opportunities that existed in the college environment (interactions with faculty/peers, clubs/organizations, and many others). Pace examined the relationship between the quality of engagement and student outcomes including achievement and satisfaction. In his study, student achievement and satisfaction were operationalized by 1) personal/social development, 2) general education (including art and literature), 3) intellectual skills (logical thinking), and 4) understanding science (nature of science and experimentation). Pace showed that the quality of engagement was positively and

significantly related to all four outcomes. As a result, Pace argued that once students get to college student outcomes are impacted not only by "who they are or where they are but by what they do" (Pace, 1984 p. 44), emphasizing the importance of student engagement to student success at the college level.

Empirical research has shown a positive and significant relationship between academic engagement and students' performance such as GPA (Lee, 2014). Engagement in academic activities directly supports students increase in academic competence, and it is indirectly related to their successful integration into college life (Pike & Kuh, 2006). Kuh (2003) and Reason et al. (2006) likewise note that the more engaged students are socially and academically, the better they perform in college.

Astin (1993) developed the IEO model which delineates how the input the students bring with them (e.g., ethnicity, gender, religious affiliation) interacts with the college environment (social and academic engagement in college life such as participation in class or co-curricular activities), and therefore affects various student outcomes (such as performance and satisfaction with college experience).

Although the IEO model has been widely used in higher education research for decades, it has not been used to uncover how student religious affiliation influences the satisfaction with the campus experience. Therefore, the current study aims to fill the gap in the literature using Astin's IEO model as a theoretical foundation, where religious affiliation as an input is conceptualized to influence students' outcomes through academic and social engagement.

## **Role of Religious Affiliation in the College Experience**

Some researchers (e.g., Horwitz, 2021) argue that students' engagement and performance are related to their religious identities on campus. This idea is analogous to how Black students at a predominantly white institution (PWI) may be less engaged due to their minoritized status on campus. Quaye et al. (2019) explored the role of religious identities, including non-religious identities, proposing ways of engaging with students who are not part of the religious majority in a dominant Christian context.

Horwitz's (2021) research provides supporting evidence that the role of religious affiliation drives students' academic success such as graduation rates or grades (GPA). Other researchers show that providing a more conducive space for religious engagement results in improved sense of belonging and overall satisfaction with college (Astin et al., 2011; Hurtado & Carter, 1997).

Rockenbach and Mayhew (2014) found that worldview diversity on campus, space for support and spiritual expression, and provocative experiences with worldview diversity are positively relate to satisfaction. However, they found that perceptions of a divisive psychological climate undermine satisfaction, stressing that the relationship between campus climate dimensions and student satisfaction might differ depending on religion or worldview. Kuh and Gonyea (2006) used National Survey of Student Engagement (NSSE) data to understand the relationship between student spirituality and engagement. In their study, it was found that students who frequently engage in spirituality-enhancing practices also participate more in a broad cross-section of collegiate activities such as student government, organizations, and both academic and social activities. Likewise, the vast majority of the research focuses on engagement from

the perspective of the religious students, finding positive relationships between engagement and outcomes (Bowman & Small, 2010; Quaye et al., 2019).

However, scarce literature was found to focus on non-religious students' experience. A study from Bowman and Small (2012) found that religiously unaffiliated students have lower levels of well-being when compared with mainline Christian students. Swann (2020) described the experience of an atheist black man at one of the Historically Black Colleges and Universities (HBCU). In Swan's qualitative study, where a first-person lived experience was described, an atheist black man at an HBCU suffered from lower level of wellbeing. Bowman and Smedley (2013) compared the satisfaction of the different religious groups of university students, including religiously unaffiliated students. In their study, it was found that religiously unaffiliated students had the lowest satisfaction, while the highest levels of satisfaction found among Protestant students.

In summary, the literature mostly illuminates the issues faced by religious students (majority and minorities), but very little research focused on religiously unaffiliated students. This is the gap that I intend to help fill in the present study.

### **Purpose of the Study and Research Questions**

This study explored whether there are differences in engagement, satisfaction, and performance between religious and non-religious students, and the moderating effect of religious affiliation in the relationship between college students' engagement and their satisfaction or performance. In the current study, engagement is operationalized in three separate constructs: 1) personal aspects of academic engagement, 2) social aspects of academic engagement, and 3) engagement with faculty. Satisfaction is operationalized in four separate constructs: 1) academic aspects of campus satisfaction, 2) social aspects of

campus satisfaction, 3) campus climate and 4) satisfaction with campus support services.

Performance is operationalized with the college GPA.

The purpose of the current study was addressed by examining the following research questions:

***Research Question 1***

Is there a difference in student engagement, satisfaction and performance between religious and non-religious students?

- a. Is there any difference in academic engagement, social engagement, or engagement with faculty between religious and non-religious students?
- b. Is there any difference in students' satisfaction with campus climate, students' satisfaction with the academic or social aspects of their college experience, or students' satisfaction with the campus support services between religious and non-religious students?
- c. Is there any difference in academic performance (GPA) between religious and non-religious students?

***Research Question 2***

How does the relationship between students' engagement and their satisfaction differ between religious and non-religious students?

- a. Is there any difference in the extent to which students' engagement relate to their satisfaction with the academic campus experience between religious and non-religious students?

- b. Is there any difference in the extent to which students' engagement relate to their satisfaction with the social campus experience between religious and non-religious students?
- c. Is there any difference in the extent to which students' engagement relate to their satisfaction with the campus climate between religious and non-religious students?
- d. Is there any difference in the extent to which students' engagement relate to their satisfaction with the campus support services between religious and non-religious students?

### ***Research Question 3***

How does the relationship between students' engagement and academic performance differ between religious and non-religious students?

- a. Is there any difference in the extent to which students' personal, social, and faculty engagement relate to their academic performance between religious and non-religious students?

### **Theoretical Framework**

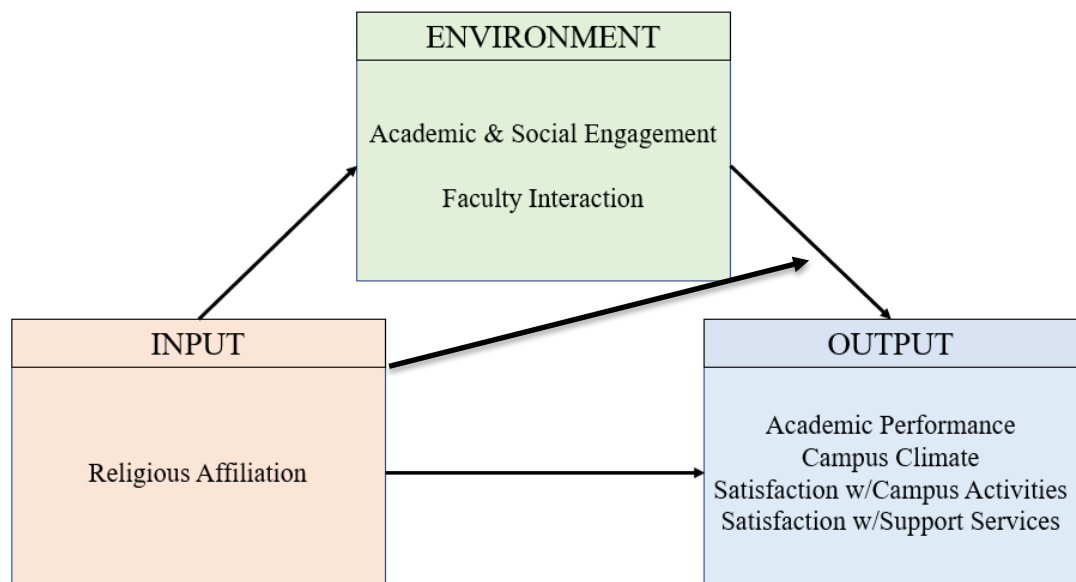
The current study explores whether students' religious affiliation moderates their college experience based on Astin's IEO model. Astin (1993) provides a conceptual framework to understand the process students go through in Input, Environment, Output (IEO) model. The IEO model provides a way to operationalize how the input provided by the students (*religious affiliation*) affects the college environment (*engagement in college life*), to affect the student outcomes (*performance and satisfaction with college experience*). Figure 2 provides the conceptual model derived from Astin's IEO model

(1993). Although the IEO model has been widely used in higher education research for decades no instances were found where it was used to analyze the impact of students' religious affiliation on their satisfaction and performance. The current study defines (1) the student's religious affiliation as an input; (2) the students' social and academic engagement, and their interaction with faculty as environmental factors; and (3) the students' academic performance, student satisfaction, campus satisfaction, and campus climate as outputs.

Religious affiliation is viewed as a moderating variable that would yield difference in the relationship between student engagement and student satisfaction or performance.

**Figure 2**

***Conceptual Model***



## **Significance of the Study**

This study examines whether there are differences between religious and non-religious students in engagement, satisfaction and performance, and if there is difference in how student engagement impacts on their satisfaction or performance. Its findings will allow higher education professionals to better understand the college experience of the growing number of non-religious students, a subject area that has been under-researched in higher education (Astin, 2011; Bowman & Small, 2010). Study findings will help develop tools and provide resources to improve religiously unaffiliated students' college experience, satisfaction, and academic performance.

The first group of stakeholders who will benefit from this study are the non-religious students whose engagement and satisfaction will be better understood, allowing their higher education experiences to be better tailored to serve them, and increase their satisfaction with their college experience (Astin et al., 2011). The second group of stakeholders who will benefit from this study are higher education institutions, for whom new information can raise awareness and perhaps provoke evaluations of campus climate and resources for non-religious students that were not previously considered. Importantly for higher education institutions, higher levels of student satisfaction are related to higher brand name recognition and increase alumni donations (Drezner et al., 2021; Newman et al., 2011). The third stakeholder groups who will benefit from this study is society at large as the information provided by this research may help to raise awareness of the plight of the non-religious population (Edgell et al., 2016; Nash, 2003).

## **Selection of Data**

This study used data from the Higher Education Research Institute (HERI) at the University of California Los Angeles (HERI, 2021a) as it is a large dataset that is freely available. Among the datasets available from HERI's Cooperative Institutional Research Program (CIRP), the College Senior Survey (CSS) was selected over The Freshman Survey (TFS) as it better reflects the thinking of college students at a later point in time (HERI, 2021b). The most recent of the publicly available CSS datasets was selected. This dataset consists of 16,148 respondents from 141 institutions from across the country, and has a sufficient statistical power to allow us to empirically test the proposed conceptual model shown in Figure 2.

## **Rationale for Research Methodology**

This study first looked at participant background characteristics such as age, gender, and religious affiliations, this was done to have a better understanding of the study participants. I then analyzed the variables included in the HERI data set and used exploratory factor analysis (EFA) to determine the reliability and validity of the seven constructs in my study; this was done to empirically test that those constructs are valid and reliable. I then used independent sample *t*-tests to compare the means of the religious and non-religious groups across key variables in the study; this was done to understand the differences in engagement, satisfaction, and performance between the religiously affiliated and unaffiliated students. Finally, I used structural equation modeling (SEM) to examine a model that specifies the relationships among the constructs; Specifically, SEM was conducted separately for religiously affiliated and religiously unaffiliated students to

compare how the relationship between constructs differed between religiously affiliated and unaffiliated students.

### **Definition of Terms**

**Religious Affiliation:** Considers a person's self identification as affiliated with an organized religion: Catholic, Protestant, Jewish, Muslim, etc.

**Religiously Unaffiliated:** Includes people who are not affiliated with a religion. This category includes atheists, agnostics, and those students that identify as spiritual but not religious (SBNR). I use *religiously unaffiliated* and *non-religious* interchangeably throughout the study.

**Religiosity:** Whether a person is more or less religious. Many different measures are used to quantify religiosity, e.g., how often a person prays, how often they attend a religious service, how much or how often they donate to their religious institution, etc.

**Academic Engagement:** Measures the extent to which students engage in academic pursuits during their college experience. This includes both positive (Have you tutored another student?) and negative (Have you fallen asleep in class?) aspects of academic engagement. It also includes both the personal or individual aspects of their academic engagement (Have you completed your homework?) and the social aspects of their academic engagement (Have you studied with other students?)

**Faculty Interaction:** Measures the extent to which students and faculty engage in mentoring relationships that foster support and guidance with respect to both academic (Did faculty provide a letter of recommendation?) and personal domains (Did faculty provide emotional support and encouragement?). The terms *engagement with faculty* and *faculty interaction* are used interchangeably throughout the study.

**Campus Climate:** Measures the more general aspects of the campus environment (Was the campus climate tolerant or intolerant of diversity? Was the campus climate friendly or hostile?).

**Campus Satisfaction:** Measures the students' satisfaction with the life on campus both in academic aspects (satisfaction with class size or the relevance of coursework to job) and social aspects (satisfaction with availability of campus social activities or interactions with other students).

**Student Satisfaction with Support Services:** Measures the level of satisfaction that students have with the support services offered on campus (satisfaction with student housing or health services).

### **Limitations**

A key limitation of this study is access to data, the first limitation is that the dataset made public by HERI (2021b) dates back to 2006 which limits the generalizability to current students who may have different levels of engagement, satisfaction, and religious affiliation. Second, this is an existing dataset, so I was limited to the data as it was gathered by HERI and cannot reformulate interview questions to suit my research questions. Third, the information available in the HERI dataset does not include the religious affiliation of faculty and staff at the institutions, nor the general religious affiliation (or not) of the culture of the institutions limiting potentially interesting avenues of analysis.

Fourth, I used *t*-tests and structural equation modelling (SEM), a weaknesses of these methodologies is that causal relationships cannot be established; SEM can be time consuming, and attention to detail is required when setting up data for processing. Fifth,

this research is explanatory in nature, addressing a little-understood phenomenon that I expect to illuminate, providing groundwork for further research. Lastly, the self-identification of students as non-religious in the HERI dataset is limited to only one option “None”. No distinction was made amongst atheists, agnostics, and the “Spiritual-but-not-religious” (SBNR), which all were treated as religiously unaffiliated students.

### **Organization of Study**

The present study is organized around five chapters with three appendices.

**Chapter One** has set out an overview of the study including the historical and research context, purpose of the study, research questions, theoretical and conceptual framework, rationale for the methodology, significance, and limitations.

**Chapter Two** reviews the literature relevant to the study.

**Chapter Three** details the methodology of the study, describing the datasets used, the variables, and the structural equation modelling performed.

**Chapter Four** describes the results of the study, highlighting the most notable findings.

**Chapter Five** discusses those findings, setting them in the context of the study limitations, analyzing their implications for practitioners and researchers, suggesting potential future research avenues, and drawing overall conclusions for the study.

**Appendix A** includes the tables developed during the study including the frequencies of the sample, descriptive statistics, correlations among variables, t-tests of variables, and relationships among the constructs.

**Appendix B and C** contain information about the dataset including the survey instrument and code book, as well as the list of participating higher education institutions.

## **Chapter 2: Literature Review**

The relationship of college students' engagement and successful outcomes is relatively well explored in the literature. However, as Mayhew et al., (2016) point out, "the research on non-religiously affiliated students is still in the early stages" (p.310). Therefore, the current study examines whether there are differences in engagement, satisfaction, and performance between religious and non-religious students, and whether the relationship between student engagement and student satisfaction or performance is different based on the religious affiliation or non-affiliation of college students.

In this chapter, the contextual background of religion in higher education is examined, including its historical role in the American college experience and the lives of college students. This is followed by a detailed consideration of the theoretical framework that forms the foundation for the current study. Next, research specific to the current study is reviewed, including religious identity, atheist and non-religious students, student engagement, student satisfaction, campus climate, and finally research related to the role of religion on student engagement, performance and satisfaction. The chapter concludes with a summary of what is known about the effects of religious affiliation on the college student experience, what is not well understood, and how this study helps fill the gap.

### **Religion in Higher Education**

#### ***Early American Colleges***

During the Colonial Era (1636-1789) all nine foundational institutions were religious institutions, representing different Christian denominations, "consequently Christian values and traditions lay at the foundation of American higher education"

(Quaye et. al, 2019). During this era the governance of state, church, and the colleges was interwoven, especially in the early years when small colonies were in their initial growth periods. (Rudolph, 1990). Knowledge of rhetoric, the classics and the Bible were the basis for the training of lawyers, ministers, and statesmen during this era. This curriculum began to erode towards the end of the era as a diminishing proportion of graduates entered the clergy, and champions of science fought the religious orientation of the colleges. This competition of ideas was influenced both by the European Enlightenment and its religious backlash, known in America as the Great Awakening, which led to the splintering of American churches into different sects (Cohen, 2010; Rudolph, 1990; Thelin, 2019).

### ***Emergent Nation Era***

During the Emergent Nation period from 1790 to 1869, higher education institutions grew in number and evolved in purpose and corporate culture (Cohen, 2010), yet the old curriculum survived because it fit the needs of the religious revivalist waves that swept the nation, and found followers within higher education (Cohen, 2010). The Dartmouth case of 1819 gave the colleges independence from the state, establishing them as independent entities run by self-perpetuating boards of trustees even when state institutions had been their founders. The U.S. government continued its policy of not regulating higher education nor creating a national university, and barriers to the creation of new colleges remained low (Cohen, 2010; Rudolph 1990; Thelin, 2019).

Three types of governance structure emerged during this period. First, the civil corporation with a license, and sometimes funding from the state. Second, the private religious colleges that grew in great number as the churches expanded into the western

territories. Third, private colleges that were not directly affiliated with a church, including colleges formed under city charters, which were often non-denominational. The governance at many religious institutions began to secularize under the influence of alumni donors and board members. (Cohen, 2010; Rudolph 1990; Thelin, 2019).

The curriculum changed greatly during this era, law and medical schools which grew in numbers and reputation with the colleges and many new subjects were added including chemistry, natural history, and mathematics. Teaching of religion was much diminished. (Cohen, 2010; Rudolph, 1990; Thelin, 2019). The University of Virginia is an example of innovation in both architecture and educational mission of new state institutions that were created without a religious affiliation during this era (Cohen, 2010). The Morrill Act of 1862 provided federal land to the states to dispose of and establish colleges which led to the creation of the land-grant institutions including many of today's large state colleges. Among them were the A&Ms (Agricultural and Mechanical) whose curriculum was focused on practical and professional training, while religion played a lesser role (Rudolph 1990).

### ***Shift to Secularism***

This movement away from religion accelerated during the Industrialization Era (1870 to 1944). As part of the movement toward the professionalization of the administration of higher education, clergymen ceased to dominate the position of college president. The new presidents often tried to allay fears of the religious stakeholders, James Angell of Michigan said "Our faculty will work towards promoting our Christian civilization" (Cohen, 2010, p. 164). As higher education administration staff grew in size during this era, it also became more specialized and professional, with clergymen

representing an ever-decreasing number of university administrators. (Cohen, 2010; Rudolph 1990; Thelin, 2019).

During the second half of the 20<sup>th</sup> century higher education in the U.S. saw massive growth. Spurred by the GI Bill (1944), and its subsequent legislation, this era consolidated the idea of a college education as part of the American Dream for the middle classes. This period saw a ten-fold increase in the number of students enrolled in higher education from 1.6 million in 1945 to 17,5 million in 2005. It was accompanied by a large growth in the number of institutions from 1,768 higher education institutions in 1945 to 4,276 in 2005 (Cohen, 2010). This growth was accompanied by diversification of religious affiliation among college students, faculty, and staff. Likewise, this growth led to further diversification among the religious affiliation of higher education institutions, for example Brandeis (Judaism) was founded in 1948. (Cohen, 2010; Rudolph, 1990; Thelin, 2019).

The establishment clause of the First Amendment says that “public institutions cannot favor or support one religion over another, and they cannot favor or support religion over nonreligion” (Kaplin & Lee, 2014, p. 46). The separation of church and state became more pronounced after the *Engel v Vitale* case of 1962 which ruled that it is unconstitutional for state officials to encourage religious recitations, ceremonies, and symbols in public schools (Dierenfield, 2007). Today many faculty and staff may be afraid of discussing the religious beliefs of students (Clark, 2001). Yet in spite of the movement toward secularization, religion remains ever present on campus, campus ministries and organizations have continued to flourish as with the Jewish Hillel or Catholic Newman centers that can be found on college campuses across the country.

Cherry (2001) challenged the theories of secularization through his study of religious practice on American campuses, he showed that both the practice and study of religion are alive and well in American higher education.

## **Theoretical Framework**

### ***Astin's Student Involvement Theory and IEO Model***

Alexander Astin led the establishment of the Cooperative Institutional Research Program (CIRP) at the American Council on Education in 1966, which has been administered since 1973 by the Higher Education Research Institute (HERI) at the University of California Los Angeles (UCLA). CIRP is a national longitudinal study involving data from 1,900 institutions, over 15 million students and more than 300,000 faculty (HERI, 2021a). Astin based much of his research on this data, including his research into higher education institution's ability to positively impact students' intellectual and scholarly development. He recognized the many facets that student strive to develop in college including critical thinking, oral and written communication skills, as well as scholarly knowledge specific to their chosen field of study. (Astin, 1993). Astin wanted to understand what were the significant factors that helped students develop their talents, this led to his theory of Student Involvement "Quite simply, student involvement refers to the amount of physical and psychological energy that the student devotes to the academic experience" (Astin, 1999, p. 518) and that "The amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program." (Astin, 1999, p. 519).

Astin's (1999) theory posits five basic assumptions about student involvement. First, involvement requires an investment of psychosocial and physical energy from

students. Second, student involvement is continuous and the amount of energy invested varies from student to student. Third, involvement may be qualitative (quality interactions) and/or quantitative (frequency of interactions). Forth, what a student gains from being involved is directly proportional to the extent to which they were involved in the campus environment. Fifth, academic performance is correlated with the student involvement in the campus environment. Astin views the students' time as a key resource, urging administrators and faculty members to consider that almost all institutional processes and policies affect the way students spend their time and effort (Astin, 1999). His view is that the development of a student's talents is impacted by the environment that surrounds a student during their college experience. For example, consider how faculty offer opportunities for students to participate actively in class or interact with them after class, or consider students with leadership skills that are offered the opportunity to join a student organization or government and develop their talent.

Astin's Input Environment Output (IEO) model connects the inputs that students bring with them such as their personal characteristics, talents, or high school GPA scores with the environment that students are exposed to during their college experience and considers how that interaction affects the outcome of their education (Astin, 1993). The IEO model is a tool that helps us understand the context and then study the different variables that impact student outcomes.

The IEO model is important in the college setting because it helps to clarify our thinking around the processes that happen within higher education institutions, it helps us break down how students are affected by college and how the interaction of the inputs they bring with the college environment affects the outcomes of the college experience.

The IEO model allows researchers to study individual inputs in specific environments to understand how they impact the outcomes that we are trying to reach through the higher education process. The IEO model has been used in several studies as a lens for understanding college student behavior and success (Strayhorn, 2008).

The current study explores a potential nuance within that relationship by looking at whether one student input (religious affiliation) impacts students' engagement or satisfaction and if it moderates the relationship between student engagement and student satisfaction or performance. In other words, are religious and non-religious affiliated students different in how they engage or are satisfied with their college experience or if they are different in how their involvement impacts their success.

## **Religious Identity**

### ***Students' Identities***

Religious affiliation is only one of the multiple aspects of a person's identity, which also includes ethnicity, sexual orientations, gender, etc. Josselson (1996) described identity as "what we make of ourselves within a society that is making something of us" (p. 28) which underscores that the building of each of those identities occurs in a specific societal context. To understand the interaction between a person's multiple identities and their interaction with the society around them, Jones and Abes (2013) developed the Reconceptualized Model of Multiple Dimensions of Identity (RMMDI) as a tool to understand the interactions of those identities.

### ***Religious Identity Development***

The development of student's religious identity goes back to their early childhood with baptisms or similar ceremonies that induct the person into a religion. That

membership is then confirmed in different religious ceremonies including confirmations, bar/bat mitzvas, etc. A leading theory to explain the development of a person's religious identity is Fowler's (1981) theory of development. It divides the development in stages, with stage 4 *individuated-reflective faith* describing the construction of an independent belief or worldview that students develop during their college years. Parks (2000) built upon Fowler's staged model with a greater role given to impact of external factors such as social context or changes in relationship with authority, etc. Both Fowler and Parks paid little attention to the role of minoritized populations.

Critical theory has influenced this area of research as authors have critiqued the Christian centrality and privilege evident in higher education which impacts the identity development of minoritized religious groups, including the non-religious. (Fairchild, 2009; Goodman et al., 2009; Seifert, 2007).

Smith and Snell's (2009) work highlighted that the decline in religious affiliation of young adults was actually more prevalent among young adults that did not attend higher education institutions, and that young adults continued their inherited religious identity regardless of the higher education participation or not. Hill (2009, p. 523) found that "Educational attainment is both a result of, as well as a cause of, higher religious participation during adolescence and young adulthood". Holmes et al. (2004) used student development theory to analyze college students' beliefs and the relationship with their college experiences. They found that peers and mentors were instrumental to how students made meaning of their college experience both socially and academically.

Smith (2011) explored the religious identity development of atheists. He classified the process of their identity formation into four stages: beginning with the

ubiquity of theism that surrounds us, the second stage has atheists beginning to question theism, then in the third stage rejecting theism, and the last stage they "come out" as atheist.

## **Atheist and Non-Religious Students**

### ***Atheophobia***

“Atheists in this country have a bad name. They always have. This statement is not meant to be a front-page headline, but a simple reality check.” (Nash, 2003, p. 72). In a Christian-dominated society it is useful to start this section with a quote from the Bible, an influential source of negative views towards atheists: “The fool hath said in his heart, there is no God. They are corrupt, they have done abominable works, there is none that doeth good” (Psalms 14.1 in the Bible; The Proof 98:1 in the Qur’an).

When I begin to feel that others are not judging me as less than human because I am an atheist, I will be open to their religious ideas. When I can be assured that I am not viewed as morally askew because I do not go to church or believe in God, then I am willing to have honest conversations about religion and spirituality. We talk a lot about pluralism and tolerance in higher education. But where is the acceptance of nonbelievers? When will atheists like myself feel that it is safe for us to state our ideas without believers feeling sorry for us, or worse? I don’t care. The only person, real or imaginary, transcendent or material, that I can count on is myself – my own mind, ideas, decisions, and judgments. There is no divine destiny or master plan. Does believing this make me a bad person? Kristin, a graduate student (Nash, 2003, p. 72).

Discrimination against atheists is widespread in society, for example, it extends to the election of politicians. While atheophobia is dropping according to research from the Pew Research Center (Lipka, 2014) more than half the population is still unlikely to support an atheist candidate.

### ***Spiritual But Not Religious***

Erlandson (2000) described this identity in his book *Spiritual but Not Religious: A Call to Religious Revolution in America*. This classification that includes people who have a spiritual inclination but are not affiliated with an organized religion. Sagan & Druyan (1997) argue that “science is not only compatible with spirituality; it is a profound source of spirituality” (p. 29) the wonder and awe students feel when faced with the vastness of the universe or the intricacies of biology feeds the “inner life” described by Astin et al. (2011) whose research has shown impacts the religiously affiliated and unaffiliated alike.

Some literature on religiously unaffiliated students has appeared over the last decade devoted to debunking previous flawed research that identified atheists as criminals or negative influences in society (Edgell et al., 2016; Schroeder et al., 2018; Swan et al., 2012). And there is a growing body of literature that shows atheist and non-religious students in a more positive light (Schiavone & Gervais, 2017), and encourages higher education institutions to shape more inclusive environments for atheists (Bowman et al., 2017).

### **Student Engagement**

Student engagement is operationalized by how much and how often students are involved in academic and social pursuits during their educational experience (Alrashidi et

al., 2016; Astin, 1999). Student engagement has been studied in the higher education literature for decades, and is now a central characteristic of success for college students. Involvement in academic and social activities has been shown to lead to gains in academic competence (Reason et al., 2006), and to mediate indirectly through the integration experiences of the students (Pike & Kuh, 2006). “You get out as much as you put in” as the old saying goes.

### ***Academic Engagement***

Academic engagement refers to the personal engagement of the students in academic pursuits; it is often measured by class attendance, timely completion of homework, or how often students fall asleep or feel bored in class. Pascarella and Terenzini’s (2005) review of the literature concluded that numerous studies reported that the benefits students receive from their college experience is largely determined by how much students engage with their academic opportunities. Mayhew et al.’s (2016) review of the literature came to the same conclusion based on the literature from the first decade of the 2000s. The evidence suggests a positive relationship of academic engagement with improvement in academic competence (Reason et al., 2006), empirical research has shown a positive relationship between engagement and academic outcomes such as GPA at the different educational levels (Lee, 2014). Lundberg (2003) showed some limitations to this relationship when looking at engagement of non-traditional students where quality of the engagement was more important than quantity.

### ***Social Engagement***

Social engagement refers to the social aspects of students’ academic pursuits which are measured by activities such as time spent studying with other students or

tutoring them, participating in community services as part of a class, or studying in the library. Engagement in the social aspects of academic development has shown a positive relationship with learning and intellectual development (Pike & Kuh, 2006). Co-curricular activities have been found to have a positive relationship with educational attainment (Pascarella and Terenzini, 2005), retention and graduation (Kuh et al., 2008). More engagement in the social aspects of academic pursuits leads to better performance (Kuh, 2003; Reason et al., 2006), this has industry practitioners to increase their focus activities that promote social aspects of academic engagement (Quaye et al., 2019).

### ***Engagement with Faculty***

Engagement with faculty can be measured by the amount and depth of interactions between students and faculty. These include emotional support and encouragement provided by the faculty, satisfaction with the feedback about academic work that is provided by the faculty, and other aspects of engagement such as providing a letter of recommendation (HERI, 2021b). The literature shows that faculty interactions sometimes promote positive outcomes (Mayhew et al., 2016), but evidence is mixed depending on faculty and engagement characteristics. Although Ehrenberg and Zhang (2005) found that engagement with tenure/tenure-track faculty resulted in better outcomes when compared to part-time faculty, other studies (e.g., Chen, 2012; Porchea et al., 2010) did not find such differences. Herzog (2011) found no relationship between student engagement with faculty and students' gains in math or quantitative skills.

### **Student Satisfaction**

Student satisfaction has been studied in the higher education literature for decades including the renown work by Tinto (1975, 1994) on the reasons why students drop out

of college, and is now key tool for college administrators with contractors such as Ruffalo Noel Levitz (2018) providing higher education institutions with information on satisfaction levels for different demographic subpopulations. CIRP, currently at HERI and the source of the data of my study, has been measuring student satisfaction annually since 1967. Satisfaction of students is important for higher education institutions because it leads to students endorsing their colleges to other prospective students (Astin, 1993), to lower dropout rates (Schreiner & Nelson, 2013; Tinto, 1975; Tinto, 1994), to increased loyalty to the institution (Alves & Raposo, 2007), and to increased alumni giving (Clotfelter, 2003).

Several studies have examined the factors that influence the satisfaction of college students. Elliott (2002) used Noel-Levitz's Student Satisfaction Inventory to survey data from a sample of 1,805 undergraduates at one university to identify how various dimensions of the college experience influence overall student satisfaction. The study found that when students felt the institution was student-centered (the university made efforts to convey students are important), students were more satisfied. The study also found that institutional effectiveness was positively correlated with student satisfaction. The findings suggest that schools can improve student satisfaction with better teaching and more activities that make students feel valued. Clotfelter (2003) used data from the College and Beyond survey which included data from three cohorts of students enrolled at 34 colleges and universities. The author found three factors consistently, positively, and significantly related to satisfaction: 1) attending one's first choice for college, 2) having someone who took an interest in them during college (a mentor), and 3) being very satisfied with life in general. "Strikingly, though perhaps not surprisingly, the

donations that alumni made to their alma maters were highly correlated to their expressed satisfaction with their own college experiences and other measures of satisfaction with the institution.” (p. 119). Einarson & Matier (2005), used data from 14,320 seniors surveyed at 17 private, selective, research universities from across the country to understand how gender and racial differences correlated to overall student satisfaction. They found that while Asian American females were more satisfied than males, gender was not a significant correlate of overall satisfaction for the other races/ethnicities. They also found that the quality of the classroom experience was a prominent correlate of overall satisfaction for all races, with satisfaction with quality of instruction being the strongest predictor of overall satisfaction for Asian-Americans, Latinos, and African American seniors.

Alves and Raposo (2007) developed an explanatory model using structural equation modelling to examine that the satisfaction of 2,687 students across 13 leading universities in Portugal. Their findings suggest that the image/brand of the institution is significant in forming the students’ expectations; and that student satisfaction is most influenced by the image/brand of the institution, with the perceived quality and value of the education received at the institution being significant, albeit to a lesser extent than the image/brand.

### **Campus Climate**

Campus climate is often measured based on the general aspects of the campus environment, by asking questions such as: (1) Is the campus climate tolerant or intolerant of diversity? And (2) Is the campus climate friendly or hostile? The extent to which students feel their higher education institution provides a supportive campus climate to

their academic or social interactions with other students, faculty, and staff, is positively associated with their academic ability, learning, performance, and intellectual development (Lundberg, 2003; Pike et al., 2003; Reason et al., 2006). Quaye et al. (2019) also found 8 studies since 2000 that demonstrated negative views on campus climate due to microaggressions, racism, gender, or sexual orientation discrimination is related to negative students' outcomes such as lower levels of self-esteem or higher levels of psychological distress. Tinto (1994) showed that the congruence between the student and the institution's social system has a positive relationship with educational attainment. In other words, who students are and where they are positioned in an institution, has a direct impact on the lived experience they have at that institution (Hurtado et al., 1998).

### **Role of Religion on Student Engagement, Performance, and Satisfaction**

There is ample literature about the role of religion in student engagement, performance, and satisfaction, yet it is focused on religious students, including religious minority students. Horwitz (2021) reviewed 42 studies from 1990 to 2021 that relate religion with academic outcomes. In her own empirical research, Horwitz (2021) found that religion does play a central role in driving to students' academic success such as graduation rates or grades (GPA). Horwitz noted that atheists are also academically successful but she attributed that to other characteristics such as being exceptionally curious, and then following that curiosity even if goes against the grain, adding that some of the most accomplished students in her research were those who grew up religious but moved away from religion.

Research shows that providing spaces on campus that are conducive to participating in religious activities results in improved overall satisfaction with college

(Astin et al., 2011; Hurtado & Carter, 1997); similarly, religious communities on campus (e.g., Hillel or Newman Centers) provide safe mentoring spaces for students that support their development (Parks, 2000). Milem et al. (2005) explored the positive impact of the organizational and structural aspects of higher education institutions represented by college chapels and chaplains, Hillel centers, and others that offer support services for specific religious populations. Mayhew and Bryant (2013) proposed a framework to understand campus climate for religious minority students that builds upon Hurtado et al.'s (1998) analysis of how campus climates vary from institution to institution, including how campus climate is shaped by external and internal forces, including government regulations and the forces of societal culture change.

Students' engagement, performance, and satisfaction is influenced by the dominant type of that identity in the society that surrounds them e.g., Whiteness for ethnicity or Christianity for religious affiliation. Patton et al. (2015) question the centrality of the dominant white identity experience in college:

The most cited student engagement pioneers are all white; they decided which experiences and activities add value to a student's college experience. They are unlikely familiar with particular activities and practices in which minoritized students are engaged that bolster their sense of belonging and keep them engaged and retained. (p.210)

Amadi et al. (2020) reviewed the literature on engaging religious minority students, and highlighted the challenges religious minorities face in a dominant Christian context. They identified policy recommendations and best practices for engaging students of minoritized religious affiliations, such as offering co-curricular opportunities for

students to explore their spiritual and existential philosophies, offering kosher and halal food options, or themed housing (e.g. Jewish Life House). Likewise, the vast majority of the literature is related to the role of religion on student engagement, performance, and satisfaction only among religiously affiliated students (Bowman & Small, 2010).

Similarly, Quaye et al.'s (2019) review of the literature a decade later found that the majority of the research is focused on religious students either the Christian majority or the minoritized religions, but not on the religiously unaffiliated.

Among the literature focused on religiously unaffiliated students, Bowman and Small (2012) found that unaffiliated students have lower levels of well-being when compared with mainline Christian students. Bowman and Smedley (2013) compared the satisfaction of the different religious groups of university students, including unaffiliated students. In their study, it was found that unaffiliated students had the lowest satisfaction rate at the university, with the highest levels of satisfaction found among Protestant students:

“Students with no religious affiliation are less satisfied with their overall university experience than are Protestant students. Similar disparities occur between students who do not identify with an organized religion and Protestant students for satisfaction with their university choice and with their interpersonal relationships. Overall, 15 of the 16 coefficients indicating non-Protestant religious identification are in the negative direction, which is significantly more than one would expect by chance.” (p. 753).

Rockenbach et al. (2015) found that atheist students are less inclined than their fellow students to identify their campus climate as positive for nonreligious individuals,

while the majority Christians have more positive perceptions of the campus climate than do students of other worldviews. Swann (2020) described the experience of an atheist black man at an HBCU. In Swann's qualitative study, where a first-person lived experience was described, an atheist black man at an HBCU suffered from lower level of wellbeing.

### **Summary**

There are growing generational gaps in religious affiliation. There has been an evolution away from religion to a more secular environment in higher education and in American society at large which has led to larger numbers of religiously unaffiliated students in college. As successive generations of Americans are less religious, increasing numbers of students are religiously unaffiliated and breaking with the religious traditions of their parents. The literature shows that higher levels of engagement by college students lead to better outcomes and higher satisfaction with the college experience, however, this is not always the case with minorities who might feel excluded from the dominant paradigm. Non-religious students, while growing in number, are still minoritized by the dominant Christian worldview. In addition, my literature review found numerous studies that illuminate the issues of religiously affiliated students, including those affiliated with minoritized religions, but very few that focused on non-religious students. This study contributes to the higher education community's understanding of the relationship between religious affiliation, student engagement, and student satisfaction by examining the previously under-studied question of whether the relationship between student engagement and satisfaction is different for religiously affiliated and unaffiliated students.

### **Chapter 3: Methodology**

The current study examined whether there are differences in engagement, satisfaction, and performance between religious and non-religious students, and whether the relationships among college student engagement and satisfaction variables—including student engagement, student engagement with faculty, student satisfaction, campus satisfaction, campus climate, and GPA—differed between religious and non-religious students. For the study, existing data from University of California Los Angeles (UCLA) Higher Education Research Institute (HERI) longitudinal studies was analyzed; the data had been collected under the Cooperative Institutional Research Program (CIRP) (HERI, 2021a). This chapter describes the current study's population and sample, data collection, research design and procedure, the variables that form constructs, and the statistical data analyses.

#### **Population and Sample**

The population for the current study is college students enrolled in higher education institutions in the United States. To make inferences to the population, the current study was based on the students who participated in the CIRP College Senior Survey (CSS) in 2006 as a sample of U.S. college students. Among the datasets available from HERI (2021b), the CSS was selected for the current study instead of the CIRP Freshman Survey (TFS) since it better reflects the thinking of college students, because TFS is administered before students begin college and the CSS is administered during their senior year. Created by Alexander Astin in 1966 and managed by HERI since 1973, TFS has engaged more than 1,900 higher education institutions and 15 million student participants over 50-plus years. In conjunction with TFS, the CSS provides a longitudinal

examination of students' cognitive and affective growth during college (HERI, 2021a) and was designed as an exit survey for graduating seniors.

CSS data collected in 2006 was used in the current study because it was the most recent available for free from HERI. Participating schools registered with HERI, were sent the survey instrument, which they then administered to their students. Completed questionnaires were sent back to HERI for processing. The survey instrument can be seen in Appendix B.

### **Research Design and Procedure**

This study is designed as correlational research, which is intended to examine the extent of the relationship between the selected variables. The research sought out and interpreted these relationships but did not attempt to identify the causes of the observed patterns and relationships. The strengths of this type of study are that it can be used on existing datasets, the variables are not manipulated, the direction and strength of each relationship can be determined, and the influence of the different variables can be compared. Weaknesses of this methodology are that causal relationships cannot be established, the process can be time consuming, attention to detail is required when setting up data for processing, and extraneous variables might interfere with the information.

Also, this research is exploratory in its nature. It examines the relationship between the engagement and satisfaction of college students (Astin, 1993; Tinto, 1994) with a focus on illuminating the moderating role of religion by modeling this relationship separately for religious and non-religious students for the purpose of comparison.

## **Data Collection**

The most recent available CSS dataset (2006) was downloaded from the Higher Education Research Institute (HERI, 2021b). The downloaded dataset was stored in the University of Miami's Google Drive assigned to our cohort in a new folder named "DATABASES." Given that this information is freely available on the internet (HERI, 2021b) no additional security measures were deemed necessary.

141 institutions from 36 states participated in the 2006 survey they are listed alphabetically and by state in Appendix C. The dataset had 16,148 respondents, the majority of them female college students (65.8%). Additional descriptive statistics of the survey respondents are provided in Chapter 4.

## **Variables and Measures**

Variables from the College Senior Survey used in the current study include (1) student background variables, (2) student academic and social engagement, (3) engagement with faculty, (4) campus climate, (5) campus satisfaction, (6) student satisfaction, (7) the religion of father and mother, and (8) GPA. The following sections describe the variables used in the current study.

### ***Religious Background***

**Whether a student is religiously affiliated or not.** The current religious preference was collected with the following categories: 1= Baptist, 2 = Buddhist, 3 = Eastern Orthodox, 4 = Episcopal, 5 = Hindu, 6 = Islamic, 7 = Jewish, 8 = LDS (Mormon), 9 = Lutheran, 10 = Methodist, 11 = Presbyterian, 12 = Quaker, 13 = Roman Catholic, 14 = Seventh Day Adventist, 15 = United Church of Christ, 16 = Other Christian, 17 = Other Religion, and 18 = None. Based on their response, a dummy

variable was created to indicate whether a student was religiously affiliated (i.e., student responses 1-17) or not (i.e., student response 18), with non-religious students being a reference group.

### ***Academic Engagement***

**Personal.** Five items were used to conceptualize the personal aspects of the academic engagement construct: (1) Came late to class, (2) Failed to complete homework on time, (3) Fell asleep in class, (4) Felt bored in class, (5) Overslept and missed class or appointment. These items were measured on a three-point Likert scale where 1 = *Not at all*, 2 = *Occasionally*, and 3 = *Frequently*. A higher score suggests that students are more engaged personally with academic endeavors.

**Social.** Five items were used to conceptualize the social aspects of the academic engagement construct: (1) Discussed course content with students outside of class, (2) Met with advisor/counselor about your career plans, (3) Performed community service as part of a class, (4) Studied with other students, (5) Tutored another college student, (6) Used the library for research or homework, and (7) Worked on an independent study project. These items were measured on a three-point Likert scale on which 1 = *Not at all*, 2 = *Occasionally*, and 3 = *Frequently*. A higher score suggests that students are more engaged socially with academic endeavors.

### ***Engagement with Faculty***

Eleven items were used to conceptualize the engagement with faculty construct: Faculty provided (1) a letter of recommendation, (2) advice and guidance about your educational program, (3) an opportunity to apply classroom learning to “real-life” issues, (4) an opportunity to discuss coursework outside of class, (5) an opportunity to work on a

research project, (6) emotional support and encouragement, (7) encouragement to pursue graduate/professional study, (8) feedback about your academic work (outside of grades), (9) help in achieving your professional goals, (10) help to improve your study skills, and (11) intellectual challenge and stimulation. These items were measured on a three-point Likert scale where 1 = *Not at all*, 2 = *Occasionally*, and 3 = *Frequently*. Higher scores suggest that students engaged more with faculty.

### ***Campus Climate***

Five items were used to conceptualize the campus climate construct: (1) Hostile/Friendly, (2) Socially Exclusive/Socially Inclusive, (3) Intolerant/Diverse, (4) Impersonal/Caring, and (5) Worsening/Improving. These items were measured on a three-point Likert scale, with 1 = *Not at all*, 2 = *Occasionally*, and 3 = *Frequently*. Higher scores suggest that students have a more positive view of the campus climate.

### ***Campus Satisfaction***

**Academic.** Six items were used to conceptualize the academic aspects of the campus satisfaction construct: (1) Amount of contact with faculty, (2) Class size, (3) Courses in your major field, (4) Overall quality of instruction, (5) Relevance of coursework to everyday life, and (6) Relevance of coursework to future career plans. These items were measured on a four-item Likert scale where 1 = *Dissatisfied*, 2 = *Neutral*, 3 = *Satisfied*, and 4 = *Very Satisfied*. Higher scores suggest that students are more satisfied with the academic aspects of their campus experience.

**Social.** Five items were used to conceptualize the social aspects of the campus satisfaction construct: (1) Availability of campus social activities, (2) Interactions with other students, (3) Overall college experience, (4) Overall sense of community among

students, and (5) Respect for the expression of diverse beliefs. These items were measured on a four-item scale where 1 = *Dissatisfied*, 2 = *Neutral*, 3 = *Satisfied*, and 4 = *Very Satisfied*. Higher scores suggest that students are more satisfied with the social aspects of their campus experience.

### ***Student Satisfaction with Support Services***

Eleven items were used to conceptualize the student satisfaction with support services construct: (1) Ability to find a faculty or staff mentor, (2) Academic advising, (3) Campus health services, (4) Career counseling and advising, (5) Financial aid services, (6) Job placement services for students, (7) Leadership opportunities, (8) Opportunities for community service, (9) Recreational facilities, (10) Student housing, and (11) Tutorial help or other academic assistance. These items were measured on a four-item scale where 1 = *Dissatisfied*, 2 = *Neutral*, 3 = *Satisfied*, and 4 = *Very Satisfied*. Higher scores suggest that students are more satisfied with the support services offered on campus.

### ***Academic Performance***

One item was used to conceptualize the academic performance construct: Overall Grade Point Average during college was collected on a six-item scale where 1 = C or less, below 1.75, 2 = C 1.75/2.24, 3 = B- C+ 2.25/2.74, 4 = B 2.75/3.24, 5 = A- B+ 3.25/3.74, and 6 = A 3.75/4.0.

### ***Student Background***

The variables selected to provide a better understanding of the makeup of the sample of the population were used in the descriptive statistics section of the results described in Chapter Four. These various individual background variables included gender (i.e., male vs. female), age as of December 31 of the CSS survey year (i.e., 1 = 20

or younger, 2 = 21, 3 = 22, 4 = 23, 5 = 24, and 6 = 25 or older), and ethnicity<sup>1</sup> (i.e., White/Caucasian, African American/Black, American Indian/Alaska Native, East Asian (i.e., Chinese, Japanese, Korean, Taiwanese), Filipina/o/x, Southeast Asian (i.e., Cambodian, Vietnamese, Hmong), South Asian (i.e., Indian, Pakistani, Nepalese, Sri Lankan), Other Asian, Native Hawaiian/Pacific Islander, Mexican American/Chicana/o/x, Puerto Rican, South American, Other Latina/o/x, Other.).

### **Data Analyses**

The data analysis was first conducted using IBM's Statistical Package for the Social Sciences (SPSS) version 26. Descriptive statistics and frequency tables were first used to summarize participants' characteristics and describe their responses on the study variables. Second, psychometric properties of constructs used in the current study were examined by performing exploratory factor analysis using the principal axis factoring method and reliability analysis. Third, a series of independent samples *t*-tests were used to examine whether students differed in their responses on variables by religious affiliation, or lack thereof (RQ1). Fourth, correlational analyses were performed to examine relationships among variables. Missing data were handled using list-wise deletion for correlation analysis, independent samples *t*-test, exploratory factor analysis, and reliability analysis.

Lastly, structural equation modeling (SEM) was performed separately for religiously affiliated and unaffiliated students in order to test the specified model (as shown in Figure 2) using MPLUS version 8.6 (Muthén & Muthén, 2021). Specifically, a full-information maximum likelihood estimation method was used to handle missing

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<sup>1</sup> The data was collected using race and ethnicity interchangeably; considering the problematic nature of this racial classification, we only use ethnicity when referring to this aspect of student identity.

data. The overall model fit was assessed using the significance of chi-squared value and various model fit indices: Root Mean Square Error of Approximation (RMSEA,  $< .08$  is acceptable), Comparative Fit Index (CFI,  $> .80$  is acceptable) and Tucker-Lewis Index (TLI,  $> .80$  is acceptable), and Standardized Root Mean Square Residual (SRMR,  $< .10$  is acceptable). Then, the significance of the relationships among constructs was examined using Wald's test. Lastly, the difference in each of paths hypothesized in Figure 2 was tested between religiously affiliated and unaffiliated students using z-tests.

## **Chapter 4: Results**

This chapter summarizes participant background characteristics; reliability and validity analyses using exploratory factor analysis (EFA) for the seven constructs used in structural equation modeling (SEM); the relationships among variables and how participant responses on the variables for each construct differed between religiously affiliated and unaffiliated students; and results from SEM analyses conducted separately for religiously affiliated and unaffiliated students.

### **Participant Characteristics**

Tables 1 to 3 in appendix A summarize the participants' background information (i.e., gender, ethnicity, age, religion, each parent's religion, and GPA) for all students and then separately for religiously affiliated and unaffiliated students.

#### ***All Participants***

As shown in Table 1, of the total number of respondents ( $n = 16,147$ ), 65.8% self-reported as females and 34.2% as males. Students reported their ethnicities as White ( $n = 12,999$ , 80.5%), Asian ( $n = 847$ , 5.3%), Biracial or Multiracial ( $n = 772$ , 4.8%), Hispanic ( $n = 555$ , 3.4%), African American ( $n = 497$ , 3.1%), and Other ( $n = 278$ , 1.7%). Of those participants who reported their age ( $n = 15,891$ ), 593 (3.7%) were 20 or younger during their senior year; 806 (5.1%) were 21; 8,965 (56.4%) were 22; 4,568 (28.7%) were 23; 600 (3.8%) were 24; and 359 (2.1%) were 25 or older.

As shown in Table 2, a total of 15,891 participants responded the religious affiliation question; of that number ( $n = 15,891$ ), 46.2% self-reported as Protestant, 35.4% as Roman Catholic, 12.5% as unaffiliated, 1.7% as Jewish, and 4.3% as other religion. Of the total number of respondents, 15,060 (93.3%) provided their father's

religion, with 46.5% of those identifying it as Protestant, 35.9% as Roman Catholic, 11.1% as non-religious, 2.3% as Jewish, and 4.2% as other religion. Of the total number of respondents of the religious affiliation question, 15,297 (96.26%) provided their mother's religion, with 48.8% identifying it as Protestant, 38.3% as Roman Catholic, 2.1% as Jewish, 4.2% as other religion and 6.5% as non-religious.

As shown in Table 3, a total of 15,990 participants responded to the question about their GPA; of that total ( $n = 15,990$ ), nine (0.1%) reported an average grade of C- or less; 188 (1.2%) reported C; 1,233 (7.7%) reported B- or C+; 4,556 (28.5%) reported B; 6,870 (43%) reported A- or B+; and 3,134 (19.6%) reported A.

### ***Religious Students***

As shown in Table 1, of the total number of respondents reporting a religious affiliation ( $n = 13,347$ ), 67.3% self-reported as females and 32.7% as males. Religious students reported their ethnic backgrounds as White ( $n = 10,911$ , 81.7%), Asian ( $n = 600$ , 4.5%), Hispanic ( $n = 495$ , 3.7%), African American ( $n = 438$ , 3.3%), Biracial or Multiracial ( $n = 604$ , 4.5%), and other ( $n = 219$ , 1.6%). Of the religious students who reported their age ( $n = 13,137$ ), 502 (3.8%) were 20 or younger during their senior year; 671 (5.1%) were 21; 7,344 (55.9%) were 22; 3,862 (29.4%) were 23; 482 (3.7%) were 24; and 276 (2.1%) were 25 or older. As shown in Table 3, a total of 13,273 religious students responded to the GPA question; of that total ( $n = 13,273$ ) nine (0.1%) provided a grade of C- or less, 150 (1.1%) provided a grade of C, 1,050 (7.9%) provided a grade of B- or C+, 3,803 (28.5%) provided a grade of B, 5,644 (42.3%) provided a grade of A- or B+, and 2,617 (19.6%) provided a grade of A.

### ***Non-Religious Students***

As shown in Table 1, out of total number of non-religious respondents ( $n = 2,536$ ), 59.4% self-reported as females and 40.6% as males. Non-religious students reported their ethnicities as White ( $n = 1,975$ , 78.2%), Asian ( $n = 239$ , 9.5%), Hispanic ( $n = 55$ , 2.2%), African American ( $n = 51$ , 2%), Biracial or Multiracial ( $n = 155$ , 6.1%), and Other ( $n = 49$ , 1.9%). Of the non-religious students who reported their age ( $n = 2,493$ ), 86 (3.4%) were 20 years old or younger during their senior year, 124 (5%) were 21, 1,471 (59%) were 22, 631 (25.3%) were 23, 104 (4.2%) were 24, and 77 (3.1%) were 25 or older. As shown in Table 2, a total of 2,522 non-religious students responded to the question about their GPA; of that total ( $n = 2,522$ ) none (0%) provided a grade of C- or less, 33 (1.3%) provided a grade of C, 166 (6.5%) provided a grade of B- or C+, 698 (27.5%) provided a grade of B, 1,145 (45.1%) provided a grade of A- or B+, and 480 (18.9%) provided a grade of A.

### **Psychometric Properties**

Two psychometric properties – *Construct Validity* and *Internal Consistency* – for the seven constructs used in the current study were examined. The seven constructs are (1) Academic Engagement – Personal (2) Academic Engagement - Social, (3) Engagement with Faculty, (4) Campus Climate, (5) Campus Satisfaction – Academic (6) Campus Satisfaction - Social, and (7) Student Satisfaction.

### ***Academic Engagement***

The academic engagement construct was first operationalized using 25 items that are supposed to measure students' academic engagement. After the reverse-coding of nine items, a series of exploratory factor analyses (EFA) were performed using principal

axis factoring as an estimation method. For each EFA model, oblique factor rotation using oblim method was used to identify simpler structure. Results from the initial EFA identified six factors with eigenvalues greater than 1. Of 25 items, 13 items were flagged if items were cross-loaded, or the magnitude and direction of factor loadings differed from other items within the respective factor. Those items were: ACT07 (Contested a grade), ACT 28 (Had difficulty getting the courses I needed), ACT31 (Have been a guest in a professor's home), ACT40 (Missed class due to employment), ACT42 (Observed professors actively engaging students during class), ACT46 (participated in intramural sports), ACT52 (Received course assignments through the internet), ACT59 (Turned in course assignments electronically), ACT62 (used the internet for research or homework), ACT67 (Used/purchased class notes from a professional service), ACT69 (voted in state/national election), ACT70 (voted in student election), and ACT75 (Worked on an independent study). After qualitatively examining those flagged items, these were eliminated from the final EFA.

**EFA with All Students.** Results from the final EFA indicated that two factors underlaid 12 items, suggesting that 21.4 % of total variance in 12 items was explained by two factors (12.9 % for the first factor and 8.5 % for the second factor). Five items were loaded on the first factor, with factor loadings ranging from .41 to .66; seven items were loaded on the second factor, with factor loadings ranging from .25 to .51. Upon examining items belonging to each factor, the first factor was labeled *Academic Engagement – Personal* for those aspects related to individual behavior (i.e., “felt bored in class”). The second factor was labeled *Academic Engagement – Social* for those aspects of academic engagement that include interaction with others (i.e., “studied with

other students”). Internal consistency measured by Cronbach’s Alpha was acceptable for Academic Engagement – Personal subscale ( $\alpha = .68$ ), while it was low for Academic Engagement – Social ( $\alpha = .51$ ).

**EFA Separately for Religious and Non-Religious students.** For religious students, 21.7 % of a total variance in 12 items was explained by two factors (12.7 % for subscale 1: Academic Engagement – Personal, and 9 % for subscale 2: Academic Engagement - Social). For non-religious students, 23.3 % of a total variance in 12 items was explained by two factors (14 % for subscale 1: Academic Engagement - Personal and 9.3 % for subscale 2: Academic Engagement – Social). For subscale 1: Academic Engagement – Personal, factor loadings ranged from .41 to .68 for religious students and .46 to .67 for non-religious students. For subscale 2: Academic Engagement – Social factor loadings ranged from .23 to .60 for religious students and .32 to .52 for non-religious students. For religious students, Cronbach’s Alpha values were .67 for subscale 1: Academic Engagement – Personal and .5 for subscale 2: Academic Engagement – Social. For non-religious students, Cronbach’s Alpha values were .70 for subscale 1: Academic Engagement – Personal subscale and .54 for subscale 2: Academic Engagement – Social.

### ***Engagement with Faculty***

The *Engagement with Faculty* construct was first operationalized using 11 items measuring students’ academic engagement. EFA using principal axis factoring method was performed. For each EFA model, oblique factor rotation using oblim method was used to identify simpler structure.

**EFA with All Students.** Results from the initial EFA identified 1 factor with eigenvalues greater than 1, suggesting that 42.7 % of total variance in 11 items was explained. Factor loadings ranged from .51 to .77. Internal consistency measured by Cronbach's Alpha was good ( $\alpha = .89$ ).

**EFA Separately for Religious and Non-Religious Students.** For religious students, 42.2 % of a total variance in 11 items was explained. For non-religious students, 44.6 % of a total variance in 11 items was explained; factor loadings ranged from .5 to .77 for religious students and .57 to .78 for non-religious students. For religious students, Cronbach's Alpha values were .89, and for non-religious students, Cronbach's Alpha values were .9.

### ***Campus Climate***

The *Campus Climate* construct was first operationalized using nine items measuring campus climate. After reverse-coding four items, EFA using the principal axis factoring method was performed. For each EFA model, oblique factor rotation using oblim method was used to identify a simpler structure. Results from the initial EFA identified three factors with eigenvalues greater than 1. Of 9 items, 4 items were flagged when items were cross-loaded, or the magnitude and direction of factor loadings differed from other items within the respective factor. Those items were: CLIMATE4 (Nonsexist/Sexist), CLIMATE5 (Individualistic/Conformist), CLIMATE8 (Conservative/Liberal), and CLIMATE9 (Non-Homophobic/Homophobic).

**EFA with All Students.** Results from the initial EFA identified two factors with eigenvalues greater than 1. Of 25 items, two items were flagged if items were cross-loaded, or the magnitude and direction of factor loadings differed from other items within

the respective factor. After qualitatively examining those flagged items, two items were eliminated from the final EFA. Results from the final EFA identified 1 factor with eigenvalues greater than 1, suggesting that 36.1 % of total variance in five items was explained. Factor loadings ranged from .34 to .79. Internal consistency measured by Cronbach's Alpha was acceptable ( $\alpha = .70$ ).

**EFA Separately by Religious and Non-Religious Students.** For religious students, 35.5 % of a total variance in five items was explained. For non-religious students, 36.2 % of a total variance in five items was explained. Factor loadings ranged from .34 to .78 for religious students and .34 to .78 for non-religious students. For religious students, Cronbach's Alpha value was .70, and for non-religious students, Cronbach's Alpha value was .71.

### ***Campus Satisfaction***

The *Campus Satisfaction* construct was first operationalized using 11 items measuring students' satisfaction with campus activities. Exploratory factor analysis (EFA) using the principal axis factoring method was performed. Oblique factor rotation using oblim method was used to identify a simpler structure. Results from the initial EFA identified two factors with eigenvalues greater than 1.

**EFA with All Students.** Results from EFA indicated that two factors underlaid 11 items, suggesting that 49% of the total variance in 11 items was explained by two factors (42% for the first factor and 7% for the second factor). Six items were loaded on the first factor, with factor loadings ranging from .51 to .74; five items were loaded on the second factor, with factor loadings ranging from .43 to .82. Upon examining items belonging to each factor, the first factor was labeled *Campus Satisfaction – Academic* for

those aspects related to academic satisfaction (i.e., class size); the second factor was labeled *Campus Satisfaction - Social* for those aspects of campus satisfaction that include interaction with others (i.e., availability of campus social activities). Internal consistency measured by Cronbach's Alpha was good for the Campus Satisfaction - Academic subscale ( $\alpha = .85$ ), and for Campus Satisfaction – Social ( $\alpha = .81$ ).

**EFA Separately for Religious and Non-Religious Students.** For religious students, 48.8% of a total variance in 11 items was explained by two factors (41.9% for subscale 1: Campus Satisfaction - Academic, and 6.9% for subscale 2: Campus Satisfaction - Social). For non-religious students, 48.4 % of a total variance in 11 items was explained by two factors (41% for subscale 1: Campus Satisfaction - Academic and 7.4% for subscale 2: Campus Satisfaction – Social). For subscale 1: Campus Satisfaction - Academic, factor loadings ranged from .51 to .75 for religious students and .52 to .72 for non-religious students. For subscale 2: Campus Satisfaction – Social, factor loadings ranged from .42 to .83 for religious students and .45 to .81 for non-religious students. For religious students, Cronbach's Alpha values were .85 for subscale 1: Campus Satisfaction - Academic and .8 for subscale 2: Campus Satisfaction – Social. For non-religious students, Cronbach's Alpha values were .84 for subscale 1: Campus Satisfaction - Academic subscale and .81 for subscale 2: Campus Satisfaction – Social.

### **Student Satisfaction with Support Services**

The *Student Satisfaction with Support Services* construct was first operationalized using 20 items measuring the students' satisfaction with their higher education institution. After reverse coding all items, exploratory factor analysis (EFA) using the principal axis factoring method was performed. For each EFA model, oblique factor rotation using

oblim method was used to identify a simpler structure. Results from the initial EFA identified three factors with eigenvalues greater than 1. Of 20 items, 11 items were flagged if items were cross-loaded, or the magnitude and direction of factor loadings differed from other items within the respective factor. After qualitatively examining those flagged items, nine items were eliminated from the final EFA. Those items were: SATIS04 (Availability of internet access), SATIS08 (Computer facilities), SATIS14 (General education or core curriculum courses), SATIS15 (Humanities courses), SATIS19 (Laboratory facilities and equipment), SATIS21 (Library facilities), SATIS29 (Quality of computer training/assistance), SATIS32 (Science and mathematics courses), and SATIS34 (Social science courses).

**EFA with All Students.** Results from the final EFA identified 1 factor with eigenvalues greater than 1, suggesting that 35.1 % of the total variance in 11 items was explained. Factor loadings ranged from .49 to .68. Internal consistency measured by Cronbach's Alpha was good ( $\alpha = .85$ ).

**EFA Separately by Religious and Non-Religious Students.** For religious students, 40.6% of a total variance was explained. For non-religious students, 35.1% of a total variance in 11 items was explained. Factor loadings ranged from .49 to .68 for religious students and .47 to .66 for non-religious students. For religious students, Cronbach's Alpha value was .85, and for non-religious students, Cronbach's Alpha value was .85.

### **Difference in Variables between Religious and Non-religious students**

Tables 4 to 11 summarize descriptive statistics of all 50 variables measuring each of the seven constructs. In these tables, total number of cases, mean, and standard

deviation for all variables were presented for all participants, religious students, and non-religious students. For 47 of 50 variables, the mean score for non-religious students was lower than that of religious students.

A series of independent samples *t*-tests were conducted to examine mean differences on each variable between religious and non-religious students. Tables 19 to 26 summarize the findings for all variables, along with the effect size quantified using Cohen's *d*. Results from these independent samples *t*-tests show that non-religious students have significantly lower means ( $p < .01$ ) in 42 of 50 variables, while effect sizes ranged from negligible ( $d = .01$ , Cohen, 1992) to medium ( $d = .35$ , Cohen, 1992). Exceptions were found on the following variables, suggesting no difference between non-religious and religious students: (1) one variable measuring Academic Engagement – Social (see Table 20); (2) two variables measuring *Engagement with Faculty* (see Table 21), (3) one variable measuring Campus Satisfaction – Academic (see Table 23), and (4) two variables measuring *Student Satisfaction* (see Table 25).

### **Relationship among Variables**

Tables 12 to 18 present correlations among all 50 variables included in the seven constructs. As shown in these tables, variables are all positively and significantly ( $p < .01$ ) correlated to each other; correlations ranged from .06 (Negligible, Cohen, 1992) to .64 (Large, Cohen, 1992). The same patterns were found for both religious and non-religious students, when analyzed separately.

### **Results from Structural Equation Modelling**

The proposed theoretical model (see Figure 2) was explored with structural equation modeling using MPLUS version 8.6 (Muthén & Muthén, 2021). Maximum

Likelihood Estimation (MLE) was used to estimate all parameters, while handling missing values. Overall models, which were examined using chi-squared value, were found to be statistically significant for both religious and non-religious students. These results suggest that the data does not fit the model. However, as chi-squared value is sensitive to large sample size, this result can be ignored. Therefore, the quality of the proposed model was examined using three model fit indices: Root Mean Square Error of Approximation (RMSEA,  $< .08$  is acceptable), Comparative Fit Index (CFI,  $> .80$  is acceptable) and Tucker-Lewis Index (TLI,  $> .80$  is acceptable), and Standardized Root Mean Square Residual (SRMR,  $< .10$  is acceptable).

### ***Results for Religious Students***

Model fit indices for religious students were .044 for RMSEA, .84 for CFI, .83 for TLI, and .04 for SRMR, suggesting an acceptable model fit to the data. In the model, significant relationships were found on the following slopes, which were organized by outcomes below.

**Campus Climate as an Outcome.** Academic engagement – personal ( $b = .13$ ,  $SE = .01$ ,  $p < .01$ ), academic engagement – social ( $b = .05$ ,  $SE = .02$ ,  $p = .01$ ), engagement with faculty ( $b = .27$ ,  $SE = .02$ ,  $p < .01$ ), Campus Satisfaction – Academic ( $b = .28$ ,  $SE = .01$ ,  $p < .01$ ) and Campus Satisfaction – Social ( $b = .65$ ,  $SE = .01$ ,  $p < .01$ ) were found to be statistically significant predictors for campus climate. These suggest that campus climate is expected to be increased for every additional increase in (1) academic engagement - personal, (2) academic engagement – social, (3) engagement with faculty, (4) campus satisfaction – academic, and (5) campus satisfaction - social, after controlling for other constructs and covariates in the model.

**Campus Satisfaction - Academic as an Outcome.** Campus Climate ( $b = .28, SE = .01, p < .01$ ), Academic Engagement – Personal ( $b = .09, SE = .01, p < .01$ ), Engagement with Faculty ( $b = .49, SE = .01, p < .01$ ), Campus Satisfaction – Social ( $b = .63, SE = .01, p < .01$ ), and Student Satisfaction ( $b = .42, SE = .01, p < .01$ ), were found to be statistically significant predictors for campus satisfaction - academic. These suggest that campus satisfaction - academic is expected to be increased for every increase in (1) campus climate, (2) academic engagement – personal, (3) engagement with faculty, (4) campus satisfaction - social, and (5) student satisfaction, after controlling for other constructs and covariates in the model.

**Campus Satisfaction - Social as an Outcome.** Campus Climate ( $b = .65, SE = .01, p < .01$ ), Academic Engagement – Personal ( $b = .03, SE = .01, p < .01$ ), Academic Engagement – Social ( $b = .05, SE = .02, p = .01$ ), Engagement with Faculty ( $b = .17, SE = .01, p < .01$ ), and Campus Satisfaction - Academic ( $b = .63, SE = .01, p < .01$ ) were found to be statistically significant predictors for Campus Satisfaction - Social. These suggest that campus satisfaction - social is expected to increase for every increase in (1) campus climate, (2) academic engagement - personal, (3) academic engagement -social, (4) engagement with faculty, and (5) campus satisfaction - academic, after controlling for other constructs and covariates in the model.

**Student Satisfaction as an Outcome.** Campus Climate ( $b = .38, SE = .01, p < .01$ ), Academic Engagement – Personal ( $b = .06, SE = .01, p < .01$ ), Academic Engagement – Social ( $b = .16, SE = .02, p < .01$ ), Engagement with Faculty ( $b = .26, SE = .02, p < .01$ ), Campus Satisfaction – Academic ( $b = .42, SE = .01, p < .01$ ), and Campus Satisfaction – Social ( $b = .42, SE = .01, p < .01$ ) were found to be statistically significant

predictors for student satisfaction. These suggest that student satisfaction is expected to increase by increasing (1) campus climate, (2) academic engagement - personal, (3) academic engagement – social, (4) engagement with faculty, (5) campus satisfaction – academic, and (6) campus satisfaction - social, after controlling for other constructs and covariates in the model.

**GPA as an Outcome.** Academic Engagement – Personal ( $b = .30, SE = .01, p < .01$ ), Academic Engagement – Social ( $b = .14, SE = .01, p < .01$ ), Engagement with Faculty ( $b = .09, SE = .02, p < .01$ ), and Campus Satisfaction – Academic ( $b = .05, SE = .01, p < .01$ ) were found to be statistically significant predictors for GPA. These suggest that GPA is expected to be increased by increasing (1) academic engagement - personal, (2) academic engagement – social, (3) engagement with faculty, and (4) campus

**Relationships Among Factors.** The relationships among the following factors were found to be statistically significant and positive: (1) Engagement with Faculty and Academic Engagement – Personal ( $b = .14, SE = .01, p < .01$ ), demonstrating their relationship at the small magnitude; (2) Engagement with Faculty and Academic Engagement – Social ( $b = .61, SE = .01, p < .01$ ), demonstrating their relationship at the large magnitude.

### ***Results for Non-Religious Students***

For non-religious students, model fit indices are .048 for RMSEA, .83 for CFI, .81 for TLI, and .05 for SRMR, suggesting a good model fit to the data. In the model, significant relationships were found on the following slopes, which were organized by outcomes below.

**Campus Climate as an Outcome.** Academic Engagement - Personal ( $b = .17$ ,  $SE = .03$ ,  $p < .01$ ), Engagement with Faculty ( $b = .23$ ,  $SE = .05$ ,  $p < .01$ ); Campus Satisfaction – Academic ( $b = .25$ ,  $SE = .02$ ,  $p < .01$ ), Campus Satisfaction – Social ( $b = .65$ ,  $SE = .02$ ,  $p < .01$ ), and Student Satisfaction ( $b = .38$ ,  $SE = .02$ ,  $p < .01$ ), and GPA ( $b = -.08$ ,  $SE = .03$ ,  $p < .01$ ) were found to be statistically significant predictors for campus climate. These suggest that campus climate is expected to be increased by increasing (1) academic engagement - personal, (2) engagement with faculty, (3) campus satisfaction – academic, (4) campus satisfaction - social, (5) student satisfaction, and (6) GPA, after controlling for other constructs and covariates in the model.

**Campus Satisfaction - Academic as an Outcome.** Campus Climate ( $b = .25$ ,  $SE = .02$ ,  $p < .01$ ), Academic Engagement – Personal ( $b = .11$ ,  $SE = .06$ ,  $p < .01$ ), Engagement with Faculty ( $b = .55$ ,  $SE = .04$ ,  $p < .01$ ), Campus Satisfaction – Social ( $b = .60$ ,  $SE = .03$ ,  $p < .01$ ), and Student Satisfaction ( $b = .45$ ,  $SE = .03$ ,  $p < .01$ ) were found to be statistically significant predictors for campus satisfaction - academic. These suggest that campus satisfaction - academic is expected to be increased by increasing (1) campus climate, (2) academic engagement - personal, (3) engagement with faculty, (4) campus satisfaction - social, and (5) student satisfaction, after controlling for other constructs and covariates in the model.

**Campus Satisfaction - Social as an Outcome.** Campus Climate ( $b = .65$ ,  $SE = .02$ ,  $p < .01$ ), Academic Engagement – Social ( $b = .20$ ,  $SE = .04$ ,  $p < .01$ ), Engagement with Faculty ( $b = .10$ ,  $SE = .04$ ,  $p = .02$ ), Campus Satisfaction – Academic ( $b = .60$ ,  $SE = .03$ ,  $p < .01$ ), Student Satisfaction ( $b = .45$ ,  $SE = .03$ ,  $p < .01$ ), and GPA ( $b = -.11$ ,  $SE = .03$ ,  $p < .01$ ) were found to be statistically significant predictors for Campus

Satisfaction - Social. These suggest that campus satisfaction - social is expected to be increased by increasing (1) campus climate, (2) academic engagement -social, (3) engagement with faculty, (4) campus satisfaction - academic, and (5) student satisfaction after controlling for other variables. However, campus satisfaction – social is expected to be decreased by increasing GPA, after controlling for other constructs and covariates in the model.

**Student Satisfaction as an Outcome.** Campus Climate ( $b = .38, SE = .02, p < .01$ ), Academic Engagement – Personal ( $b = .07, SE = .03, p < .01$ ), Academic Engagement – Social ( $b = .19, SE = .05, p < .01$ ), Engagement with Faculty ( $b = .22, SE = .05, p < .01$ ), Campus Satisfaction – Academic ( $b = .45, SE = .03, p < .01$ ) and Campus Satisfaction – Social ( $b = .43, SE = .03, p < .01$ ) were found to be statistically significant predictors for student satisfaction. These suggest that student satisfaction is expected to be increased by increasing (1) campus climate, (2) academic engagement - personal, (3) academic engagement – social, (4) engagement with faculty, (5) campus satisfaction – academic, and (6) campus satisfaction social, after controlling for other constructs and covariates in the model.

**GPA as an Outcome.** Campus Climate ( $b = -.08, SE = .03, p < .01$ ), Academic Engagement – Personal ( $b = .32, SE = .03, p < .01$ ), Academic Engagement – Social ( $b = .20, SE = .05, p < .01$ ), and Campus Satisfaction – Social ( $b = -.11, SE = .03, p < .01$ ) were found to be statistically significant predictors for GPA. These suggest that GPA is increased by increasing campus climate and academic engagement - personal, but decreased by increasing campus satisfaction – social, after controlling for other constructs and covariates in the model.

**Relationships Among Factors.** Significant relationships were found on the following factors: Engagement with Faculty and Academic Engagement – Personal ( $b = .23$ ,  $SE = .03$ ,  $p < .01$ ), demonstrating a small relationship between two constructs; Engagement with Faculty and Academic Engagement – Social ( $b = .72$ ,  $SE = .02$ ,  $p < .01$ ), demonstrating a large relationship between two constructs. Also, positive relationships were found between all the constructs..

### **Difference in Structural Relationships Between Religious and Non-Religious Students**

Table 27 displays the estimated slopes separately for religious and non-religious students, with their statistical differences. As shown in Table 27, three constructs were positively and significantly related to other constructs for religious students, but were not significant for non-religious students: Academic Engagement Personal to Campus Satisfaction Social ( $b = .03$ ,  $SE = .01$ ,  $p < .01$  for religious students;  $b = .03$ ,  $SE = .02$ ,  $p = .18$  for non-religious students); Academic Engagement Social to Campus Climate ( $b = .05$ ,  $SE = .02$ ,  $p < .05$  for religious students;  $b = .08$ ,  $SE = .06$ ,  $p = .14$  for non-religious students); and Faculty Engagement to GPA ( $b = .09$ ,  $SE = .02$ ,  $p < .01$  for religious students;  $b = .06$ ,  $SE = .05$ ,  $p = .2$  for non-religious students).

Conversely, campus climate was not significant for religious students' GPA but had a negative and significant effect on non-religious students' GPA ( $b = -.02$ ,  $SE = .01$ ,  $p = .07$  for religious students;  $b = -.08$ ,  $SE = .03$ ,  $p < .01$  for non-religious students). Similarly, Mother's Religion was found to be not significant on religious students' Campus Climate score but was negatively and significantly related for non-religious

students ( $b = -.01$ ,  $SE = .01$ ,  $p = .28$  for religious students;  $b = -.1$ ,  $SE = .03$ ,  $p < .01$  for non-religious students).

As shown in Table 27, the significant differences were found between religious and non-religious students on the following relationships: (1) Academic engagement – personal with faculty engagement ( $MD = -.09$ ,  $SE = .03$ ,  $z = -2.85$ ,  $p < .05$ ); (2) Academic engagement - social on campus satisfaction – social ( $MD = -.09$ ,  $SE = .04$ ,  $z = -2.01$ ,  $p = .02$ ); (3) Academic engagement – social with faculty engagement ( $MD = -.11$ ,  $SE = .02$ ,  $z = -4.92$ ,  $p < .05$ ); and (4) mother's religion on campus climate ( $MD = .11$ ,  $SE = .03$ ,  $z = 3.48$ ,  $p < .05$ ). These suggest that the effect of academic engagement – social on campus climate was significantly higher for non-religious students than religious students. Also, the relationships were statistically higher for non-religious students on the following pairs: (1) academic engagement – personal and faculty engagement, and (2) academic engagement - social and faculty engagement.

## **Chapter 5: Discussion**

This chapter begins with a summary of the current study, restating the purpose, rationale, significance and the research questions. In the second section I provide the summary of the findings for each research question posited for the current study. In the third section I discuss the links of the study findings with the theory and research discussed in chapter 2. In the fourth section I discuss the implications for practice based on study findings. In the fifth section I discuss the limitations of the current study. In the sixth section I discuss future research that could follow the current study. Lastly, I discuss the conclusions that may be drawn from this study.

### **The Current Study**

The current study aimed to empirically examine whether there are differences in engagement, satisfaction, and performance between religious and non-religious students, and how the relationships among student engagement, student performance, and student satisfaction differs between religious and non-religious students. This is important as it can help the higher education community to understand the lower satisfaction levels of non-religious students found in previous research (Bowman and Small, 2010; Swann, 2020; Bowman & Smedley, 2013), which may help identify ways of increasing overall student satisfaction at higher education institutions, with indirect positive effects on rankings and alumni donations.

### **Summary of Findings**

In this section, a summary of the findings were provided for each research question. In the first section I report the results of the *t*-tests used to compare the means of the scores reported by the students for engagement, satisfaction, and performance

between religious and non-religious students. In the second section I summarize the findings of the second research question which looks at how the relationship among students' engagement and their satisfaction differs between religious and non-religious students. In the last section the findings of the third research question are summarized looking at differences by religiosity in academic performance (GPA) based on student engagement.

### ***Summary Findings for Research Question 1***

The first research question (RQ 1) looked at engagement, satisfaction, and performance differed between religiously affiliated and unaffiliated students.

**RQ 1 a.** Is there any difference in academic engagement, social engagement, or engagement with faculty between religious and non-religious students?

***Academic Engagement – Personal.*** Non-religious students show lower means in the personal aspects of the academic engagement. In all 5 variables of this construct that difference is statistically significant but with small effect sizes.

***Academic Engagement – Social.*** Non-religious students show lower means in the social aspects of academic engagement in 3 out of 7 variables of this construct with small effect sizes. Four variables had negligible effect size differences between non-religious and religious students: discussing course content outside of class, tutoring other students, using the library for research, or working on independent study projects.

***Engagement with Faculty.*** Non-religious students show lower means in their engagement with faculty. In 9 out of 11 variables of this construct that difference is statistically significant but with small effect sizes.

**RQ 1 b.** Is there any difference in students' satisfaction with campus climate, students' satisfaction with the academic or social aspects of their college experience, or students' satisfaction with the campus support services between religious and non-religious students?

***Campus Satisfaction – Academic.*** Non-religious students show lower means in the academic aspects of their campus satisfaction. In 5 out of the 6 variables of this construct that difference is statistically significant but with small effect sizes.

***Campus Satisfaction – Social.*** Non-religious students show lower means in the social aspects of their campus satisfaction. In all 5 variables of this construct that difference is statistically significant with small to medium effect sizes

***Campus Climate.*** Non-religious students show lower means in their campus climate scores. In all 5 variables of this construct that difference is statistically significant small to medium effect sizes.

***Student Satisfaction with Campus Support Services.*** Non-religious students show lower means in their student satisfaction scores. In 10 out of the 11 variables of this construct that difference is statistically significant but with negligible to small effect sizes.

**RQ 1 c.** Is there any difference in academic performance (GPA) between religious and non-religious students?

***Academic Performance.*** There was no statistically significant difference between religious and non-religious students in the means of their GPA scores.

In summary, the mean comparisons showed that non-religious students were less engaged academically, socially, and with faculty than religious students. Non-religious

students also had lower levels of academic satisfaction, social satisfaction, satisfaction with the campus climate, and satisfaction with campus support services relative to religious students. The effect size for these differences ranged from negligible ( $-.02$ ) to medium ( $-.35$ ). No difference was found in academic performance (GPA) between the groups.

### ***Summary Findings for Research Question 2***

The second research question (RQ 2) looked at how the relationship between students' engagement and their satisfaction differs between religious and non-religious students. *Engagement* was operationalized in three different constructs: personal aspects of academic engagement, social aspects of academic engagement and engagement with faculty. *Satisfaction* was operationalized by four different student outcomes, each being a sub-section of RQ 2: a) satisfaction with the academic aspects of the campus experience, b) satisfaction with the social aspects of the campus experience, c) satisfaction with campus climate, and d) satisfaction with campus support services.

**RQ 2.a.** No difference was found between religious and non-religious students in how students' engagement affected their satisfaction with the academic aspects of their campus experience, the non-religious students started with lower scores yet both religious and non-religious saw similar effects of engagement on satisfaction. All measures of engagement positively correlated with student academic satisfaction for both religious and non-religious students.

**RQ 2.b.** No difference was found between religious and non-religious students with regard to the relationship between the personal aspects of their academic

engagement with the social aspects of their campus experience , the non-religious students started with lower scores yet both religious and non-religious saw similar effects of engagement on satisfaction. Neither was a difference found between religious and non-religious students with regard to the relationship between their engagement with faculty and their satisfaction with the social aspects of their campus experience, the non-religious students started with lower scores yet both religious and non-religious saw similar effects of engagement on satisfaction. There was, however, a difference between religious and non-religious students in the relationship of the social aspects of the student's academic engagement and their satisfaction with the social aspects of the campus experience. For non-religious students, higher levels of the social aspects of academic engagement had a stronger correlation with campus satisfaction social than for religious students.

**RQ 2.c.** No difference was found between religious and non-religious students in how students' engagement affects their satisfaction with the campus climate, the non-religious students started with lower scores yet both religious and non-religious saw similar effects of engagement on satisfaction. Again, all measures of engagement positively correlated with student satisfaction with campus climate for both religious and non-religious students.

**RQ 2.d.** No difference was found between religious and non-religious students in how students' engagement influences their satisfaction with the campus support services, the non-religious students started with lower scores yet both religious and non-religious saw similar effects of engagement on satisfaction. All measures of engagement positively correlated with student satisfaction with campus support services for both religious and non-religious students.

### ***Summary Findings for Research Question 3***

The third research question (RQ 3) addresses how the relationship among students' engagement and their academic performance differs between religious and non-religious students. No difference between religious and non-religious students was found in how students' individual, social, and faculty engagement influence their college GPAs. When religious and non-religious students engaged more frequently, both groups saw positive increases in their college GPA.

### **Study Findings Links with Theory and Research**

#### ***Theoretical Framework***

This study was grounded in Astin's IEO model of student engagement which argues that student inputs influences how a student engages with the college environment. How a student engages with the college environment in turn influences student outcomes. This study particularly looked at whether there are differences in engagement, satisfaction, and performance between religious and non-religious students, and whether the relationship between engagement with the college environment and student outcomes was moderated by whether the student was religious or non-religious. The answer to the first part (RQ 1) was yes, but with small effect sizes, and the answer to the second part (RQ 2 and 3) was no. Both religious and non-religious student outcomes appeared to be equally positively influenced by greater campus engagement, as hypothesized by the IEO model. This suggest that the IEO model has some generalizability to non-religious students. This finding helps expand the generalizability of the IEO model to the growing population of non-religious college students. Study finding that the level of students' engagement being positively related to the level of

student satisfaction is as would be expected following the logic of Astin's IEO model and much of the literature (Alves & Raposo, 2007; Cardozo, 1965; Clemes, 2001; Paul & Pradhan, 2019).

However, there is one result that does not match those expectations: the differences in engagement should lead to differences in GPA. The higher levels of engagement of religious students should lead to them having higher GPA, but they don't. Our study does not provide an answer to why this is, however I could speculate the it may be due to differences in salience or commitment. As show by Horwitz (2021) higher commitment to a worldview results in higher grades at both ends of the religiosity spectrum (highly religious & committed atheists), and considering the way HERI's religion question is posed ("none" as the only option) it could be picking up only the more committed "none" and who have higher grades, thereby closing the GPA gap between the groups.

### ***Religious Identity***

In chapter 2 I reviewed the evolution of religiosity throughout the history of U.S. higher education showing that the current cohorts are less religious than the students that preceded them, and that this aligned with the drop in religiosity of the U.S. population in general (Pew, 2019). However, there still persists a dominant negative worldview about atheists and non-religious students (Lipka, 2014; Nash, 2003). This dominant negative view of atheists and non-religious may help explain why the *t*-tests showed lower engagement efforts and satisfaction outcomes between for non-religious groups. In a world where non-religious students are part of an "out" group, they would perhaps be a dis-incentivized to engage and therefore less satisfied with their college experiences. This

interpretation would align with critical research theory of Christian privilege (Fairchild, 2009; Goodman et al., 2009; Patton et al, 2015; Seifert, 2007).

Findings from this study showing that being a non-religious student might lead to lower levels of engagement and satisfaction are aligned with previous research on non-religious students including: 1) the value of religious spaces on campus (Astin, 2011; Hurtado & Carter, 1997) as the religiously unaffiliated don't have those spaces on campus and don't have a chaplain; 2) Amadi's (2020) research into the negative implications for religious minorities in the face of a dominant majority on campus; 3) Bowman & Small's (2012) findings about diminished well-being of non-religious students makes sense when there is a minoritized group of students that is less engaged and less satisfied with their college experience; 4) Bowman & Medley's (2013) research showing that being a student with no religious affiliation is negatively related with overall university satisfaction, satisfaction with the university choice, satisfaction with the academic experience and satisfaction with the interpersonal relationships, while being Protestant is positively related to all of those; and 5) Swann's (2020) description of his experience at an HBCU where the intersection of his black and atheist identities made him feel as an outsider to the point that his book is titled "*A qualitative study of Black atheists: 'don't tell me you're one of those!'*".

### ***Academic Engagement***

The research on academic engagement discussed in chapter 2 aligns well with the findings of my study, with positive links shown between the academic engagement construct and GPA for both religious and non-religious students. This outcome is predicted by the literature on academic student engagement reviewed in Chapter 2 (Al

Rashidi, 2016; Lee, 2014; Mayhew et al., 2016; Pascarella & Terenzini, 2005; Pike & Kuh, 2006; Quaye et al., 2019; Reason et al., 2006). However, as described in Horwitz (2021) while her research found that the highly religious students tended to have high GPAs, there were committed non-religious students that also had high GPAs, she theorizes that commitment to a worldview impacts GPAs.

### ***Social Engagement***

The research on social engagement discussed in chapter 2 aligns well with the findings of my study, with positive links shown between the social engagement construct and GPA for both religious and non-religious students. This outcome is predicted by the literature on social student engagement reviewed in Chapter 2 (Kuh, 2003; Pascarella & Terenzini, 2005; Pike & Kuh, 2006; Reason et al., 2006).

Research by Hill (2009) indicates that increased involvement in religious activities on campus leads to increased academic attainment, this might help explain an interesting deviation in my findings where the social aspects of academic engagement of non-religious students lead to significantly higher levels in the social aspects of campus satisfaction when compared to religious students.

### ***Engagement with Faculty***

My findings show significant positive relationships between engagement with faculty and 1) the academic aspects of student satisfaction with the campus experience, 2) the social aspects of student satisfaction with the campus experience, 3) the overall campus climate, and 4) the student satisfaction with campus support services. This aligns with the literature that found that higher engagement with faculty results in better outcomes for students (Chen, 2012; Ehrenberg & Zhang, 2005; Porchea et al., 2010).

However, the lack of a strong positive relationship between faculty engagement and GPA in my findings is puzzling.

### **Implications for Practice**

This study has found that there are lower engagement and satisfaction outcomes for non-religious students (albeit with small to medium effect sizes). With the caveat that this study only measured relationships and does not determine causality, there are implications for practitioners who may want to improve outcomes for non-religious students, and for the student population overall. The number of non-religious students is growing as a percentage of the student population (Pew, 2019), which implies that the importance of these implications will continue to grow over time.

### ***Implications for Administrators***

That student satisfaction levels are important for administrators has long been recognized: “it is difficult to argue that student satisfaction can be legitimately subordinated to any other educational outcome” (Astin, 1993, p. 273). Student satisfaction lowers dropout rates (Schreiner & Nelson, 2013; Tinto, 1975; Tinto, 1994), increases loyalty to the institution (Alves & Raposo, 2007), and increases alumni giving (Clotfelter, 2003) and, albeit indirectly, all of these outcomes impact the university rankings such as the US News and World Report.

The relationships that were found might be useful for administrators who use student satisfaction as a metric (Duque, 2014); they should be aware that endorsing prayers, thanking God, and other daily, public expressions of faith, may be building barriers with the growing number of their non-religious students, and decreasing the level of satisfaction of those students with the institution (Bowman & Smedley, 2013). This

could be addressed by including religious bias as part of the staff's anti-bias training and by raising awareness of the generational gap in religious affiliation. For example, at my current institution many staff members were surprised to learn how high the percentage of religiously unaffiliated students really is.

College rites of passage such as orientation, commencement, or graduation often include a religious component, which administrators trend towards making multi-faith events (Gushee, 2013) with participation of college chaplains for various religious traditions. These ceremonies will better engage the large percentage of “nones” in the audience if they include a non-religious representative.

Forms used by higher education institutions to collect information on religious affiliation from students<sup>2</sup> should be reviewed to consider the growing number of spiritual-but-not-religious students, agnostics, and atheists by adding those options to the questionnaires in use. This will allow for a better interpretation of the data, that is used in many functional areas, including enrollment where student data is routinely analyzed from multiple points of view, but rarely split between religious and non-religious as noted by the Provost of a private university in Florida in a recent personal conversation.

For Diversity, Equity, and Inclusion (DEI) practitioners the leveling of the playing field for non-religious students should become a priority as evidence mounts that, contrary to oft-repeated claims (Edgell et al., 2016; Schroeder et al., 2018; Swan et al., 2012), it is the non-religious students that may be being discriminated (Nash, 2003) DEI practitioners should consider including the religiously unaffiliated students across their DEI work, for example, whenever chaplains are invited to be part of an institutional

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<sup>2</sup> For example, the religious question was dropped from the Common App in 2021 but colleges may choose to add it back in their college-specific supplement. (Steele, 2021)

ceremony or event, a representative of the religiously unaffiliated should be present too. Students that are spiritual but not religious, agnostics, or atheists should be treated as equals to other campus religious groups or organizations, they should be given equitable representation on campus (Bowman et al., 2017) and equal financial support.

### ***Implications for Faculty***

One important implication for practice is that Christian faculty may benefit from recognizing their privileged religious status. As white people are asked to consider their privileged position due to the racial history of the United States, Christian faculty should be aware of their privileged position. This could be addressed as part of existing anti-bias training for faculty, with the caveat that when these are optional it is not uncommon to see that the faculty that take these trainings are the ones that need it least.

The generational gap in religiosity, as described in chapter 1 (Pew, 2019), implies that students are probably less religious than faculty, and a large part of their students will be religiously unaffiliated. Raising awareness among the faculty of this religious gap could help faculty improve the quality of their engagements with non-religious students, especially considering that faculty are usually unaware of the religious affiliation of their students.

Faculty should be made aware that phrases like "thank God for saving XX's life", "our prayers for a speedy recovery", "thoughts and prayers", might not go down as well as they imagine they do when most of their students are non-religious.

### ***Implications for College Religious Organizations***

Religious authorities and organizations on campus (chaplains, inter-faith groups, etc.) should consider adding a non-religious campus leader to represent the voice of the

religiously unaffiliated students to the interfaith dialogues and activities. The existence of a non-religious student center or a non-religious “chaplain” who could counsel students that are struggling with their religious identity would provide a service analogous to the counselors at LGBTQ+ centers that help students deal with their sexual or gender identities. Non-religious college organizations should receive equal support and funding as is provided for religious organizations on campus, including facilities (buildings, meeting rooms, etc.).

### ***Implications for Students***

The lower engagement and satisfaction levels of non-religious students identified in this study is a problem that needs to be addressed. The proposals put forward earlier in this section can help institutions of higher education to improve the college experience of the religiously unaffiliated students, improving their academic and social engagement, as well as their engagement with faculty. Given the significant and positive relationship between engagement and satisfaction, an improvement in the engagement levels of religiously unaffiliated students should lead to raising their satisfaction levels in all aspects of their college experience. The engagement of non-religious students should be regularly measured and processes put in place to systematically improve their satisfaction levels.

### **Limitations**

Further to the limitations already mentioned in Chapter 1, during the research process other limitations became apparent. The HERI data measures the existence of religious affiliation, or lack thereof, but not its intensity or salience, chose a box to tick but we do not know how committed they are to that particular religion (or lack thereof)

Some research has indicated that commitment to a worldview impacts student's outcomes (Horwitz, 2021) with higher commitment at both ends of the religiosity spectrum resulting in better outcomes.

Herzog's (2011) finding that "Self-reported data on learning should be used with caution without reference to objective longitudinal data." (p. 37) is applicable to this dataset as it is based on self-reported student data, this limitation could be partially offset in future research if multiple years of CSS surveys are combined into a longitudinal study.

Some of the differences found in my study between the religious and non-religious groups were significant but had small effect sizes. Cheng & Marsh (2010) found that measuring student satisfaction in university ratings they are highly reliable and stable over time due to the large number of students, but the very small variance explained between the groups calls into question the usefulness of the information.

### **Future Research**

The most immediate recommendation for future research is to repeat this study using the HERI data from 2006 to 2021. This will provide a longitudinal study of this same topic and provide interesting data on the evolution of non-religious students' engagement and satisfaction over time.

Another question that should be addressed is the variation of engagement and satisfaction of graduate students depending on the institutional type. It would be interesting to see if there are variations between private and public institutions or between PWIs, HSIs, and HBCUs because a variation in the dominant ethnic or religious affiliation at the institution may impact how non-religious students are affected, as was

the case in Swann (2020) where his non-religiousness in a religious environment at an HBCU compounded the discrimination he felt as a black man in America.

Future research should consider if the choice of major affects the engagement and satisfaction of religious and non-religious students differently. Astin (1993) using earlier data from CIRP project, found differences by major in both satisfaction and engagement, which suggest this might be a fruitful research path, and it is intriguing to speculate that differences in satisfaction by major in subjects such as engineering might be partially explained by religious affiliation.

The current study is based on data from college seniors, but there may be differences from freshmen to seniors. Future research may consider this and it could lead to interesting recommendations for practitioners to consider at each year of higher education. For example, it would be interesting to see if retention efforts aimed at freshmen yield different results by religious affiliation.

Another interesting avenue of future research would be contrast the different types of “nones”, in particular differences in engagement and satisfaction between the three main groups of “nones”: agnostics, atheists and SBNRs.

Further research that addresses religiosity salience would address an important gap in the literature. *Religiosity Salience* is understood as the quantity and quality of effort a person dedicates to their worldview, both religious and non-religious people might be quiet or militant about their beliefs. Astin et. al (2011) are not alone in omitting to address the salience of religiosity, Cutting & Walsh (2008) reviewed 177 religiosity scales for constructs of religiosity, comparing their scale development questions, sample populations, and trends in newer scales without addressing the issue of salience. Contrary

to this dominant worldview some authors have been working on separating religious belief from religious salience (Abbasi et al., 2017; Ahmed & Salas, 2013; Hodge, 2003; Huber & Huber, 2012). Figure 3 illustrates this point by separating Religious Belief from Religious Salience on a matrix.

**Figure 3**

*Religious Belief/Salience Matrix*

|                        |                           |             |
|------------------------|---------------------------|-------------|
| Fervent Believers      | Inconspicuous Believers   | High Belief |
| Militant Non-Believers | Indifferent Non-Believers | Low Belief  |
| High Salience          | Low Salience              |             |

This distinction could be important across the different types of “nones” (atheists, agnostics, and SBNRs) and would be interesting to compare with Horwitz’s (2021) research who found that students who were more committed to their world views (high salience in figure 3) had better outcomes and higher GPAs. This idea that it is the *salience* of the worldview, not the *type* of worldview that makes the difference in student outcomes is especially intriguing.

## Conclusion

My study found that religiously unaffiliated students were significantly worse off in almost all aspects of their college experience (as shown in the *t*-tests), non-religious students are less engaged and less satisfied; however, this effect size is small/medium and does not affect their GPAs. When measuring the differences between the constructs in the SEM model, having already accounted for the lower engagement, my study found little

evidence that students' religious affiliation moderated the relationship between student engagement and student satisfaction.

Research of religion in college has focused almost exclusively on religious students, and changing demographics have generated a wide, and widening, gap in the research into non-religious college students. The engagement of non-religious students with peers, faculty, and staff often results in negative outcomes for the non-religious students including lower levels of satisfaction with their college experience. There is an opportunity for higher education institutions to improve the quality of the services they provide if they pay more attention to their religiously unaffiliated students.

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## Appendix A – Tables

**Table 1**

*Frequency of Sample by Gender, Ethnicity/Race, and Age.*

*Split by Religious Affiliation.*

| Variables       | <i>All Students</i> |          | <i>Religious</i> |          | <i>Non-Religious</i> |          |
|-----------------|---------------------|----------|------------------|----------|----------------------|----------|
|                 | <i>n</i>            | <i>%</i> | <i>n</i>         | <i>%</i> | <i>n</i>             | <i>%</i> |
| Gender          |                     |          |                  |          |                      |          |
| Female          | 10,626              | 65.8     | 8,980            | 67.3     | 1,507                | 59.4     |
| Male            | 5,521               | 34.2     | 4,367            | 32.7     | 1,029                | 40.6     |
| Total           | 16,147              | 100.0    | 13,347           | 100.0    | 2,536                | 100.0    |
| Ethnicity/Race  |                     |          |                  |          |                      |          |
| American Indian | 31                  | .2       | 30               | .2       | 1                    | .0       |
| Asian           | 847                 | 5.3      | 600              | 4.5      | 239                  | 9.5      |
| Black           | 497                 | 3.1      | 438              | 3.3      | 51                   | 2.0      |
| Hispanic        | 555                 | 3.4      | 495              | 3.7      | 55                   | 2.2      |
| White           | 12,999              | 80.5     | 10,911           | 81.7     | 1,975                | 78.2     |
| Other           | 278                 | 1.7      | 219              | 1.6      | 49                   | 1.9      |
| Two or more     | 772                 | 4.8      | 604              | 4.5      | 155                  | 6.1      |
| Total           | 16,148              | 100.0    | 13,297           | 100.0    | 2,525                | 100.0    |
| Age             |                     |          |                  |          |                      |          |
| 20 or younger   | 593                 | 3.7      | 502              | 3.8      | 86                   | 3.4      |
| 21              | 806                 | 5.1      | 671              | 5.1      | 124                  | 5.0      |
| 22              | 8,965               | 56.4     | 7,344            | 55.9     | 1,471                | 59.0     |
| 23              | 4,568               | 28.7     | 3,862            | 29.4     | 631                  | 25.3     |
| 24              | 600                 | 3.8      | 482              | 3.7      | 104                  | 4.2      |
| 25 or older     | 359                 | 2.1      | 276              | 2.1      | 77                   | 3.1      |
| Total           | 15,891              | 100.0    | 13,137           | 100.0%   | 2,493                | 100.0    |

**Table 2*****Frequency of Sample by Student's Religion, Father's Religion, and Mother's Religion***

| <i>Religion</i> | <i>Student</i> |          | <i>Father</i> |          | <i>Mother</i> |          |
|-----------------|----------------|----------|---------------|----------|---------------|----------|
|                 | <i>n</i>       | <i>%</i> | <i>n</i>      | <i>%</i> | <i>n</i>      | <i>%</i> |
| Protestant      | 7,345          | 46.2     | 6,996         | 46.5     | 7,471         | 48.8     |
| Roman Catholic  | 5,619          | 35.4     | 5,406         | 35.9     | 5,863         | 38.3     |
| Jewish          | 263            | 1.7      | 349           | 2.3      | 324           | 2.1      |
| Other           | 677            | 4.3      | 638           | 4.2      | 644           | 4.2      |
| None            | 1,987          | 12.5     | 1,671         | 11.1     | 995           | 6.5      |
| Total           | 15,891         | 100.0    | 15,060        | 100.0    | 15,297        | 100.0    |

**Table 3*****Undergraduate Grade Point Average. Split by Religious Affiliation.***

| <i>Variables</i>        | <i>All Students</i> |          | <i>Religious</i> |          | <i>Non-Religious</i> |          |
|-------------------------|---------------------|----------|------------------|----------|----------------------|----------|
|                         | <i>n</i>            | <i>%</i> | <i>n</i>         | <i>%</i> | <i>n</i>             | <i>%</i> |
| Undergraduate GPA       |                     |          |                  |          |                      |          |
| C- or less (below 1.75) | 9                   | .1       | 9                | .1       | 0                    | 0        |
| C (1.75 - 2.24)         | 188                 | 1.2      | 150              | 1.1      | 33                   | 1.3      |
| B-, C+ (2.25 - 2.74)    | 1,233               | 7.7      | 1,050            | 7.9      | 166                  | 6.5      |
| B (2.75 - 3.24)         | 4,556               | 28.5     | 3,803            | 28.5     | 698                  | 27.5     |
| A-, B+ (3.25 - 3.74)    | 6,870               | 43.0     | 5,644            | 42.3     | 1,145                | 45.1     |
| A (3.75-4.0)            | 3,134               | 19.6     | 2,617            | 19.6     | 480                  | 18.9     |
| Total                   | 15,990              | 100.0    | 13,273           | 100.0    | 2,522                | 100.0    |

## Tables 4 through 11:

### Descriptive Statistics of Variables in each Construct by Religious Affiliation

**Table 4 – Descriptive Statistics of Academic Engagement - Personal**

| <i>Academic Engagement - Personal</i>            | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|--------------------------------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                                                  | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| Act4: Came late to class                         | 16,055 | 2.19 | 0.58 | 13,286    | 2.21 | 0.57 | 2,528         | 2.14 | 0.59 |
| Act16: Failed to Complete homework on time       | 15,998 | 2.34 | 0.58 | 13,241    | 2.36 | 0.58 | 2,518         | 2.26 | 0.60 |
| Act17: Fell asleep in class                      | 15,955 | 2.52 | 0.59 | 13,206    | 2.53 | 0.58 | 2,511         | 2.44 | 0.62 |
| Act32: Felt bored in class                       | 16,066 | 1.76 | 0.49 | 13,294    | 1.77 | 0.49 | 2,527         | 1.72 | 0.50 |
| Act44: Overslept and missed class or appointment | 16,008 | 2.31 | 0.59 | 13,247    | 2.33 | 0.58 | 2,525         | 2.24 | 0.60 |

**Table 5 – Descriptive Statistics of Academic Engagement - Social**

| <i>Academic Engagement - Social</i>                           | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|---------------------------------------------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                                                               | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| Act 14: Discussed course content with students outside of     | 16,058 | 2.66 | 0.50 | 13,290    | 2.66 | 0.50 | 2,527         | 2.67 | 0.50 |
| Act 36: Met with an advisor/counselor about your career plans | 16,011 | 2.07 | 0.60 | 13,254    | 2.09 | 0.59 | 2,517         | 1.99 | 0.62 |
| Act 48: Performed community service as part of a class        | 15,989 | 1.65 | 0.67 | 13,232    | 1.68 | 0.67 | 2,514         | 1.50 | 0.63 |
| Act 55: Studied with other students                           | 16,021 | 2.37 | 0.57 | 13,262    | 2.39 | 0.56 | 2,521         | 2.30 | 0.59 |
| Act 60: Tutored Another College Student                       | 15,930 | 1.60 | 0.66 | 13,188    | 1.59 | 0.66 | 2,504         | 1.60 | 0.67 |
| Act 66: Used the library for research or homework             | 16,017 | 2.48 | 0.57 | 13,262    | 2.48 | 0.57 | 2,519         | 2.47 | 0.59 |
| Act 75: Worked on independent study projects                  | 15,883 | 1.91 | 0.76 | 13,145    | 1.90 | 0.76 | 2,505         | 1.94 | 0.76 |

**Table 6 – Descriptive Statistics of Engagement with Faculty**

| <i>Engagement with Faculty</i>                                     | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|--------------------------------------------------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                                                                    | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| 01: A letter of recommendation                                     | 15,839 | 2.12 | 0.72 | 13,208    | 2.13 | 0.72 | 2,503         | 2.07 | 0.74 |
| 02: Advice and guidance about your educational program             | 15,850 | 2.26 | 0.63 | 13,218    | 2.27 | 0.63 | 2,503         | 2.18 | 0.66 |
| 03: An opportunity to apply classroom learning to 'real-life' issu | 15,792 | 2.26 | 0.62 | 13,173    | 2.28 | 0.61 | 2,492         | 2.15 | 0.64 |
| 04: An opportunity to discuss coursework outside of class          | 15,825 | 2.38 | 0.60 | 13,193    | 2.39 | 0.60 | 2,503         | 2.35 | 0.63 |
| 06: An opportunity to work on a research project                   | 15,841 | 1.97 | 0.74 | 13,212    | 1.97 | 0.74 | 2,502         | 1.95 | 0.75 |
| 08: Emotional support and encouragement                            | 15,840 | 2.13 | 0.70 | 13,210    | 2.15 | 0.69 | 2,502         | 2.00 | 0.72 |
| 10: Encouragement to pursue graduate/professional study            | 15,865 | 2.27 | 0.70 | 13,231    | 2.28 | 0.70 | 2,505         | 2.20 | 0.73 |
| 11: Feedback about your academic work (outside of grades)          | 15,827 | 2.21 | 0.66 | 13,201    | 2.22 | 0.65 | 2,499         | 2.17 | 0.68 |
| 13: Help in achieving your professional goals                      | 15,829 | 2.17 | 0.67 | 13,198    | 2.19 | 0.67 | 2,504         | 2.05 | 0.70 |
| 14: Help to improve your study skills                              | 15,840 | 1.87 | 0.67 | 13,210    | 1.89 | 0.66 | 2,501         | 1.77 | 0.67 |
| 16: Intellectual challenge and stimulation                         | 15,827 | 2.44 | 0.59 | 13,199    | 2.44 | 0.58 | 2,500         | 2.42 | 0.60 |

**Table 7 – Descriptive Statistics of Campus Climate**

| <i>Campus Climate</i>                            | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|--------------------------------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                                                  | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| Climate 1: Friendly/Hostile                      | 15,912 | 4.14 | 0.78 | 13,261    | 4.18 | 0.77 | 2,519         | 3.94 | 0.83 |
| Climate 2: Socially Inclusive/Socially Exclusive | 15,863 | 3.40 | 0.97 | 13,220    | 3.43 | 0.97 | 2,514         | 3.22 | 1.00 |
| Climate 3: Improving/Worsening                   | 15,801 | 3.56 | 1.11 | 13,163    | 3.57 | 1.11 | 2,508         | 3.49 | 1.11 |
| Climate 6: Intolerant of Diversity               | 15,869 | 3.75 | 1.01 | 13,235    | 3.81 | 1.00 | 2,505         | 3.46 | 1.02 |
| Climate 7: Impersonal/Caring                     | 15,855 | 3.73 | 0.94 | 13,217    | 3.77 | 0.92 | 2,508         | 3.50 | 0.97 |

**Table 8 – Descriptive Statistics of Campus Satisfaction - Academic**

| <i>Campus Satisfaction - Academic</i>              | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|----------------------------------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                                                    | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| 1: Amount of contact with faculty                  | 15,973 | 3.25 | 0.75 | 13,287    | 3.26 | 0.74 | 2,522         | 3.18 | 0.82 |
| 3: Class size                                      | 15,947 | 3.35 | 0.71 | 13,264    | 3.37 | 0.69 | 2,518         | 3.26 | 0.78 |
| 4: Courses in your major field                     | 15,985 | 3.25 | 0.78 | 13,293    | 3.26 | 0.77 | 2,526         | 3.20 | 0.81 |
| 7: Overall quality of instruction                  | 15,927 | 3.18 | 0.69 | 13,256    | 3.19 | 0.68 | 2,512         | 3.16 | 0.73 |
| 9: Relevance of coursework to everyday life        | 15,955 | 2.87 | 0.78 | 13,277    | 2.88 | 0.77 | 2,517         | 2.78 | 0.80 |
| 10: Relevance of coursework to future career plans | 15,962 | 2.95 | 0.84 | 13,274    | 2.97 | 0.83 | 2,524         | 2.84 | 0.88 |

**Table 9 – Descriptive Statistics of Campus Satisfaction - Social**

| <i>Campus Satisfaction - Social</i>               | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|---------------------------------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                                                   | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| 2: Availability of campus social activities       | 15,935 | 2.81 | 0.87 | 13,264    | 2.84 | 0.86 | 2,511         | 2.63 | 0.90 |
| 5: Interaction with other students                | 15,934 | 3.27 | 0.70 | 13,249    | 3.29 | 0.68 | 2,521         | 3.13 | 0.77 |
| 6: Overall college experience                     | 15,938 | 3.23 | 0.75 | 13,255    | 3.26 | 0.74 | 2,522         | 3.08 | 0.80 |
| 8: Overall sense of community among students      | 15,947 | 2.97 | 0.87 | 13,265    | 3.02 | 0.85 | 2,520         | 2.74 | 0.94 |
| 11: Respect for the expression of diverse beliefs | 15,895 | 2.93 | 0.84 | 13,226    | 2.95 | 0.83 | 2,511         | 2.83 | 0.90 |

**Table 10 – Descriptive Statistics of Student Satisfaction with Support Services**

| <i>Student Satisfaction</i>                    | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|------------------------------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                                                | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| 1: Ability to find a faculty or staff mentor   | 14,925 | 2.93 | 0.82 | 12,436    | 2.94 | 0.81 | 2,319         | 2.88 | 0.85 |
| 2: Academic advising                           | 15,606 | 2.70 | 0.95 | 13,000    | 2.72 | 0.95 | 2,418         | 2.59 | 0.98 |
| 5: Campus health services                      | 13,913 | 2.44 | 0.93 | 11,517    | 2.46 | 0.93 | 2,226         | 2.37 | 0.95 |
| 6: Career counseling and advising              | 14,316 | 2.57 | 0.93 | 11,934    | 2.61 | 0.93 | 2,202         | 2.40 | 0.95 |
| 13: Financial aid services                     | 13,656 | 2.54 | 0.91 | 11,447    | 2.54 | 0.90 | 2,044         | 2.53 | 0.92 |
| 18: Job placement services for students        | 12,701 | 2.38 | 0.91 | 10,594    | 2.41 | 0.91 | 1,948         | 2.24 | 0.91 |
| 20: Leadership opportunities                   | 14,131 | 2.90 | 0.78 | 11,890    | 2.92 | 0.78 | 2,076         | 2.80 | 0.80 |
| 22: Opportunities for community service        | 13,813 | 2.86 | 0.81 | 11,635    | 2.88 | 0.81 | 2,009         | 2.73 | 0.82 |
| 30: Recreational facilities                    | 15,183 | 2.78 | 0.92 | 12,649    | 2.78 | 0.92 | 2,354         | 2.74 | 0.93 |
| 35: Student housing                            | 14,718 | 2.53 | 0.93 | 12,228    | 2.55 | 0.92 | 2,311         | 2.43 | 0.96 |
| 36: Tutorial help or other academic assistance | 12,272 | 2.73 | 0.78 | 10,332    | 2.74 | 0.77 | 1,792         | 2.67 | 0.79 |

**Table 11 – Descriptive Statistics of Academic Performance (GPA)**

| <i>Academic Performance</i> | Total  |      |      | Religious |      |      | Non-Religious |      |      |
|-----------------------------|--------|------|------|-----------|------|------|---------------|------|------|
|                             | n      | M    | SD   | n         | M    | SD   | n             | M    | SD   |
| GPA                         | 15,990 | 4.72 | 0.91 | 13,273    | 4.72 | 0.91 | 2,522         | 4.74 | 0.88 |

**Tables 12 through 18:****Correlations of Variables within each Construct by Religious Affiliation*****Table 12 – Correlations of Variables for Academic Engagement - Personal***

| <i>Correlation Among Variables for Academic Engagement - Personal</i>                              |        |        |        |        |    |
|----------------------------------------------------------------------------------------------------|--------|--------|--------|--------|----|
|                                                                                                    | 4      | 16     | 17     | 32     | 44 |
| Act 4: Came late to class                                                                          |        |        |        |        |    |
| Act 16: Failed to complete homework on time                                                        | 0.35** |        |        |        |    |
| Act 17: Fell asleep in class                                                                       | 0.29** | 0.23** |        |        |    |
| Act 32: Felt bored in class                                                                        | 0.24** | 0.23** | 0.25** |        |    |
| Act 44: Overslept and missed class or appointment                                                  | 0.44** | 0.39** | 0.31** | 0.23** |    |
| <i>Correlation Among Variables for Academic Engagement - Personal - for Religious Students</i>     |        |        |        |        |    |
|                                                                                                    | 4      | 16     | 17     | 32     | 44 |
| Act 4: Came late to class                                                                          |        |        |        |        |    |
| Act 16: Failed to complete homework on time                                                        | 0.34** |        |        |        |    |
| Act 17: Fell asleep in class                                                                       | 0.24** | 0.22** |        |        |    |
| Act 32: Felt bored in class                                                                        | 0.24** | 0.23** | 0.24** |        |    |
| Act 44: Overslept and missed class or appointment                                                  | 0.43** | 0.39** | 0.30** | 0.23** |    |
| <i>Correlation Among Variables for Academic Engagement - Personal - for Non-Religious Students</i> |        |        |        |        |    |
|                                                                                                    | 4      | 16     | 17     | 32     | 44 |
| Act 4: Came late to class                                                                          |        |        |        |        |    |
| Act 16: Failed to complete homework on time                                                        | 0.37** |        |        |        |    |
| Act 17: Fell asleep in class                                                                       | 0.35** | 0.23** |        |        |    |
| Act 32: Felt bored in class                                                                        | 0.25** | 0.24** | 0.30** |        |    |
| Act 44: Overslept and missed class or appointment                                                  | 0.45** | 0.40** | 0.33** | 0.23** |    |

Note. \*  $p < .05$ ; \*\*  $p < .01$

**Table 13 – Correlations of Variables for Academic Engagement - Social*****Correlation Among Variables - Academic Engagement - Social***

|                                                                 | 14     | 36     | 48     | 55     | 60     | 66     | 75 |
|-----------------------------------------------------------------|--------|--------|--------|--------|--------|--------|----|
| Act 14: Discussed course content with students outside of class |        |        |        |        |        |        |    |
| Act 36: Met with an advisor/counselor about your career plans   | 0.14** |        |        |        |        |        |    |
| Act 48: Performed community service as part of a class          | 0.09** | 0.15** |        |        |        |        |    |
| Act 55: Studied with other students                             | 0.29** | 0.17** | 0.20** |        |        |        |    |
| Act 60: Tutored Another College Student                         | 0.15** | 0.17** | 0.11** | 0.16** |        |        |    |
| Act 66: Used the library for research or homework               | 0.15** | 0.14** | 0.10** | 0.14** | 0.06** |        |    |
| Act 75: Worked on independent study projects                    | 0.10** | 0.13** | 0.11** | 0.06** | 0.12** | 0.09** |    |

***Correlation Among Variables - Academic Engagement - Social - for Religious Students***

|                                                                 | 14     | 36     | 48     | 55     | 60     | 66     | 75 |
|-----------------------------------------------------------------|--------|--------|--------|--------|--------|--------|----|
| Act 14: Discussed course content with students outside of class |        |        |        |        |        |        |    |
| Act 36: Met with an advisor/counselor about your career plans   | 0.14** |        |        |        |        |        |    |
| Act 48: Performed community service as part of a class          | 0.10** | 0.15** |        |        |        |        |    |
| Act 55: Studied with other students                             | 0.30** | 0.16** | 0.20** |        |        |        |    |
| Act 60: Tutored Another College Student                         | 0.15** | 0.17** | 0.11** | 0.16** |        |        |    |
| Act 66: Used the library for research or homework               | 0.15** | 0.14** | 0.09** | 0.14** | 0.06** |        |    |
| Act 75: Worked on independent study projects                    | 0.10** | 0.13** | 0.10** | 0.06** | 0.11** | 0.08** |    |

***Correlation Among Variables - Academic Engagement - Social - for Non-Religious Students***

|                                                                 | 14     | 36     | 48     | 55     | 60     | 66     | 75 |
|-----------------------------------------------------------------|--------|--------|--------|--------|--------|--------|----|
| Act 14: Discussed course content with students outside of class |        |        |        |        |        |        |    |
| Act 36: Met with an advisor/counselor about your career plans   | 0.15** |        |        |        |        |        |    |
| Act 48: Performed community service as part of a class          | 0.09** | 0.13** |        |        |        |        |    |
| Act 55: Studied with other students                             | 0.30** | 0.17** | 0.19** |        |        |        |    |
| Act 60: Tutored Another College Student                         | 0.16** | 0.20** | 0.12** | 0.17** |        |        |    |
| Act 66: Used the library for research or homework               | 0.17** | 0.14** | 0.12** | 0.14** | 0.05*  |        |    |
| Act 75: Worked on independent study projects                    | 0.15** | 0.13** | 0.14** | 0.07** | 0.17** | 0.15** |    |

Note. \* p<0.05; \*\* p<.01

**Table 14 – Correlations of Variables for Engagement with Faculty**

| <b>Correlation Among Variables - Engagement with Faculty</b>                              |        |        |        |        |        |        |        |        |        |        |    |
|-------------------------------------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| Faculty Provide:                                                                          | 1      | 2      | 3      | 4      | 6      | 8      | 10     | 11     | 13     | 14     | 16 |
| 01: A letter of recommendation                                                            |        |        |        |        |        |        |        |        |        |        |    |
| 02: Advice and guidance about your educational program                                    | 0.43** |        |        |        |        |        |        |        |        |        |    |
| 03: An opportunity to apply classroom learning to 'real-life' issues                      | 0.34** | 0.45** |        |        |        |        |        |        |        |        |    |
| 04: An opportunity to discuss coursework outside of class                                 | 0.34** | 0.43** | 0.45** |        |        |        |        |        |        |        |    |
| 06: An opportunity to work on a research project                                          | 0.32** | 0.45** | 0.30** | 0.29** |        |        |        |        |        |        |    |
| 08: Emotional support and encouragement                                                   | 0.45** | 0.55** | 0.44** | 0.41** | 0.33** |        |        |        |        |        |    |
| 10: Encouragement to pursue graduate/professional study                                   | 0.45** | 0.53** | 0.37** | 0.38** | 0.42** | 0.45** |        |        |        |        |    |
| 11: Feedback about your academic work (outside of grades)                                 | 0.39** | 0.47** | 0.43** | 0.51** | 0.31** | 0.47** | 0.39** |        |        |        |    |
| 13: Help in achieving your professional goals                                             | 0.48** | 0.56** | 0.57** | 0.51** | 0.37** | 0.53** | 0.50** | 0.50** |        |        |    |
| 14: Help to improve your study skills                                                     | 0.37** | 0.39** | 0.39** | 0.35** | 0.32** | 0.43** | 0.33** | 0.49** | 0.44** |        |    |
| 16: Intellectual challenge and stimulation                                                | 0.34** | 0.44** | 0.43** | 0.55** | 0.30** | 0.41** | 0.39** | 0.51** | 0.46** | 0.33** |    |
| <b>Correlation Among Variables - Engagement with Faculty - for Religious Students</b>     |        |        |        |        |        |        |        |        |        |        |    |
| Faculty Provide:                                                                          | 1      | 2      | 3      | 4      | 6      | 8      | 10     | 11     | 13     | 14     | 16 |
| 01: A letter of recommendation                                                            |        |        |        |        |        |        |        |        |        |        |    |
| 02: Advice and guidance about your educational program                                    | 0.42** |        |        |        |        |        |        |        |        |        |    |
| 03: An opportunity to apply classroom learning to 'real-life' issues                      | 0.33** | 0.45** |        |        |        |        |        |        |        |        |    |
| 04: An opportunity to discuss coursework outside of class                                 | 0.34** | 0.42** | 0.44** |        |        |        |        |        |        |        |    |
| 06: An opportunity to work on a research project                                          | 0.31** | 0.44** | 0.29** | 0.29** |        |        |        |        |        |        |    |
| 08: Emotional support and encouragement                                                   | 0.45** | 0.55** | 0.44** | 0.40** | 0.32** |        |        |        |        |        |    |
| 10: Encouragement to pursue graduate/professional study                                   | 0.44** | 0.52** | 0.36** | 0.37** | 0.41** | 0.44** |        |        |        |        |    |
| 11: Feedback about your academic work (outside of grades)                                 | 0.38** | 0.47** | 0.43** | 0.50** | 0.31** | 0.46** | 0.38** |        |        |        |    |
| 13: Help in achieving your professional goals                                             | 0.48** | 0.55** | 0.57** | 0.51** | 0.36** | 0.52** | 0.50** | 0.50** |        |        |    |
| 14: Help to improve your study skills                                                     | 0.37** | 0.39** | 0.38** | 0.36** | 0.32** | 0.43** | 0.33** | 0.49** | 0.44** |        |    |
| 16: Intellectual challenge and stimulation                                                | 0.34** | 0.43** | 0.43** | 0.54** | 0.29** | 0.40** | 0.38** | 0.50** | 0.46** | 0.33** |    |
| <b>Correlation Among Variables - Engagement with Faculty - for Non-Religious Students</b> |        |        |        |        |        |        |        |        |        |        |    |
| Faculty Provide:                                                                          | 1      | 2      | 3      | 4      | 6      | 8      | 10     | 11     | 13     | 14     | 16 |
| 01: A letter of recommendation                                                            |        |        |        |        |        |        |        |        |        |        |    |
| 02: Advice and guidance about your educational program                                    | 0.45** |        |        |        |        |        |        |        |        |        |    |
| 03: An opportunity to apply classroom learning to 'real-life' issues                      | 0.36** | 0.45** |        |        |        |        |        |        |        |        |    |
| 04: An opportunity to discuss coursework outside of class                                 | 0.33** | 0.46** | 0.47** |        |        |        |        |        |        |        |    |
| 06: An opportunity to work on a research project                                          | 0.37** | 0.50** | 0.35** | 0.31** |        |        |        |        |        |        |    |
| 08: Emotional support and encouragement                                                   | 0.46** | 0.56** | 0.43** | 0.44** | 0.37** |        |        |        |        |        |    |
| 10: Encouragement to pursue graduate/professional study                                   | 0.47** | 0.57** | 0.41** | 0.39** | 0.48** | 0.48** |        |        |        |        |    |
| 11: Feedback about your academic work (outside of grades)                                 | 0.41** | 0.51** | 0.45** | 0.52** | 0.33** | 0.49** | 0.40** |        |        |        |    |
| 13: Help in achieving your professional goals                                             | 0.50** | 0.59** | 0.59** | 0.51** | 0.42** | 0.54** | 0.54** | 0.51** |        |        |    |
| 14: Help to improve your study skills                                                     | 0.36** | 0.41** | 0.41** | 0.35** | 0.33** | 0.46** | 0.33** | 0.49** | 0.45** |        |    |
| 16: Intellectual challenge and stimulation                                                | 0.35** | 0.46** | 0.43** | 0.57** | 0.35** | 0.44** | 0.42** | 0.52** | 0.45** | 0.31** |    |

Note. \* p&lt;0.05; \*\* p&lt;.01

**Table 15 – Correlations of Variables for Campus Climate**

| <b><i>Correlation Among Variables - Campus Climate</i></b>                              |        |        |        |        |   |
|-----------------------------------------------------------------------------------------|--------|--------|--------|--------|---|
|                                                                                         | 1      | 2      | 3      | 6      | 7 |
| Climate 1: Friendly/Hostile                                                             |        |        |        |        |   |
| Climate 2: Socially Inclusive/Socially Exclusive                                        | 0.52** |        |        |        |   |
| Climate 3: Improving/Worsening                                                          | 0.46** | 0.36** |        |        |   |
| Climate 6: Intolerant of Diversity                                                      | 0.19** | 0.18** | 0.17** |        |   |
| Climate 7: Impersonal/Caring                                                            | 0.47** | 0.26** | 0.35** | 0.38** |   |
| <b><i>Correlation Among Variables - Campus Climate - for Religious Students</i></b>     |        |        |        |        |   |
|                                                                                         | 1      | 2      | 3      | 6      | 7 |
| Climate 1: Friendly/Hostile                                                             |        |        |        |        |   |
| Climate 2: Socially Inclusive/Socially Exclusive                                        | 0.50** |        |        |        |   |
| Climate 3: Improving/Worsening                                                          | 0.19** | 0.18** |        |        |   |
| Climate 6: Intolerant of Diversity                                                      | 0.47** | 0.26** | 0.33** |        |   |
| Climate 7: Impersonal/Caring                                                            | 0.46** | 0.36** | 0.18** | 0.38** |   |
| <b><i>Correlation Among Variables - Campus Climate - for Non-Religious Students</i></b> |        |        |        |        |   |
|                                                                                         | 1      | 2      | 3      | 6      | 7 |
| Climate 1: Friendly/Hostile                                                             |        |        |        |        |   |
| Climate 2: Socially Inclusive/Socially Exclusive                                        | 0.55** |        |        |        |   |
| Climate 3: Improving/Worsening                                                          | 0.20** | 0.25** |        |        |   |
| Climate 6: Intolerant of Diversity                                                      | 0.48** | 0.33** | 0.28** |        |   |
| Climate 7: Impersonal/Caring                                                            | 0.41** | 0.34** | 0.16** | 0.37** |   |

Note. \*  $p < 0.05$ ; \*\*  $p < 0.01$

**Table 16 – Correlations of Variables for Campus Satisfaction – Academic*****Correlation Among Variables - Campus Satisfaction - Academic***

|                                                    | 1      | 3      | 4      | 7      | 9      | 10 |
|----------------------------------------------------|--------|--------|--------|--------|--------|----|
| 1: Amount of contact with faculty                  |        |        |        |        |        |    |
| 3: Class size                                      | 0.61** |        |        |        |        |    |
| 4: Courses in your major field                     | 0.51** | 0.36** |        |        |        |    |
| 7: Overall quality of instruction                  | 0.55** | 0.45** | 0.53** |        |        |    |
| 9: Relevance of coursework to everyday life        | 0.45** | 0.41** | 0.44** | 0.51** |        |    |
| 10: Relevance of coursework to future career plans | 0.43** | 0.35** | 0.49** | 0.51** | 0.64** |    |

***Correlation Among Variables - Campus Satisfaction - Academic - for Religious Students***

|                                                    | 1      | 3      | 4      | 7      | 9      | 10 |
|----------------------------------------------------|--------|--------|--------|--------|--------|----|
| 1: Amount of contact with faculty                  |        |        |        |        |        |    |
| 3: Class size                                      | 0.60** |        |        |        |        |    |
| 4: Courses in your major field                     | 0.51** | 0.36** |        |        |        |    |
| 7: Overall quality of instruction                  | 0.54** | 0.45** | 0.54** |        |        |    |
| 9: Relevance of coursework to everyday life        | 0.45** | 0.40** | 0.45** | 0.51** |        |    |
| 10: Relevance of coursework to future career plans | 0.43** | 0.35** | 0.49** | 0.51** | 0.64** |    |

***Correlation Among Variables - Campus Satisfaction - Academic - for Non-Religious Students***

|                                                    | 1      | 3      | 4      | 7      | 9      | 10 |
|----------------------------------------------------|--------|--------|--------|--------|--------|----|
| 1: Amount of contact with faculty                  |        |        |        |        |        |    |
| 3: Class size                                      | 0.64** |        |        |        |        |    |
| 4: Courses in your major field                     | 0.49** | 0.35** |        |        |        |    |
| 7: Overall quality of instruction                  | 0.55** | 0.46** | 0.52** |        |        |    |
| 9: Relevance of coursework to everyday life        | 0.44** | 0.41** | 0.41** | 0.51** |        |    |
| 10: Relevance of coursework to future career plans | 0.42** | 0.33** | 0.47** | 0.51** | 0.61** |    |

Note. \* p<05; \*\* p<.01

**Table 17 – Correlations of Variables for Campus Satisfaction - Social**

| <b><i>Correlation Among Variables - Campus Satisfaction - Social</i></b>                            |        |        |        |        |    |
|-----------------------------------------------------------------------------------------------------|--------|--------|--------|--------|----|
|                                                                                                     | 2      | 5      | 6      | 8      | 11 |
| 2: Availability of campus social activities                                                         |        |        |        |        |    |
| 5: Interaction with other students                                                                  | 0.41** |        |        |        |    |
| 6: Overall college experience                                                                       | 0.54** | 0.48** |        |        |    |
| 8: Overall sense of community among students                                                        | 0.59** | 0.56** | 0.56** |        |    |
| 11: Respect for the expression of diverse beliefs                                                   | 0.36** | 0.31** | 0.41** | 0.37** |    |
| <b><i>Correlation Among Variables - Campus Satisfaction - Social for Religious Students</i></b>     |        |        |        |        |    |
|                                                                                                     | 2      | 5      | 6      | 8      | 11 |
| 2: Availability of campus social activities                                                         |        |        |        |        |    |
| 5: Interaction with other students                                                                  | 0.40** |        |        |        |    |
| 6: Overall college experience                                                                       | 0.53** | 0.47** |        |        |    |
| 8: Overall sense of community among students                                                        | 0.59** | 0.55** | 0.56** |        |    |
| 11: Respect for the expression of diverse beliefs                                                   | 0.36** | 0.31** | 0.41** | 0.37** |    |
| <b><i>Correlation Among Variables - Campus Satisfaction - Social for Non-Religious Students</i></b> |        |        |        |        |    |
|                                                                                                     | 2      | 5      | 6      | 8      | 11 |
| 2: Availability of campus social activities                                                         |        |        |        |        |    |
| 5: Interaction with other students                                                                  | 0.41** |        |        |        |    |
| 6: Overall college experience                                                                       | 0.55** | 0.49** |        |        |    |
| 8: Overall sense of community among students                                                        | 0.59** | 0.58** | 0.52** |        |    |
| 11: Respect for the expression of diverse beliefs                                                   | 0.35** | 0.28** | 0.44** | 0.35** |    |
| Note. * p<05; ** p<.01                                                                              |        |        |        |        |    |

**Table 18 – Correlations of Variables for Student Satisfaction with Support Services*****Correlation Among Variables - Student Satisfaction***

|                                                | 1      | 2      | 5      | 6      | 13     | 18     | 20     | 22     | 30     | 35     | 36 |
|------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| 1: Ability to find a faculty or staff mentor   |        |        |        |        |        |        |        |        |        |        |    |
| 2: Academic advising                           | 0.43** |        |        |        |        |        |        |        |        |        |    |
| 5: Campus health services                      | 0.29** | 0.20** |        |        |        |        |        |        |        |        |    |
| 6: Career counseling and advising              | 0.33** | 0.55** | 0.25** |        |        |        |        |        |        |        |    |
| 13: Financial aid services                     | 0.27** | 0.25** | 0.25** | 0.29** |        |        |        |        |        |        |    |
| 18: Job placement services for students        | 0.30** | 0.29** | 0.32** | 0.53** | 0.33** |        |        |        |        |        |    |
| 20: Leadership opportunities                   | 0.50** | 0.29** | 0.25** | 0.32** | 0.26** | 0.36** |        |        |        |        |    |
| 22: Opportunities for community service        | 0.34** | 0.23** | 0.24** | 0.27** | 0.30** | 0.38** | 0.51** |        |        |        |    |
| 30: Recreational facilities                    | 0.29** | 0.21** | 0.26** | 0.23** | 0.24** | 0.27** | 0.40** | 0.27** |        |        |    |
| 35: Student housing                            | 0.28** | 0.26** | 0.26** | 0.29** | 0.38** | 0.29** | 0.36** | 0.29** | 0.29** |        |    |
| 36: Tutorial help or other academic assistance | 0.38** | 0.42** | 0.28** | 0.39** | 0.29** | 0.34** | 0.38** | 0.34** | 0.30** | 0.30** |    |

***Correlation Among Variables - Student Satisfaction for Religious Students***

|                                                | 1      | 2      | 5      | 6      | 13     | 18     | 20     | 22     | 30     | 35     | 36 |
|------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| 1: Ability to find a faculty or staff mentor   |        |        |        |        |        |        |        |        |        |        |    |
| 2: Academic advising                           | 0.42** |        |        |        |        |        |        |        |        |        |    |
| 5: Campus health services                      | 0.29** | 0.20** |        |        |        |        |        |        |        |        |    |
| 6: Career counseling and advising              | 0.33** | 0.56** | 0.25** |        |        |        |        |        |        |        |    |
| 13: Financial aid services                     | 0.26** | 0.25** | 0.26** | 0.29** |        |        |        |        |        |        |    |
| 18: Job placement services for students        | 0.30** | 0.29** | 0.32** | 0.52** | 0.32** |        |        |        |        |        |    |
| 20: Leadership opportunities                   | 0.50** | 0.29** | 0.25** | 0.31** | 0.25** | 0.35** |        |        |        |        |    |
| 22: Opportunities for community service        | 0.35** | 0.23** | 0.24** | 0.26** | 0.30** | 0.38** | 0.51** |        |        |        |    |
| 30: Recreational facilities                    | 0.29** | 0.21** | 0.26** | 0.23** | 0.24** | 0.26** | 0.39** | 0.28** |        |        |    |
| 35: Student housing                            | 0.28** | 0.26** | 0.26** | 0.29** | 0.38** | 0.29** | 0.31** | 0.28** | 0.29** |        |    |
| 36: Tutorial help or other academic assistance | 0.39** | 0.42** | 0.27** | 0.39** | 0.28** | 0.33** | 0.38** | 0.34** | 0.29** | 0.30** |    |

***Correlation Among Variables - Student Satisfaction for Non-Religious Students***

|                                                | 1      | 2      | 5      | 6      | 13     | 18     | 20     | 22     | 30     | 35     | 36 |
|------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| 1: Ability to find a faculty or staff mentor   |        |        |        |        |        |        |        |        |        |        |    |
| 2: Academic advising                           | 0.44** |        |        |        |        |        |        |        |        |        |    |
| 5: Campus health services                      | 0.27** | 0.20** |        |        |        |        |        |        |        |        |    |
| 6: Career counseling and advising              | 0.32** | 0.52** | 0.24** |        |        |        |        |        |        |        |    |
| 13: Financial aid services                     | 0.28** | 0.25** | 0.22** | 0.31** |        |        |        |        |        |        |    |
| 18: Job placement services for students        | 0.25** | 0.26** | 0.27** | 0.56** | 0.34** |        |        |        |        |        |    |
| 20: Leadership opportunities                   | 0.49** | 0.28** | 0.23** | 0.32** | 0.27** | 0.35** |        |        |        |        |    |
| 22: Opportunities for community service        | 0.33** | 0.22** | 0.21** | 0.28** | 0.31** | 0.37** | 0.48** |        |        |        |    |
| 30: Recreational facilities                    | 0.28** | 0.20** | 0.25** | 0.22** | 0.24** | 0.24** | 0.41** | 0.24** |        |        |    |
| 35: Student housing                            | 0.25** | 0.24** | 0.23** | 0.26** | 0.38** | 0.25** | 0.32** | 0.27** | 0.28** |        |    |
| 36: Tutorial help or other academic assistance | 0.36** | 0.42** | 0.28** | 0.38** | 0.30** | 0.35** | 0.39** | 0.35** | 0.32** | 0.30** |    |

Note. \* p&lt;0.05; \*\* p&lt;.01

## Tables 19 through 26:

### *t*-Tests for Variables within each Construct by Religious Affiliation

**Table 19 – *t*-Test of Variables for Academic Engagement – Personal by Religious affiliation**

| Academic Engagement - Personal            | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's <i>d</i> |
|-------------------------------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|------------------|
|                                           | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                  |
| Came late to class                        | 2528          | 2.14     | 0.59      | 13286     | 2.21     | 0.57      | -5.26    | 3490      | <.01     | -0.12            |
| Failed to complete homework on time       | 2518          | 2.26     | 0.6       | 13241     | 2.36     | 0.58      | -7.59    | 3468      | <.01     | -0.12            |
| Fell asleep in class                      | 2511          | 2.44     | 0.62      | 13206     | 2.53     | 0.58      | -6.72    | 3340      | <.01     | -0.15            |
| Felt bored in class                       | 2527          | 1.72     | 0.5       | 13294     | 1.77     | 0.49      | -4.12    | 3490      | <.01     | -0.09            |
| Overslept and missed class or appointment | 2525          | 2.24     | 0.6       | 13247     | 2.33     | 0.58      | -6.39    | 3494      | <.01     | -0.14            |

**Table 20 – *t*-Test of Variables for Academic Engagement – Social by Religious Affiliation**

| Academic Engagement - Social                            | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's <i>d</i> |
|---------------------------------------------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|------------------|
|                                                         | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                  |
| Discussed course content with students outside of class | 2527          | 2.67     | 0.5       | 13290     | 2.66     | 0.5       | 0.73     | 15815     | 0.47     | 0.02             |
| Met with an advisor/counselor about your career plans   | 2517          | 1.99     | 0.62      | 13254     | 2.09     | 0.59      | -7.09    | 3456      | <.01     | -0.16            |
| Performed community services as part of a class         | 2514          | 1.5      | 0.67      | 13232     | 1.68     | 0.67      | -13.1    | 3688      | <.01     | -0.27            |
| Studied with other students                             | 2521          | 2.3      | 0.59      | 13262     | 2.39     | 0.56      | -7       | 3459      | <.01     | -0.16            |
| Tutored another college student                         | 2504          | 1.6      | 0.67      | 13188     | 1.59     | 0.66      | 0.54     | 15781     | <.01     | 0.01             |
| Used the library for research or homework               | 2519          | 2.47     | 0.59      | 13262     | 2.48     | 0.57      | -0.76    | 3468      | 0.45     | -0.02            |
| Worked on independent study project                     | 2505          | 1.94     | 0.76      | 13145     | 1.9      | 0.76      | 2.39     | 3540      | 0.02     | 0.05             |

**Table 21 – *t*-Test of Variables for Engagement with Faculty by Religious Affiliation**

| Faculty Provide:                                                 | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's <i>d</i> |
|------------------------------------------------------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|------------------|
|                                                                  | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                  |
| A letter of Recommendation                                       | 2503          | 2.07     | 0.74      | 13208     | 2.13     | 0.72      | -3.68    | 15709     | <.01     | -0.08            |
| Advice and guidance about your educational program               | 2503          | 2.18     | 0.66      | 13218     | 2.27     | 0.63      | -6.85    | 15719     | <.01     | -0.15            |
| An opportunity to apply classroom learning to "real life" issues | 2492          | 2.15     | 0.64      | 13173     | 2.28     | 0.61      | -9.54    | 3416      | <.01     | -0.21            |
| An opportunity to discuss coursework outside of class            | 2503          | 2.35     | 0.63      | 13193     | 2.39     | 0.6       | -2.71    | 3418      | <.01     | -0.06            |
| An opportunity to work on a research project                     | 2502          | 1.95     | 0.75      | 13212     | 1.97     | 0.74      | -1.79    | 3480      | 0.07     | -0.04            |
| Emotional support and encouragement                              | 2502          | 2        | 0.72      | 13210     | 2.15     | 0.69      | -9.64    | 3422      | <.01     | -0.22            |
| Encouragement to pursue graduate/professional study              | 2505          | 2.2      | 0.73      | 13231     | 2.28     | 0.7       | -4.99    | 15710     | <.01     | -0.11            |
| Feedback about your academic work (outside of grades)            | 2499          | 2.17     | 0.68      | 13201     | 2.22     | 0.65      | -3.18    | 15734     | <.01     | -0.07            |
| Help in achieving your professional goals                        | 2504          | 2.05     | 0.7       | 13198     | 2.19     | 0.67      | -9.05    | 3418      | <.01     | -0.2             |
| Help to improve your study skills                                | 2501          | 1.77     | 0.67      | 13210     | 1.89     | 0.66      | -7.98    | 3476      | <.01     | -0.18            |
| Intellectual challenge and stimulation                           | 2500          | 2.42     | 0.6       | 13199     | 2.44     | 0.58      | -1.58    | 3437      | 0.11     | -0.04            |

**Table 22 – *t*-Test of Variables for Campus Climate by Religious Affiliation**

| Campus Climate                            | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's <i>d</i> |
|-------------------------------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|------------------|
|                                           | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                  |
| Climate: Friendly/Hostile                 | 2519          | 3.94     | 0.83      | 13261     | 4.18     | 0.77      | -14.29   | 15778     | <.01     | -0.31            |
| Climate: Socially Exclusive/Inclusive     | 2514          | 3.22     | 1         | 13220     | 3.43     | 0.97      | -10.22   | 15732     | <.01     | -0.22            |
| Climate: Intolerant/Tolerant of Diversity | 2508          | 3.49     | 1.11      | 13163     | 3.57     | 1.11      | -3.48    | 15669     | <.01     | -0.08            |
| Climate: Impersonal/Caring                | 2505          | 3.46     | 1.02      | 13235     | 3.5      | 0.97      | -15.65   | 3482      | <.01     | -0.35            |
| Climate: Worsening/Improving              | 2508          | 3.5      | 0.97      | 13217     | 3.77     | 0.92      | -12.87   | 3420      | <.01     | -0.29            |

**Table 23 – t-Test of Variables for Campus Satisfaction – Academic by Religious****Affiliation**

| Campus Satisfaction - Academic                  | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's<br><i>d</i> |
|-------------------------------------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|---------------------|
|                                                 | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                     |
| Amount of contact with faculty                  | 2522          | 3.18     | 0.82      | 13287     | 3.26     | 0.74      | -4.63    | 3347      | <.01     | -0.11               |
| Class size                                      | 2518          | 3.26     | 0.78      | 13264     | 3.37     | 0.69      | -6.48    | 3320      | <.01     | -0.15               |
| Courses in your major field                     | 2526          | 3.2      | 0.81      | 13293     | 3.26     | 0.77      | -3.49    | 15817     | <.01     | -0.08               |
| Overall quality of instruction                  | 2512          | 3.16     | 0.73      | 13256     | 3.19     | 0.68      | -1.7     | 3399      | 0.08     | -0.04               |
| Relevance of coursework for everyday life       | 2517          | 2.78     | 0.8       | 13277     | 2.88     | 0.77      | -5.8     | 3451      | <.01     | -0.13               |
| Relevance of coursework for future career plans | 2524          | 2.84     | 0.88      | 13274     | 2.97     | 0.83      | -6.95    | 3425      | <.01     | -0.16               |

**Table 24 – t-Test of Variables for Campus Satisfaction – Social by Religious Affiliation**

| Campus Satisfaction - Social                  | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's<br><i>d</i> |
|-----------------------------------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|---------------------|
|                                               | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                     |
| Availability of campus social activities      | 2511          | 2.63     | 0.9       | 13264     | 2.84     | 0.86      | -11.05   | 3448      | <.01     | -0.25               |
| Interaction with other students               | 2521          | 3.13     | 0.77      | 13249     | 3.29     | 0.68      | -11.02   | 15768     | <.01     | -0.24               |
| Overall college experience                    | 2522          | 3.08     | 0.8       | 13255     | 3.26     | 0.74      | -10.28   | 3392      | <.01     | -0.24               |
| Overall sense of community among students     | 2520          | 2.74     | 0.94      | 13265     | 3.02     | 0.85      | -13.85   | 3350      | <.01     | -0.32               |
| Respect for the expression of diverse beliefs | 2511          | 2.83     | 0.9       | 13226     | 2.95     | 0.83      | -6.32    | 3365      | <.01     | -0.15               |

**Table 25 – t-Test of Variables for Student Satisfaction with Support Services**

| Student Satisfaction                       | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's<br><i>d</i> |
|--------------------------------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|---------------------|
|                                            | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                     |
| Ability to find a faculty or staff mentor  | 2319          | 2.88     | 0.85      | 12436     | 2.94     | 0.81      | -2.94    | 3146      | <.01     | -0.07               |
| Academic advising                          | 2418          | 2.59     | 0.98      | 13000     | 2.72     | 0.95      | -5.76    | 3316      | <.01     | -0.13               |
| Campus health services                     | 2226          | 2.37     | 0.95      | 11517     | 2.46     | 0.93      | -4.06    | 13741     | <.01     | -0.09               |
| Career counseling and advising             | 2202          | 2.4      | 0.95      | 11934     | 2.61     | 0.93      | -9.54    | 3023      | <.01     | -0.23               |
| Financial aid services                     | 2044          | 2.53     | 0.92      | 11447     | 2.54     | 0.9       | -0.72    | 13489     | 0.47     | -0.02               |
| Job placement services for students        | 1948          | 2.24     | 0.91      | 10594     | 2.41     | 0.91      | -7.6     | 12540     | <.01     | -0.19               |
| Leadership opportunities                   | 2076          | 2.8      | 0.8       | 11890     | 2.92     | 0.79      | -6.39    | 2811      | <.01     | -0.15               |
| Opportunities for community service        | 2009          | 2.73     | 0.82      | 11635     | 2.88     | 0.81      | -7.76    | 2730      | <.01     | -0.19               |
| Recreational facilities                    | 2354          | 2.74     | 0.93      | 12649     | 2.78     | 0.92      | -2.34    | 3270      | 0.02     | -0.05               |
| Student housing                            | 2311          | 2.43     | 0.96      | 12228     | 2.55     | 0.92      | -5.68    | 3171      | <.01     | -0.13               |
| Tutorial help or other academic assistance | 1792          | 2.67     | 0.79      | 10332     | 2.74     | 0.77      | -3.38    | 2420      | <.01     | -0.09               |

**Table 26 – t-Test of Variables for Academic Performance**

| Academic Performance | Non-Religious |          |           | Religious |          |           | <i>t</i> | <i>df</i> | <i>p</i> | Cohen's<br><i>d</i> |
|----------------------|---------------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|---------------------|
|                      | <i>n</i>      | <i>M</i> | <i>SD</i> | <i>n</i>  | <i>M</i> | <i>SD</i> |          |           |          |                     |
| GPA                  | 2,522         | 4.74     | 0.88      | 13,273    | 4.72     | 0.91      | 1.36     | 15793     | 0.17     | -                   |

Table 27

*Relationships among Constructs by Religious Affiliation*

| Predictor                           | Outcome                           | Religious     |             | Non-Religious |             | MD           | SE          | <i>t</i>     | <i>p</i>        | <i>sig</i> |
|-------------------------------------|-----------------------------------|---------------|-------------|---------------|-------------|--------------|-------------|--------------|-----------------|------------|
|                                     |                                   | Est.          | SE          | Est.          | SE          |              |             |              |                 |            |
| Academic Engagement Personal        | Campus Climate                    | 0.13**        | 0.01        | 0.17**        | 0.03        | -0.04        | 0.03        | -1.26        | 0.21            | ns         |
| Academic Engagement Personal        | Student Satisfaction              | 0.06**        | 0.01        | 0.07**        | 0.03        | -0.01        | 0.03        | -0.32        | 0.75            | ns         |
| Academic Engagement Personal        | Campus Satisfaction Academic      | 0.09**        | 0.01        | 0.11**        | 0.02        | -0.02        | 0.02        | -0.89        | 0.37            | ns         |
| Academic Engagement Personal        | Campus Satisfaction Social        | 0.03**        | 0.01        | 0.03          | 0.02        | 0            | 0.02        | 0.00         | 1.00            | ns         |
| Academic Engagement Personal        | GPA                               | 0.30**        | 0.01        | 0.32**        | 0.03        | -0.02        | 0.03        | -0.63        | 0.53            | ns         |
| <b>Academic Engagement Personal</b> | <b>Faculty Engagement</b>         | <b>0.14**</b> | <b>0.01</b> | <b>0.23**</b> | <b>0.03</b> | <b>-0.09</b> | <b>0.03</b> | <b>-2.85</b> | <b>&lt; .05</b> | <b>sig</b> |
| Academic Engagement Social          | Campus Climate                    | 0.05*         | 0.02        | 0.08          | 0.06        | -0.03        | 0.06        | -0.47        | 0.64            | ns         |
| Academic Engagement Social          | Student Satisfaction              | 0.16**        | 0.02        | 0.19**        | 0.05        | -0.03        | 0.05        | -0.56        | 0.58            | ns         |
| Academic Engagement Social          | Campus Satisfaction Academic      | 0.03          | 0.02        | 0.01          | 0.04        | 0.02         | 0.04        | 0.45         | 0.65            | ns         |
| <b>Academic Engagement Social</b>   | <b>Campus Satisfaction Social</b> | <b>0.11**</b> | <b>0.02</b> | <b>0.20**</b> | <b>0.04</b> | <b>-0.09</b> | <b>0.04</b> | <b>-2.01</b> | <b>0.04</b>     | <b>sig</b> |
| Academic Engagement Social          | GPA                               | 0.14**        | 0.02        | 0.20**        | 0.05        | -0.06        | 0.05        | -1.11        | 0.27            | ns         |
| <b>Academic Engagement Social</b>   | <b>Faculty Engagement</b>         | <b>0.61**</b> | <b>0.01</b> | <b>0.72**</b> | <b>0.02</b> | <b>-0.11</b> | <b>0.02</b> | <b>-4.92</b> | <b>&lt; .05</b> | <b>sig</b> |
| Faculty Engagement                  | Campus Climate                    | 0.27**        | 0.02        | 0.23**        | 0.05        | 0.04         | 0.05        | 0.74         | 0.46            | ns         |
| Faculty Engagement                  | Student Satisfaction              | 0.26**        | 0.02        | 0.22**        | 0.05        | 0.04         | 0.07        | 0.57         | 0.57            | ns         |
| Faculty Engagement                  | Campus Satisfaction Academic      | 0.49**        | 0.01        | 0.55**        | 0.04        | -0.06        | 0.04        | -1.46        | 0.15            | ns         |
| Faculty Engagement                  | Campus Satisfaction Social        | 0.17**        | 0.01        | 0.10*         | 0.04        | 0.07         | 0.04        | 1.70         | 0.09            | ns         |
| Faculty Engagement                  | GPA                               | 0.09**        | 0.02        | 0.06          | 0.05        | 0.03         | 0.05        | 0.56         | 0.58            | ns         |
| Campus Satisfaction Social          | Campus Satisfaction Academic      | 0.63**        | 0.01        | 0.60**        | 0.03        | 0.03         | 0.03        | 0.95         | 0.34            | ns         |
| Campus Climate                      | Student Satisfaction              | 0.38**        | 0.01        | 0.38**        | 0.02        | 0            | 0.02        | 0.00         | 1.00            | ns         |
| Campus Climate                      | Campus Satisfaction Academic      | 0.28**        | 0.01        | 0.25**        | 0.02        | 0.03         | 0.02        | 1.34         | 0.18            | ns         |
| Campus Climate                      | Campus Satisfaction Social        | 0.65**        | 0.01        | 0.65**        | 0.02        | 0            | 0.02        | 0.00         | 1.00            | ns         |
| Campus Climate                      | GPA                               | -0.02         | 0.01        | -0.08**       | 0.03        | 0.06         | 0.03        | 1.90         | 0.06            | ns         |

Note: \*  $p < .05$ ; \*\*  $p < .01$

[illegible]

10. Please rate your satisfaction with your current (or most recent) college in each area: (Mark one in each row)

|                                              | Very Satisfied | Satisfied | Neutral | Dissatisfied | Can't Rate/No Experience |
|----------------------------------------------|----------------|-----------|---------|--------------|--------------------------|
| General education or core curriculum courses | V              | S         | N       | D            | ?                        |
| Science and mathematics courses              | V              | S         | N       | D            | ?                        |
| Humanities courses                           | V              | S         | N       | D            | ?                        |
| Social science courses                       | V              | S         | N       | D            | ?                        |
| Laboratory facilities and equipment          | V              | S         | N       | D            | ?                        |
| Library facilities                           | V              | S         | N       | D            | ?                        |
| Computer facilities                          | V              | S         | N       | D            | ?                        |
| Quality of computer training/assistance      | V              | S         | N       | D            | ?                        |
| Availability of Internet access              | V              | S         | N       | D            | ?                        |
| Tutoring or other academic assistance        | V              | S         | N       | D            | ?                        |
| Academic advising                            | V              | S         | N       | D            | ?                        |
| Career counseling and advising               | V              | S         | N       | D            | ?                        |
| Student housing                              | V              | S         | N       | D            | ?                        |
| Financial aid services                       | V              | S         | N       | D            | ?                        |
| Opportunities for community service          | V              | S         | N       | D            | ?                        |
| Job placement services for students          | V              | S         | N       | D            | ?                        |
| Campus health services                       | V              | S         | N       | D            | ?                        |
| Ability to find a faculty or staff mentor    | V              | S         | N       | D            | ?                        |
| Leadership opportunities                     | V              | S         | N       | D            | ?                        |
| Recreational facilities                      | V              | S         | N       | D            | ?                        |

11. Please indicate your enrollment status below: (Mark one)

☐ Full-time undergraduate    ☐ Graduate student

☐ Part-time undergraduate    ☐ Not enrolled

12. Mark the one oval that best describes your undergraduate grade average.

☐ A (3.75 – 4.0)    ☐ B-, C+ (2.25 – 2.74)

☐ A-, B+ (3.25 – 3.74)    ☐ C (1.75 – 2.24)

☐ B (2.75 – 3.24)    ☐ C- or less (below 1.75)

13. During the past year, how much time did you spend during a typical week doing the following activities? (Mark one in each row)

|                                                       | None | Less than 1 hour | 1-2 | 3-5 | 6-10 | 11-15 | 16-20 | Over 20 |
|-------------------------------------------------------|------|------------------|-----|-----|------|-------|-------|---------|
| Studying/ homework                                    |      |                  |     |     |      |       |       |         |
| Attending classes/labs                                |      |                  |     |     |      |       |       |         |
| Socializing with friends                              |      |                  |     |     |      |       |       |         |
| Talking with faculty during office hours              |      |                  |     |     |      |       |       |         |
| Talking with faculty outside of class or office hours |      |                  |     |     |      |       |       |         |
| Exercising/sports                                     |      |                  |     |     |      |       |       |         |
| Partying                                              |      |                  |     |     |      |       |       |         |
| Working (for pay) <u>on</u> campus                    |      |                  |     |     |      |       |       |         |
| Working (for pay) <u>off</u> campus                   |      |                  |     |     |      |       |       |         |
| Student clubs/ groups                                 |      |                  |     |     |      |       |       |         |
| Watching TV                                           |      |                  |     |     |      |       |       |         |
| Housework/childcare                                   |      |                  |     |     |      |       |       |         |
| Reading for pleasure                                  |      |                  |     |     |      |       |       |         |
| Commuting                                             |      |                  |     |     |      |       |       |         |
| Prayer/ meditation                                    |      |                  |     |     |      |       |       |         |

14. Please mark your probable career/occupation below: (Mark one)

Accountant or actuary ☐

Actor or entertainer ☐

Architect or urban planner ☐

Artist ☐

Business (clerical) ☐

Business executive (management, administrator) ☐

Business owner or proprietor ☐

Business salesperson or buyer ☐

Clergy (minister or priest) ☐

Clergy (other religious) ☐

Clinical psychologist ☐

College administrator/staff ☐

College teacher ☐

Computer programmer or analyst ☐

Conservationist or forester ☐

Dentist (including orthodontist) ☐

Dietitian or home economist ☐

Engineer ☐

Farmer or rancher ☐

Foreign service worker (including diplomat) ☐

Homemaker (full-time) ☐

Interior decorator or designer ☐

Lab technician or hygienist ☐

Law enforcement officer ☐

Lawyer (attorney) or judge ☐

Military service (career) ☐

Musician (performer, composer) ☐

Nurse ☐

Optometrist ☐

Pharmacist ☐

Physician ☐

Policymaker/ government ☐

School counselor ☐

School principal or superintendent ☐

Scientific researcher ☐

Social, welfare or recreation worker ☐

Therapist (physical, occupational, speech) ☐

Teacher or administrator (elementary) ☐

Teacher or administrator (secondary) ☐

Veterinarian ☐

Writer or journalist ☐

Skilled trades ☐

Other ☐

Undecided ☐

15. For the activities listed below, please indicate how often you engaged in each during the past year. (Mark one in each row)

|                                                        | Frequently | Occasionally | Not at all |
|--------------------------------------------------------|------------|--------------|------------|
| Smoked cigarettes                                      | F          | O            | N          |
| Felt lonely or homesick                                | F          | O            | N          |
| Socialized with someone of another racial/ethnic group | F          | O            | N          |
| Felt depressed                                         | F          | O            | N          |
| Felt overwhelmed by all I had to do                    | F          | O            | N          |
| Attended a religious service                           | F          | O            | N          |
| Drank beer                                             | F          | O            | N          |
| Drank wine or liquor                                   | F          | O            | N          |
| Performed volunteer work                               | F          | O            | N          |
| Participated in organized demonstrations               | F          | O            | N          |
| Discussed politics                                     | F          | O            | N          |
| Sought personal counseling                             | F          | O            | N          |
| Discussed religion                                     | F          | O            | N          |

16. How would you characterize your political views? (Mark one)

☐ Far left    ☐ Conservative

☐ Liberal    ☐ Far right

☐ Middle-of-the-road

17. Please indicate your ethnic background. (Mark all that apply)

☐ White/ Caucasian

☐ African American/ Black

☐ American Indian/ Alaska Native

☐ Asian American/ Asian

☐ Native Hawaiian/ Pacific Islander

☐ Mexican American/ Chicano

☐ Puerto Rican

☐ Other Latino

☐ Other

18. Please rate your satisfaction with this institution on each of the aspects of campus life listed below. (Mark one for each item)

|                                                | Very Satisfied | Satisfied | Neutral | Dissatisfied |
|------------------------------------------------|----------------|-----------|---------|--------------|
| Courses in your major field                    | V              | S         | N       | D            |
| Amount of contact with faculty                 | V              | S         | N       | D            |
| Class size                                     | V              | S         | N       | D            |
| Interaction with other students                | V              | S         | N       | D            |
| Relevance of coursework to everyday life       | V              | S         | N       | D            |
| Relevance of coursework to future career plans | V              | S         | N       | D            |
| Overall quality of instruction                 | V              | S         | N       | D            |
| Overall sense of community among students      | V              | S         | N       | D            |
| Availability of campus social activities       | V              | S         | N       | D            |
| Overall college experience                     | V              | S         | N       | D            |
| Respect for the expression of diverse beliefs  | V              | S         | N       | D            |

19. Compared with when you first started college, how would you now describe your:

(Mark one for each item)

|                                                              | Much Stronger | Stronger | No Change | Weaker | Much Weaker |
|--------------------------------------------------------------|---------------|----------|-----------|--------|-------------|
| General knowledge                                            | 5             | 4        | 3         | 2      | 1           |
| Analytical and problem-solving skills                        | 5             | 4        | 3         | 2      | 1           |
| Knowledge of a particular field or discipline                | 5             | 4        | 3         | 2      | 1           |
| Ability to think critically                                  | 5             | 4        | 3         | 2      | 1           |
| Knowledge of people from different races/ cultures           | 5             | 4        | 3         | 2      | 1           |
| Leadership abilities                                         | 5             | 4        | 3         | 2      | 1           |
| Interpersonal skills                                         | 5             | 4        | 3         | 2      | 1           |
| Ability to get along with people of different races/cultures | 5             | 4        | 3         | 2      | 1           |
| Understanding of the problems facing your community          | 5             | 4        | 3         | 2      | 1           |
| Understanding of social problems facing our nation           | 5             | 4        | 3         | 2      | 1           |
| Writing skills                                               | 5             | 4        | 3         | 2      | 1           |
| Public speaking ability                                      | 5             | 4        | 3         | 2      | 1           |
| Mathematical skills                                          | 5             | 4        | 3         | 2      | 1           |
| Computer skills                                              | 5             | 4        | 3         | 2      | 1           |
| Preparedness for employment after college                    | 5             | 4        | 3         | 2      | 1           |
| Preparedness for graduate or advanced education              | 5             | 4        | 3         | 2      | 1           |
| Ability to manage your time effectively                      | 5             | 4        | 3         | 2      | 1           |

20. Your current religious preference: (Mark one)

- ☐ Baptist      ☐ Jewish      ☐ Roman Catholic  
☐ Buddhist      ☐ LDS (Mormon)      ☐ Seventh Day Adventist  
☐ Eastern Orthodox      ☐ Lutheran      ☐ United Church of Christ  
☐ Episcopal      ☐ Methodist      ☐ Other Christian  
☐ Hindu      ☐ Presbyterian      ☐ Other Religion  
☐ Islamic      ☐ Quaker      ☐ None

21. Indicate the importance to you personally of each of the following:

(Mark one for each item)

|                                                                                | Essential | Very Important | Somewhat Important | Not Important |
|--------------------------------------------------------------------------------|-----------|----------------|--------------------|---------------|
| Becoming accomplished in one of the performing arts (acting, dancing, etc.)    | 5         | 4              | 3                  | 1             |
| Becoming an authority in my field                                              | 5         | 4              | 3                  | 1             |
| Obtaining recognition from my colleagues for contributions to my special field | 5         | 4              | 3                  | 1             |
| Influencing the political structure                                            | 5         | 4              | 3                  | 1             |
| Influencing the social values                                                  | 5         | 4              | 3                  | 1             |
| Raising a family                                                               | 5         | 4              | 3                  | 1             |
| Having administrative responsibility for the work of others                    | 5         | 4              | 3                  | 1             |
| Being very well off financially                                                | 5         | 4              | 3                  | 1             |
| Helping others who are in difficulty                                           | 5         | 4              | 3                  | 1             |
| Making a theoretical contribution to science                                   | 5         | 4              | 3                  | 1             |
| Writing original works (poems, novels, etc.)                                   | 5         | 4              | 3                  | 1             |
| Creating artistic work (painting, sculpture, etc.)                             | 5         | 4              | 3                  | 1             |
| Becoming successful in a business of my own                                    | 5         | 4              | 3                  | 1             |
| Becoming involved in programs to clean up the environment                      | 5         | 4              | 3                  | 1             |
| Developing a meaningful philosophy of life                                     | 5         | 4              | 3                  | 1             |
| Participating in a community action program                                    | 5         | 4              | 3                  | 1             |
| Helping to promote racial understanding                                        | 5         | 4              | 3                  | 1             |
| Keeping up to date with political affairs                                      | 5         | 4              | 3                  | 1             |
| Becoming a community leader                                                    | 5         | 4              | 3                  | 1             |

22. Rate the climate of your college in general on the following continuum by filling in the appropriate oval.

(Mark one for each item set)

|                         |   |   |   |   |   |
|-------------------------|---|---|---|---|---|
| Friendly                | 5 | 4 | 3 | 2 | 1 |
| Socially Inclusive      | 5 | 4 | 3 | 2 | 1 |
| Intolerant of Diversity | 5 | 4 | 3 | 2 | 1 |
| Nonsexist               | 5 | 4 | 3 | 2 | 1 |
| Individualistic         | 5 | 4 | 3 | 2 | 1 |
| Impersonal              | 5 | 4 | 3 | 2 | 1 |
| Improving               | 5 | 4 | 3 | 2 | 1 |
| Conservative            | 5 | 4 | 3 | 2 | 1 |
| Non-homophobic          | 5 | 4 | 3 | 2 | 1 |
| Hostile                 |   |   |   |   |   |
| Socially Exclusive      |   |   |   |   |   |
| Accepting of Diversity  |   |   |   |   |   |
| Sexist                  |   |   |   |   |   |
| Conformist              |   |   |   |   |   |
| Caring                  |   |   |   |   |   |
| Worsening               |   |   |   |   |   |
| Liberal                 |   |   |   |   |   |
| Homophobic              |   |   |   |   |   |

23. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself.

(Mark one in each row)

|                                | Highest 10% | Above Average | Average | Below Average | Lowest 10% |
|--------------------------------|-------------|---------------|---------|---------------|------------|
| Academic ability               |             |               |         |               |            |
| Artistic ability               |             |               |         |               |            |
| Computer skills                |             |               |         |               |            |
| Cooperativeness                |             |               |         |               |            |
| Creativity                     |             |               |         |               |            |
| Drive to achieve               |             |               |         |               |            |
| Emotional health               |             |               |         |               |            |
| Leadership ability             |             |               |         |               |            |
| Mathematical ability           |             |               |         |               |            |
| Physical health                |             |               |         |               |            |
| Persistence                    |             |               |         |               |            |
| Public speaking ability        |             |               |         |               |            |
| Risk-taking                    |             |               |         |               |            |
| Self-confidence (intellectual) |             |               |         |               |            |
| Self-confidence (social)       |             |               |         |               |            |
| Self-understanding             |             |               |         |               |            |
| Spirituality                   |             |               |         |               |            |
| Understanding of others        |             |               |         |               |            |
| Writing ability                |             |               |         |               |            |

24. How often have professors at your current (or more recent) college provided you with:

(Mark one for each item)

|                                                                  | Frequently | Occasionally | Not at all |
|------------------------------------------------------------------|------------|--------------|------------|
| Encouragement to pursue graduate/professional study              | 5          | 4            | 1          |
| An opportunity to work on a research project                     | 5          | 4            | 1          |
| Advice and guidance about your educational program               | 5          | 4            | 1          |
| Emotional support and encouragement                              | 5          | 4            | 1          |
| A letter of recommendation                                       | 5          | 4            | 1          |
| Help to improve your study skills                                | 5          | 4            | 1          |
| Feedback on your academic work (outside of grades)               | 5          | 4            | 1          |
| Intellectual challenge and stimulation                           | 5          | 4            | 1          |
| An opportunity to discuss coursework outside of class            | 5          | 4            | 1          |
| Help in achieving your professional goals                        | 5          | 4            | 1          |
| An opportunity to apply classroom learning to "real-life" issues | 5          | 4            | 1          |

25. Below is a list of different major fields. (Mark only one in each column)

- |                                                                   | U | G | PHYSICAL SCIENCE                                   |
|-------------------------------------------------------------------|---|---|----------------------------------------------------|
| Undergraduate major (final or most recent)                        |   |   | Astronomy                                          |
| Graduate major (omit if you do not plan to go to graduate school) |   |   | Atmospheric Science (incl. Meteorology)            |
|                                                                   |   |   | Chemistry                                          |
|                                                                   |   |   | Earth Science                                      |
|                                                                   |   |   | Marine Science (incl. Oceanography)                |
|                                                                   |   |   | Mathematics                                        |
|                                                                   |   |   | Physics                                            |
|                                                                   |   |   | Statistics                                         |
|                                                                   |   |   | Other Physical Science                             |
|                                                                   |   |   | PROFESSIONAL                                       |
|                                                                   |   |   | Architecture or Urban Planning                     |
|                                                                   |   |   | Home Economics                                     |
|                                                                   |   |   | Health Technology (medical, dental, laboratory)    |
|                                                                   |   |   | Law                                                |
|                                                                   |   |   | Library/Archival Science                           |
|                                                                   |   |   | Medicine, Dentistry, Veterinarian                  |
|                                                                   |   |   | Nursing                                            |
|                                                                   |   |   | Pharmacy                                           |
|                                                                   |   |   | Therapy (occupational, physical, speech)           |
|                                                                   |   |   | Other Professional                                 |
|                                                                   |   |   | SOCIAL SCIENCE                                     |
|                                                                   |   |   | Anthropology                                       |
|                                                                   |   |   | Economics                                          |
|                                                                   |   |   | Ethnic Studies                                     |
|                                                                   |   |   | Geography                                          |
|                                                                   |   |   | Political Science (gov't, international relations) |
|                                                                   |   |   | Psychology                                         |
|                                                                   |   |   | Social Work                                        |
|                                                                   |   |   | Sociology                                          |
|                                                                   |   |   | Women's Studies                                    |
|                                                                   |   |   | Other Social Science                               |
|                                                                   |   |   | TECHNICAL                                          |
|                                                                   |   |   | Building Trades                                    |
|                                                                   |   |   | Data Processing or Computer Programming            |
|                                                                   |   |   | Drafting or Design                                 |
|                                                                   |   |   | Electronics                                        |
|                                                                   |   |   | Mechanics                                          |
|                                                                   |   |   | Other Technical                                    |
|                                                                   |   |   | OTHER FIELDS                                       |
|                                                                   |   |   | Agriculture                                        |
|                                                                   |   |   | Communications                                     |
|                                                                   |   |   | Computer Science                                   |
|                                                                   |   |   | Forestry                                           |
|                                                                   |   |   | Kinesiology                                        |
|                                                                   |   |   | Law Enforcement                                    |
|                                                                   |   |   | Military Science                                   |
|                                                                   |   |   | Other Field                                        |
|                                                                   |   |   | Undecided                                          |

26. Please indicate your agreement with each of the following statements.

(Mark one for each item)

- |                                                                                   |   |   |   |   |
|-----------------------------------------------------------------------------------|---|---|---|---|
| There is too much concern in the courts for the rights of criminals               | 4 | 3 | 2 | 1 |
| Abortion should be legal                                                          | 4 | 3 | 2 | 1 |
| The death penalty should be abolished                                             | 4 | 3 | 2 | 1 |
| Marijuana should be legalized                                                     | 4 | 3 | 2 | 1 |
| It is important to have laws prohibiting homosexual relationships                 | 4 | 3 | 2 | 1 |
| The federal government should do more to control the sale of handguns             | 4 | 3 | 2 | 1 |
| Racial discrimination is no longer a major problem in America                     | 4 | 3 | 2 | 1 |
| Realistically, an individual can do little to bring about changes in our society  | 4 | 3 | 2 | 1 |
| Wealthy people should pay a larger share of taxes than they do now                | 4 | 3 | 2 | 1 |
| Colleges should prohibit racist/ sexist speech on campus                          | 4 | 3 | 2 | 1 |
| Same-sex couples should have the right to legal marital status                    | 4 | 3 | 2 | 1 |
| Affirmative action in college admissions should be abolished                      | 4 | 3 | 2 | 1 |
| The activities of married women are best confined to the home and family          | 4 | 3 | 2 | 1 |
| Federal military spending should be increased                                     | 4 | 3 | 2 | 1 |
| The federal government should do more to discourage energy consumption            | 4 | 3 | 2 | 1 |
| The chief benefit of a college education is that it increases one's earning power | 4 | 3 | 2 | 1 |

27. What do you plan to be doing in fall 2006? (Mark all that apply)

- ☐ Attending undergraduate college full-time
- ☐ Attending undergraduate college part-time
- ☐ Attending graduate/ professional school
- ☐ Working full-time
- ☐ Working part-time
- ☐ Participating in a community service organization
- ☐ Serving in the Armed Forces
- ☐ Attending a vocational training program
- ☐ Traveling
- ☐ Doing volunteer work
- ☐ Staying at home to be with or start a family
- ☐ No current plans

28. Do you give the Higher Education Research Institute (HERI) permission to include your ID number should your college request the data for additional research analyses? HERI maintains strict standards of confidentiality and would require your college to sign a pledge of confidentiality. ☐ Yes ☐ No

**ADDITIONAL QUESTIONS:** If you received an additional page of questions, please mark your answers below:

- |               |               |               |
|---------------|---------------|---------------|
| 29. A B C D E | 39. A B C D E | 49. A B C D E |
| 30. A B C D E | 40. A B C D E | 50. A B C D E |
| 31. A B C D E | 41. A B C D E | 51. A B C D E |
| 32. A B C D E | 42. A B C D E | 52. A B C D E |
| 33. A B C D E | 43. A B C D E | 53. A B C D E |
| 34. A B C D E | 44. A B C D E | 54. A B C D E |
| 35. A B C D E | 45. A B C D E | 55. A B C D E |
| 36. A B C D E | 46. A B C D E | 56. A B C D E |
| 37. A B C D E | 47. A B C D E | 57. A B C D E |
| 38. A B C D E | 48. A B C D E | 58. A B C D E |

THANK YOU!

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[illegible]

SERIAL #

| Variable Name | Label                                                            |
|---------------|------------------------------------------------------------------|
| ACT04         | Act: Came late to class                                          |
| ACT07         | Act: Contested a grade                                           |
| ACT14         | Act: Discussed course content with students outside of class     |
| ACT16         | Act: Failed to complete homework on time                         |
| ACT17         | Act: Fell asleep in class                                        |
| ACT28         | Act: Had difficulty getting the courses I needed                 |
| ACT31         | Act: Have been a guest in professor's home                       |
| ACT32         | Act: Felt bored in class                                         |
| ACT36         | Act: Met with an advisor/counselor about your career plans       |
| ACT40         | Act: Missed Class Due to employment                              |
| ACT42         | Act: Observed professors actively engaging students during class |
| ACT44         | Act: Overslept and missed class or appointment                   |
| ACT46         | Act: Participated in intramural sports                           |
| ACT48         | Act: Performed community service as part of a class              |
| ACT52         | Act: Received course assignments through the internet            |
| ACT55         | Act: Studied with other students                                 |
| ACT59         | Act: Turned in course assignments electronically                 |
| ACT60         | Act: Tutored Another College Student                             |
| ACT62         | Act: Used the Internet for research or homework                  |
| ACT66         | Act: Used the library for research or homework                   |
| ACT67         | Act: Used/purchased class notes from a professional service      |
| ACT69         | Act: Voted in a state/national election                          |
| ACT70         | Act: Voted in a student election                                 |
| ACT71         | Act: Were graded on a curve                                      |
| ACT75         | Act: Worked on independent study projects                        |
| ACT01_TFS     | Act in Past Year: Asked a teacher for advice after class         |
| ACT02_TFS     | Act in Past Year: Attended a public recital or concert           |
| ACT03_TFS     | Act in Past Year: Attended a religious service                   |
| ACT04_TFS     | Act in Past Year: Came late to class                             |
| ACT06_TFS     | Act in Past Year: Communicated via e-mail                        |
| ACT08_TFS     | Act in Past Year: Discussed politics                             |
| ACT09_TFS     | Act in Past Year: Discussed religion                             |
| ACT10_TFS     | Act in Past Year: Drank beer                                     |
| ACT11_TFS     | Act in Past Year: Drank wine or liquor                           |
| ACT14_TFS     | Act in Past Year: Felt depressed                                 |
| ACT15_TFS     | Act in Past Year: Felt overwhelmed by all I had to do            |

|                  |                                                                                  |
|------------------|----------------------------------------------------------------------------------|
| ACT17_T_TFS      | Act in Past Year: Other Internet use                                             |
| ACT17_TFS        | Act in Past Year: Overslept and missed a class or appointment                    |
| ACT18_TFS        | Act in Past Year: Participated in organized demonstrations                       |
| ACT19_TFS        | Act in Past Year: Performed community service as part of a class                 |
| ACT20_TFS        | Act in Past Year: Performed volunteer work                                       |
| ACT21_T_TFS      | Act in Past Year: Participated in Internet chat rooms                            |
| ACT21_TFS        | Act in Past Year: Played a musical instrument                                    |
| ACT24_TFS        | Act in Past Year: Smoked cigarettes                                              |
| ACT25_TFS        | Act in Past Year: Socialized with someone of another racial/ethnic group         |
| ACT26_TFS        | Act in Past Year: Studied with other students                                    |
| ACT27_TFS        | Act in Past Year: Tutored another student                                        |
| ACT28_TFS        | Act in Past Year: Used a personal computer                                       |
| ACT29_TFS        | Act in Past Year: Used the Internet: for research or homework                    |
| ACT30_TFS        | Act in Past Year: Visited an art gallery or museum                               |
| ACT31_TFS        | Act in Past year: Voted in a student election                                    |
| ACT32_TFS        | Act in Past Year: Was a guest in a teacher's home                                |
| ACT33_TFS        | Act in Past Year: Was bored in class                                             |
| ACTCOMP_TFS      | ACT Composite                                                                    |
| AGE1_TFS         | How old will you be on December 31 of this year?                                 |
| AGE2_TFS         | How old will you be on December 31 of this year?                                 |
| AID1_TFS         | Aid: Family resources (parents, relatives, spouse, etc.)                         |
| AID2_TFS         | Aid: My own resources (savings from work, work-study, other income)              |
| AID3_TFS         | Aid: Aid which need not be repaid (grants, scholarships, military funding, etc.) |
| AID4_TFS         | Aid: Aid which must be repaid (loans, etc.)                                      |
| AID5_TFS         | Aid: Other than above                                                            |
| APCOURSE_T2_TFS  | AP Courses                                                                       |
| APEXAM_T2_TFS    | AP Exams                                                                         |
| CAREER           | Please mark your probable career/occupation                                      |
| CAREERA          | Probable career-occupation aggregated                                            |
| CHOICE_TFS       | Choice: Is this college your:                                                    |
| CHOOSE0201_N_TFS | Choose to Attend: Not offered aid by first choice                                |
| CHOOSE0202_N_TFS | Choose to Attend: Reputation for campus safety                                   |
| CHOOSE06_TFS     | Choose to Attend: High school counselor advised me                               |
| CHOOSE07_TFS     | Choose to Attend: I wanted to go to a school about the size of this college      |

|               |                                                                                           |
|---------------|-------------------------------------------------------------------------------------------|
| CHOOSE09_TFS  | Choose to Attend: I wanted to live near home                                              |
| CHOOSE10_TFS  | Choose to Attend: I was admitted through an Early Action or Early Decision program        |
| CHOOSE11_TFS  | Choose to Attend: I was attracted by the religious affiliation/orientation of the college |
| CHOOSE12_TFS  | Choose to Attend: I was offered financial assistance                                      |
| CHOOSE13_TFS  | Choose to Attend: Information from a website                                              |
| CHOOSE16_TFS  | Choose to Attend: My relatives wanted me to come here                                     |
| CHOOSE17_TFS  | Choose to Attend: My teacher advised me                                                   |
| CHOOSE19_TFS  | Choose to Attend: Not offered aid by first choice                                         |
| CHOOSE20_TFS  | Choose to Attend: Private college counselor advised me                                    |
| CHOOSE21_TFS  | Choose to Attend: Rankings in national magazines                                          |
| CHOOSE22_TFS  | Choose to Attend: The athletic department recruited me                                    |
| CHOOSE24_TFS  | Choose to Attend: This college has a good reputation for its social activities            |
| CHOOSE25_TFS  | Choose to Attend: This college has a very good academic reputation                        |
| CHOOSE26_TFS  | Choose to Attend: This college has low tuition                                            |
| CHOOSE27_TFS  | Choose to Attend: This college offers special educational programs                        |
| CITIZEN_TFS   | Citizenship status:                                                                       |
| CLIMATE1      | Climate: Friendly/Hostile                                                                 |
| CLIMATE2      | Climate: Socially Inclusive/Socially Exclusive                                            |
| CLIMATE3      | Climate: Intolerant of Diversity/Accepting of Diversity                                   |
| CLIMATE4      | Climate: Nonsexist/Sexist                                                                 |
| CLIMATE5      | Climate: Individualistic/Conformist                                                       |
| CLIMATE6      | Climate: Impersonal/Caring                                                                |
| CLIMATE7      | Climate: Improving/Worsening                                                              |
| CLIMATE8      | Climate: Conservative/Liberal                                                             |
| CLIMATE9      | Climate: Non-homophobic/Homophobic                                                        |
| CMPSAT01_0506 | Campus Satisfaction: Amount of contact with faculty                                       |
| CMPSAT02_0506 | Campus Satisfaction: Availability of campus social activities                             |
| CMPSAT03_0506 | Campus Satisfaction: Class size                                                           |
| CMPSAT04_0506 | Campus Satisfaction: Courses in your major field                                          |
| CMPSAT05_0506 | Campus Satisfaction: Interaction with other students                                      |
| CMPSAT06_0506 | Campus Satisfaction: Overall college experience                                           |
| CMPSAT07_0506 | Campus Satisfaction: Overall quality of instruction                                       |
| CMPSAT08_0506 | Campus Satisfaction: Overall sense of community among students                            |

|                                |                                                                       |
|--------------------------------|-----------------------------------------------------------------------|
| CMPSAT09_0506                  | Campus Satisfaction: Relevance of coursework to everyday life         |
| CMPSAT10_0506                  | Campus Satisfaction: Relevance of coursework to future career plans   |
| CMPSAT11_0506                  | Campus Satisfaction: Respect for the expression of diverse beliefs    |
| COLACT02_9406                  | Act in College: Attended racial/cultural awareness workshop           |
| COLACT07_9406                  | Act in College: Enrolled in honors or advanced courses                |
| COLACT08_9406                  | Act in College: Failed One or More Courses                            |
| COLACT13_9406                  | Act in College: Had a roommate of different race/ethnicity            |
| COLACT14_9406                  | Act in College: Joined a fraternity or sorority                       |
| COLACT16_9406                  | Act in College: Participated in study abroad program                  |
| COLACT17_9406                  | Act in College: Participated in an ethnic/racial student organization |
| COLACT18_9406                  | Act in College: Participated In an internship program                 |
| COLACT21_9406                  | Act in College: Participated in leadership training                   |
| COLACT23_9406                  | Act in College: Participated in student government                    |
| COLACT24_9406                  | Act in College: Played varsity/intercollegiate athletics              |
| COLACT27_9406                  | Act in College: Taken a remedial course                               |
| COLACT28_9406                  | Act in College: Taken a women's studies course                        |
| COLACT29_9406                  | Act in College: Taken an ethnic studies course                        |
| COLACT32_9406                  | Act in College: Transferred from a Community College                  |
| COLACT33_9406                  | Act in College: Transferred from a Four-year College                  |
| COLACT38_9406                  | Act in College: Withdrew from school permanently                      |
| COLACT39_9406                  | Act in College: Withdrew from school temporarily                      |
| COLACT40_9406                  | Act in College: Worked full-time while attending school               |
| COLLEGE_INVOLVEMENT<br>GRP_TFS | TFS Likelihood of College Involvement Group                           |
| COLLEGE_INVOLVEMENT_TFS        | TFS Likelihood of College Involvement Score                           |
| COLGPA_9406                    | Undergraduate GPA                                                     |
| CRED2_TFS                      | For credit at junior college or community college                     |
| CRED3_TFS                      | For credit at a four-year college or university                       |
| CRED4_TFS                      | For credit at some other postsecondary                                |
| CSVREQ_TFS                     | Did your high school require community service for graduation?        |
| DEGASP                         | Please indicate the highest degree you plan to complete               |
| DEGASP_TFS                     | Highest academic degree planned                                       |

|                     |                                                                                   |
|---------------------|-----------------------------------------------------------------------------------|
| DEGEARN             | Please indicate the highest degree you will have earned as of June                |
| DESCRIBE1_T2_TFS    | Describe: Searching for mission/purpose in life                                   |
| DESCRIBE2_T2_TFS    | Describe: Engaging in self-reflection                                             |
| DESCRIBE3_T2_TFS    | Describe: Appreciating interconnectedness of everything                           |
| DESCRIBE4_T2_TFS    | Describe: Believing in sacredness of life                                         |
| DESCRIBE5_T2_TFS    | Describe: Being honest in my relationships with others                            |
| DISAB1_TFS          | Disability: None                                                                  |
| DISAB2_TFS          | Disability: Hearing                                                               |
| DISAB3_TFS          | Disability: Speech                                                                |
| DISAB4_TFS          | Disability: Orthopedic                                                            |
| DISAB5_TFS          | Disability: Learning disability                                                   |
| DISAB6_TFS          | Disability: Health-related                                                        |
| DISAB7_TFS          | Disability: Partially sighted or blind                                            |
| DISAB8_TFS          | Disability: Other                                                                 |
| DISTHOME_TFS        | How many miles is this college from your permanent home?                          |
| DOBDD               | DOB Day                                                                           |
| DOBMM               | DOB Month                                                                         |
| DOBYYY              | DOB Year                                                                          |
| ENROLL_0006         | Enrollment status                                                                 |
| FAC_INTERACTION     | CSS Student-Faculty Interaction Score                                             |
| FAC_INTERACTION_GRP | CSS Student-Faculty Interaction Group                                             |
| FACPRV01            | Faculty Provide: A letter of recommendation                                       |
| FACPRV02            | Faculty Provide: Advice and guidance about your educational program               |
| FACPRV03            | Faculty Provide: An opportunity to apply classroom learning to 'real-life' issues |
| FACPRV04            | Faculty Provide: An opportunity to discuss coursework outside of class            |
| FACPRV06            | Faculty Provide: An opportunity to work on a research project                     |
| FACPRV08            | Faculty Provide: Emotional support and encouragement                              |
| FACPRV10            | Faculty Provide: Encouragement to pursue graduate/professional study              |
| FACPRV11            | Faculty Provide: Feedback about your academic work (outside of grades)            |
| FACPRV13            | Faculty Provide: Help in achieving your professional goals                        |
| FACPRV14            | Faculty Provide: Help to improve your study skills                                |
| FACPRV16            | Faculty Provide: Intellectual challenge and stimulation                           |

|                    |                                                                               |
|--------------------|-------------------------------------------------------------------------------|
| FATHEDUC_TFS       | Father's education                                                            |
| FCAREER_TFS        | Father's career                                                               |
| FCAREERA_TFS       | Father's career aggregated                                                    |
| FINCON_TFS         | Do you have any concern about your ability to finance your college education? |
| FIRSTGEN_TFS       | First generation status based on parent(s) with less than 'some college'      |
| FIRSTVISIT03_N_TFS | When did you first visit this college?                                        |
| FRELIGION_TFS      | Father's religion                                                             |
| FRELIGIONA_TFS     | Your father's religious preference                                            |
| FULLSTAT_TFS       | Are you enrolled (or enrolling) as a:                                         |
| FUTACT01_TFS       | Future Act: Be elected to an academic honor society                           |
| FUTACT02_T_TFS     | Future Act: Develop close friendships with other students                     |
| FUTACT02_TFS       | Future Act: Be elected to student office                                      |
| FUTACT03_T_TFS     | Future Act: Drop out of college                                               |
| FUTACT03_TFS       | Future Act: Be satisfied with your college                                    |
| FUTACT04_TFS       | Future Act: Change career choice                                              |
| FUTACT05_TFS       | Future Act: Change major field                                                |
| FUTACT06_TFS       | Future Act: Communicate regularly with your professors                        |
| FUTACT11_T_TFS     | Future Act: Strengthen your religious beliefs/convictions                     |
| FUTACT11_TFS       | Future Act: Get a bachelor's degree (B.A., B.S., etc.)                        |
| FUTACT12_TFS       | Future Act: Get a job to help pay for college expenses                        |
| FUTACT17_TFS       | Future Act: Join a social fraternity or sorority                              |
| FUTACT19_TFS       | Future Act: Make at least a 'B' average                                       |
| FUTACT21_TFS       | Future Act: Participate in a study abroad program                             |
| FUTACT22_TFS       | Future Act: Participate in student clubs/groups                               |
| FUTACT23_TFS       | Future Act: Participate in student government                                 |
| FUTACT24_TFS       | Future Act: Participate in student protests or demonstrations                 |
| FUTACT25_TFS       | Future Act: Participate in volunteer or community service work                |
| FUTACT28_TFS       | Future Act: Play varsity/intercollegiate athletics                            |
| FUTACT29_TFS       | Future Act: Seek personal counseling                                          |
| FUTACT30_TFS       | Future Act: Socialize with someone of another racial/ethnic group             |
| FUTACT32_TFS       | Future Act: Transfer to another college before graduating                     |
| FUTACT33_TFS       | Future Act: Work full-time while attending college                            |
| GENACT03           | Act in Part Year: Attended a religious service                                |
| GENACT07           | Act in Past Year: Discussed politics                                          |

|            |                                                                                   |
|------------|-----------------------------------------------------------------------------------|
| GENACT11   | Act in Past Year: Discussed religion                                              |
| GENACT13   | Act in Part Year: Drank beer                                                      |
| GENACT14   | Act in Part Year: Drank wine or liquor                                            |
| GENACT15   | Act in Part Year: Felt depressed                                                  |
| GENACT18   | Act in Past Year: Felt lonely or homesick                                         |
| GENACT19   | Act in Part Year: Felt overwhelmed by all I had to do                             |
| GENACT22   | Act in Part Year: Participated in organized demonstrations                        |
| GENACT26   | Act in Part Year: Performed volunteer work                                        |
| GENACT29   | Act in Part Year: Smoked cigarettes                                               |
| GENACT30   | Act in Part Year: Socialized with someone of another racial/ethnic group          |
| GENACT31   | Act in Past Year: Sought personal counseling                                      |
| GOAL02     | Goal: Becoming a community leader                                                 |
| GOAL03     | Goal: Becoming accomplished in one of the performing arts (acting, dancing, etc.) |
| GOAL04     | Goal: Become an authority in my field                                             |
| GOAL05     | Goal: Becoming involved in programs to clean up the environment                   |
| GOAL06     | Goal: Being successful in a business of my own                                    |
| GOAL07     | Goal: Being very well off financially                                             |
| GOAL09     | Goal: Developing a meaningful philosophy of life                                  |
| GOAL10     | Goal: Having administrative responsibility for the work of others                 |
| GOAL11     | Goal: Helping others in difficulty                                                |
| GOAL12     | Goal: Helping to promote racial understanding                                     |
| GOAL15     | Goal: Influencing social values                                                   |
| GOAL16     | Goal: Influence the political structure                                           |
| GOAL18     | Goal: Keeping up to date with political affairs                                   |
| GOAL19     | Goal: Making theoretical contribution to science                                  |
| GOAL20     | Goal: Obtain recognition from colleagues for contributing to my special field     |
| GOAL21     | Goal: Participating in a community action program                                 |
| GOAL22     | Goal: Raising a family                                                            |
| GOAL02_TFS | Goal: Becoming a community leader                                                 |
| GOAL03_TFS | Goal: Becoming accomplished in one of the performing arts (acting, dancing, etc.) |
| GOAL04_TFS | Goal: Becoming an authority in my field                                           |
| GOAL06_TFS | Goal: Becoming involved in programs to clean up the environment                   |
| GOAL07_TFS | Goal: Becoming successful in a business of my own                                 |
| GOAL08_TFS | Goal: Being very well off financially                                             |

|                  |                                                                                      |
|------------------|--------------------------------------------------------------------------------------|
| GOAL09_TFS       | Goal: Creating artistic work (painting, sculpture, etc.)                             |
| GOAL10_TFS       | Goal: Developing a meaningful philosophy of life                                     |
| GOAL11_TFS       | Goal: Having administrative responsibility for the work of others                    |
| GOAL12_TFS       | Goal: Helping others who are in difficulty                                           |
| GOAL13_TFS       | Goal: Helping to promote racial understanding                                        |
| GOAL14_TFS       | Goal: Improving my understanding of other countries and cultures                     |
| GOAL15_TFS       | Goal: Influencing social values                                                      |
| GOAL16_TFS       | Goal: Influencing the political structure                                            |
| GOAL17_TFS       | Goal: Integrating spirituality into my life                                          |
| GOAL18_TFS       | Goal: Keeping up to date with political affairs                                      |
| GOAL19_TFS       | Goal: Making a theoretical contribution to science                                   |
| GOAL20_TFS       | Goal: Obtaining recognition from my colleagues for contributions to my special field |
| GOAL21_TFS       | Goal: Participating in a community action program                                    |
| GOAL23_TFS       | Goal: Raising a family                                                               |
| GOAL24_TFS       | Goal: Writing original works (poems, novels, etc.)                                   |
| GRADMAJOR        | Graduate major (omit if you do not plan to go to graduate school)                    |
| GRADMAJORA       | Planned graduate major aggregated                                                    |
| HADREM1_TFS      | English: Have had special tutoring or remedial work                                  |
| HADREM2_TFS      | Reading: Have had special tutoring or remedial work                                  |
| HADREM3_TFS      | Mathematics: Have had special tutoring or remedial work                              |
| HADREM4_TFS      | Social Studies: Have had special tutoring or remedial work                           |
| HADREM5_TFS      | Science: Have had special tutoring or remedial work                                  |
| HADREM6_TFS      | Foreign Language: Have had special tutoring or remedial work                         |
| HADREM7_TFS      | Writing: Have had special tutoring or remedial work                                  |
| HIDEGREE_TFS     | Highest academic degree planned at this college                                      |
| HIDEGREE00_N_TFS | Highest academic degree planned at this college                                      |
| HOMEZIP_TFS      | Student's home zip                                                                   |
| HPW01            | Hours per Week: Attending Classes/Labs                                               |
| HPW05            | Hours per Week: Commuting                                                            |
| HPW06            | Hours per Week: Exercising/sports                                                    |
| HPW08            | Hours per Week: Household/childcare duties                                           |
| HPW10            | Hours per Week: Partying                                                             |
| HPW12            | Hours per Week: Prayer/meditation                                                    |
| HPW13            | Hours per Week: Reading for pleasure                                                 |
| HPW15            | Hours per Week: Socializing with friends                                             |

|              |                                                                       |
|--------------|-----------------------------------------------------------------------|
| HPW16        | Hours per Week: Student clubs/groups                                  |
| HPW17        | Hours per Week: Studying/homework                                     |
| HPW19        | Hours per Week: Talking with faculty during office hours              |
| HPW21        | Hours per Week: Talking with faculty outside of class or office hours |
| HPW24        | Hours per Week: Watching TV                                           |
| HPW26        | Hours per Week: Working (for pay) off campus                          |
| HPW27        | Hours per Week: Working (for pay) on campus                           |
| HPW01_TFS    | Hours per Week: Studying/homework                                     |
| HPW02_TFS    | Hours per Week: Socializing with friends                              |
| HPW03_TFS    | Hours per Week: Talking with teachers outside of class                |
| HPW04_TFS    | Hours per Week: Exercise or sports                                    |
| HPW05_TFS    | Hours per Week: Partying                                              |
| HPW06_TFS    | Hours per Week: Working (for pay)                                     |
| HPW07_TFS    | Hours per Week: Volunteer work                                        |
| HPW08_TFS    | Hours per Week: Student clubs/groups                                  |
| HPW09_TFS    | Hours per Week: Watching TV                                           |
| HPW10_TFS    | Hours per Week: Household/childcare duties                            |
| HPW11_TFS    | Hours per Week: Prayer/meditation                                     |
| HPW12_TFS    | Hours per Week: Reading for pleasure                                  |
| HPW14_TFS    | Hours per Week: Playing video/computer games                          |
| HSGPA_TFS    | What was your average grade in high school?                           |
| INCOME_TFS   | What is your best estimate of your parents' total income last year?   |
| INSTCONT     | Institution Control                                                   |
| INSTTYPE     | Institution Type                                                      |
| LOANAMT      | Loan amount                                                           |
| MAJOR1       | Undergraduate major                                                   |
| MAJOR_TFS    | Student's probable field of study/major                               |
| MAJOR1A      | Primary undergraduate major aggregated                                |
| MAJORA_TFS   | Student's major aggregated                                            |
| MARITAL_TFS  | Are you presently married?                                            |
| MCAREER_TFS  | Mother's career                                                       |
| MCAREERA_TFS | Mother's career aggregated                                            |
| MOTHEduc_TFS | Mother's education                                                    |
| MRACE1       | Mother: White                                                         |
| MRACE2       | Mother: Black                                                         |
| MRACE3       | Mother: American Indian                                               |
| MRACE4       | Mother: Asian                                                         |
| MRACE5       | Mother: Native Hawaiian/Pacific Islander                              |

|                |                                                                                                                                                                                                          |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MRACE6         | Mother: Mexican American/Chicano                                                                                                                                                                         |
| MRACE7         | Mother: Puerto Rican                                                                                                                                                                                     |
| MRACE8         | Mother: Other Latino                                                                                                                                                                                     |
| MRACE9         | Mother: Other                                                                                                                                                                                            |
| MRELIGION_TFS  | Mother's religion                                                                                                                                                                                        |
| MRELIGIONA_TFS | Your mother's religious preference                                                                                                                                                                       |
| NATENGSP_TFS   | Is English your native language?                                                                                                                                                                         |
| NDEPCOL_TFS    | How many of these dependents other than yourself are currently attending college?                                                                                                                        |
| NDEPPAR_TFS    | How many persons are currently dependent on your parents for support?                                                                                                                                    |
| NEEDREM1_TFS   | English: Will need special tutoring or remedial work                                                                                                                                                     |
| NEEDREM2_TFS   | Reading: Will need special tutoring or remedial work                                                                                                                                                     |
| NEEDREM3_TFS   | Mathematics: Will need special tutoring or remedial work                                                                                                                                                 |
| NEEDREM4_TFS   | Social Studies: Will need special tutoring or remedial work                                                                                                                                              |
| NEEDREM5_TFS   | Science: Will need special tutoring or remedial work                                                                                                                                                     |
| NEEDREM6_TFS   | Foreign Language: Will need special tutoring or remedial work                                                                                                                                            |
| NEEDREM7_TFS   | Writing: Will need special tutoring or remedial work                                                                                                                                                     |
| NOCRED1_TFS    | Not for credit at any other institution                                                                                                                                                                  |
| NOCRED2_TFS    | Not for credit at junior college or community college                                                                                                                                                    |
| NOCRED3_TFS    | Not for credit at a four-year college or university                                                                                                                                                      |
| NOCRED4_TFS    | Not for credit at some other postsecondary                                                                                                                                                               |
| NUMACCPT_TFS   | How many other acceptances did you receive this year?                                                                                                                                                    |
| NUMAPPLY_TFS   | To how many colleges other than this one did you apply for admission this year?                                                                                                                          |
| OTHERINST      | Since entering college, have you ever taken courses, whether for credit or not for credit, at any other institution (e.g., university, 4- or 2-year college, technical, vocational, or business school)? |
| PARBORN_TFS    | Which of your parents were born in the U.S.?                                                                                                                                                             |
| PARSTAT_TFS    | Are your parents alive? divorced?                                                                                                                                                                        |
| PERMIT         | Do you give the higher education research institute (HERI) permission to include your id number should your college request the data for additional research analyses?                                   |
| PERMIT_TFS     | Do you give HERI permission to include your id number should your college request the data for additional research analyses?                                                                             |
| PLANLIVE_TFS   | Where do you plan to live during the fall term?                                                                                                                                                          |

|               |                                                                           |
|---------------|---------------------------------------------------------------------------|
| PLANS01       | Plans: Attending a vocational training program                            |
| PLANS02       | Plans: Attending graduate or professional school                          |
| PLANS03       | Plans: Attending undergraduate college full-time                          |
| PLANS04       | Plans: Attending undergraduate college part-time                          |
| PLANS05       | Plans: Doing volunteer work                                               |
| PLANS06       | Plans: No Current Plans                                                   |
| PLANS07       | Plans: Participating in a community service organization                  |
| PLANS11       | Plans: Serving in the Armed Forces                                        |
| PLANS12       | Plans: Staying at home to be with (or start) my family                    |
| PLANS13       | Plans: Traveling, hostelling, or backpacking                              |
| PLANS16       | Plans: Working full-time                                                  |
| PLANS20       | Plans: Working part-time                                                  |
| POLIVIEW      | How would you characterize your political views?                          |
| POLIVIEW_TFS  | How would you characterize your political views?                          |
| PREVCRED_TFS  | Prior to this term, have you ever taken courses at any other institution? |
| RACE1         | White                                                                     |
| RACE2         | Black                                                                     |
| RACE3         | American Indian                                                           |
| RACE4         | Asian                                                                     |
| RACE5         | Native Hawaiian/Pacific Islander                                          |
| RACE6         | Mexican/Chicano                                                           |
| RACE7         | Puerto Rican                                                              |
| RACE8         | Other Latino                                                              |
| RACE9         | Other race/ethnicity                                                      |
| RACE1_TFS     | American Indian                                                           |
| RACE2_TFS     | Asian                                                                     |
| RACE3_TFS     | Native Hawaiian/Pacific Islander                                          |
| RACE4_TFS     | Black                                                                     |
| RACE5_TFS     | Mexican/Chicano                                                           |
| RACE6_TFS     | Puerto Rican                                                              |
| RACE7_TFS     | Other Latino                                                              |
| RACE8_TFS     | White                                                                     |
| RACE9_TFS     | Other race/ethnicity                                                      |
| RACEGROUP     | Race/Ethnicity Group                                                      |
| RACEGROUP_TFS | Race/Ethnicity Group                                                      |
| RATE01        | Self Rating: Academic ability                                             |
| RATE02        | Self Rating: Artistic ability                                             |
| RATE05        | Self Rating: Computer Skills                                              |
| RATE06        | Self Rating: Cooperativeness                                              |

|              |                                                        |
|--------------|--------------------------------------------------------|
| RATE07       | Self Rating: Creativity                                |
| RATE09       | Self Rating: Drive to achieve                          |
| RATE10       | Self Rating: Emotional health                          |
| RATE12       | Self Rating: Leadership ability                        |
| RATE13       | Self Rating: Mathematical ability                      |
| RATE14       | Self Rating: Persistence                               |
| RATE15       | Self Rating: Physical health                           |
| RATE18       | Self Rating: Public speaking ability                   |
| RATE21       | Self Rating: Risk-taking                               |
| RATE22       | Self Rating: Self-confidence (intellectual)            |
| RATE23       | Self Rating: Self-confidence (social)                  |
| RATE24       | Self Rating: Self-understanding                        |
| RATE25       | Self Rating: Spirituality                              |
| RATE27       | Self Rating: Understanding of others                   |
| RATE28       | Self Rating: Writing ability                           |
| RATE01_TFS   | Self Rating: Academic ability                          |
| RATE02_TFS   | Self Rating: Artistic ability                          |
| RATE05_TFS   | Self Rating: Computer skills                           |
| RATE06_TFS   | Self Rating: Cooperativeness                           |
| RATE07_T_TFS | Self Rating: Persistence                               |
| RATE07_TFS   | Self Rating: Creativity                                |
| RATE08_TFS   | Self Rating: Drive to achieve                          |
| RATE09_TFS   | Self Rating: Emotional health                          |
| RATE10_TFS   | Self Rating: Leadership ability                        |
| RATE11_TFS   | Self Rating: Mathematical ability                      |
| RATE12_TFS   | Self Rating: Physical health                           |
| RATE13_T_TFS | Self Rating: Religiousness                             |
| RATE13_TFS   | Self Rating: Popularity                                |
| RATE14_T_TFS | Self Rating: Risk-taking                               |
| RATE14_TFS   | Self Rating: Public speaking ability                   |
| RATE15_TFS   | Self Rating: Self-confidence (intellectual)            |
| RATE16_TFS   | Self Rating: Self-confidence (social)                  |
| RATE17_TFS   | Self Rating: Self-understanding                        |
| RATE18_TFS   | Self Rating: Spirituality                              |
| RATE19_TFS   | Self Rating: Understanding of others                   |
| RATE20_TFS   | Self Rating: Writing ability                           |
| REASON01_TFS | Reason Attend: A mentor/role model encouraged me to go |
| REASON02_TFS | Reason Attend: I could not find a job                  |
| REASON03_TFS | Reason Attend: My parents wanted me to go              |
| REASON04_TFS | Reason Attend: There was nothing better to do          |

|                  |                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------|
| REASON05_TFS     | Reason Attend: To be able to get a better job                                                         |
| REASON06_TFS     | Reason Attend: To be able to make more money                                                          |
| REASON07_TFS     | Reason Attend: To get training for a specific career                                                  |
| REASON08_TFS     | Reason Attend: To gain a general education and appreciation of ideas                                  |
| REASON09_TFS     | Reason Attend: To improve my reading and study skills                                                 |
| REASON10_TFS     | Reason Attend: To learn more about things that interest me                                            |
| REASON11_TFS     | Reason Attend: To make me a more cultured person                                                      |
| REASON12_TFS     | Reason Attend: To prepare myself for graduate or professional school                                  |
| REASON13_TFS     | Reason Attend: Wanted to get away from home                                                           |
| REENROLL_9406    | If you could make your college choice over, would you still choose to enroll at your current college? |
| RELWOMEQ02_N_TFS | My religion treats men and women as equals                                                            |
| RRACE            | Responded to Race Question                                                                            |
| RRACE_TFS        | Responded to race                                                                                     |
| SAMEACE          | CSS and TFS data from same institution                                                                |
| SATIS01_9406     | Satisfaction: Ability to find a faculty or staff mentor                                               |
| SATIS02_9406     | Satisfaction: Academic advising                                                                       |
| SATIS04_9406     | Satisfaction: Availability of internet access                                                         |
| SATIS05_9406     | Satisfaction: Campus health services                                                                  |
| SATIS06_9406     | Satisfaction: Career counseling and advising                                                          |
| SATIS08_9406     | Satisfaction: Computer facilities                                                                     |
| SATIS13_9406     | Satisfaction: Financial aid services                                                                  |
| SATIS14_9406     | Satisfaction: General education or core curriculum courses                                            |
| SATIS15_9406     | Satisfaction: Humanities courses                                                                      |
| SATIS18_9406     | Satisfaction: Job placement services for students                                                     |
| SATIS19_9406     | Satisfaction: Laboratory facilities and equipment                                                     |
| SATIS20_9406     | Satisfaction: Leadership opportunities                                                                |
| SATIS21_9406     | Satisfaction: Library facilities                                                                      |
| SATIS22_9406     | Satisfaction: Opportunities for community service                                                     |
| SATIS29_9406     | Satisfaction: Quality of computer training/assistance                                                 |
| SATIS30_9406     | Satisfaction: Recreational facilities                                                                 |
| SATIS32_9406     | Satisfaction: Science and mathematics courses                                                         |
| SATIS34_9406     | Satisfaction: Social science courses                                                                  |
| SATIS35_9406     | Satisfaction: Student housing                                                                         |
| SATIS36_9406     | Satisfaction: Tutorial help or other academic assistance                                              |
| SATM_TFS         | SAT Math                                                                                              |
| SATV_TFS         | SAT Verbal                                                                                            |

|              |                                                                         |
|--------------|-------------------------------------------------------------------------|
| SCAREER_TFS  | Student's probable career                                               |
| SCAREERA_TFS | Student's probable career aggregated                                    |
| SELECTIVITY  | Institutional Selectivity                                               |
| SEX          | Your sex:                                                               |
| SEX_TFS      | Your sex:                                                               |
| SLFCHG01     | Change: Ability to get along with people of different races/cultures    |
| SLFCHG03     | Change: Ability to manage your time effectively                         |
| SLFCHG04     | Change: Ability to think critically                                     |
| SLFCHG08     | Change: Analytical and problem-solving skills                           |
| SLFCHG11     | Change: Computer skills                                                 |
| SLFCHG17     | Change: General knowledge                                               |
| SLFCHG18     | Change: Interpersonal skills                                            |
| SLFCHG19     | Change: Knowledge of a particular field or discipline                   |
| SLFCHG20     | Change: knowledge of people from different races/cultures               |
| SLFCHG21     | Change: Leadership abilities                                            |
| SLFCHG22     | Change: Mathematical skills                                             |
| SLFCHG25     | Change: Preparedness for employment after college                       |
| SLFCHG26     | Change: Preparedness for graduate or advanced education                 |
| SLFCHG28     | Change: Public speaking ability                                         |
| SLFCHG34     | Change: Understanding of social problems facing our nation              |
| SLFCHG35     | Change: Understanding of the problems facing your community             |
| SLFCHG36     | Change: Writing skills                                                  |
| SRELIGION    | Your current religious preference                                       |
| STATE        | Institution State                                                       |
| STUDBORN_TFS | Birthplace: Which of the following statements applies to you?           |
| STUDSTAT_TFS | Student status                                                          |
| SUBJID       | Subject I.D.                                                            |
| SUBJID_TFS   | Subject I.D.                                                            |
| VIEW02       | View: Abortion should be legal                                          |
| VIEW04       | View: Affirmative action in college admissions should be abolished      |
| VIEW09       | View: Colleges should prohibit racist/sexist speech on campus           |
| VIEW13       | View: Federal military spending should be increased                     |
| VIEW17       | View: It is important to have laws prohibiting homosexual relationships |
| VIEW19       | View: Marijuana should be legalized                                     |

|        |                                                                                        |
|--------|----------------------------------------------------------------------------------------|
| VIEW24 | View: Racial discrimination is no longer a problem in America                          |
| VIEW25 | View: Realistically, an individual can do little to bring about changes in our society |
| VIEW26 | View: Same sex couples should have the right to legal marital status                   |
| VIEW29 | View: The activities of married women are best confined to the home and family         |
| VIEW31 | View: The chief benefit of college education is that it increase one's earning power   |
| VIEW32 | View: The death penalty should be abolished                                            |
| VIEW35 | View: The federal government should do more to control the sale of handguns            |
| VIEW36 | View: The federal government should do more to discourage energy consumption           |
| VIEW39 | View: There is too much concern in the courts for the right of criminals               |
| VIEW42 | View: Wealthy people should pay a larger share of taxes than they do now               |

## Appendix C – List of Institutions Participating in CSS 2006

### *List of Participating Institutions by Name*

|                                             |    |
|---------------------------------------------|----|
| Abilene Christian University                | TX |
| Alvernia College                            | PA |
| Asbury University                           | KY |
| Augustana College                           | IL |
| Avila University                            | MO |
| Azusa Pacific University                    | CA |
| Beloit College                              | WI |
| Bethel College                              | IN |
| Bethel University                           | MN |
| Biola University                            | CA |
| Bluffton University                         | OH |
| Bucknell University                         | PA |
| Butler University                           | IN |
| California Baptist University               | CA |
| California State University-Channel Islands | CA |
| Carthage College                            | WI |
| Cedar Crest College                         | PA |
| Chapman University                          | CA |
| Claremont McKenna College                   | CA |
| Coe College                                 | IA |
| College of Mount Saint Vincent              | NY |
| College of Saint Mary                       | NE |
| College of the Holy Cross                   | MA |
| Colorado State University                   | CO |
| Columbia College-South Carolina             | SC |
| Cornerstone University                      | MI |
| Creighton University                        | NE |
| Crichton College                            | TN |
| Davidson College                            | NC |
| East Texas Baptist University               | TX |
| Eastern Mennonite University                | VA |
| Eckerd College                              | FL |
| Elizabethtown College                       | PA |
| Emmanuel College                            | MA |
| Erskine College and Seminary                | SC |
| Fairfield University                        | CT |
| Fordham University                          | NY |
| Fresno Pacific University                   | CA |
| Gannon University                           | PA |
| Geneva College                              | PA |
| George Fox University                       | OR |
| Gonzaga University                          | WA |

### *List of Participating Institutions by State*

|                                             |    |
|---------------------------------------------|----|
| John Brown University                       | AR |
| Lyon College                                | AR |
| Azusa Pacific University                    | CA |
| Biola University                            | CA |
| California Baptist University               | CA |
| California State University-Channel Islands | CA |
| Chapman University                          | CA |
| Claremont McKenna College                   | CA |
| Fresno Pacific University                   | CA |
| Loyola Marymount University                 | CA |
| Mount St Mary's University                  | CA |
| Pepperdine University                       | CA |
| Point Loma Nazarene University              | CA |
| Saint Mary's College of California          | CA |
| Santa Clara University                      | CA |
| Simpson University                          | CA |
| The Master's College and Seminary           | CA |
| University of California-San Diego          | CA |
| University of Redlands                      | CA |
| Westmont College                            | CA |
| Woodbury University                         | CA |
| Colorado State University                   | CO |
| Regis University                            | CO |
| Fairfield University                        | CT |
| Quinnipiac University                       | CT |
| Sacred Heart University                     | CT |
| Eckerd College                              | FL |
| Palm Beach Atlantic University              | FL |
| North Georgia College & State University    | GA |
| Wesleyan College                            | GA |
| Coe College                                 | IA |
| Iowa Wesleyan College                       | IA |
| Luther College                              | IA |
| Northwestern College-Orange City            | IA |
| Wartburg College                            | IA |
| Northwest Nazarene University               | ID |
| Augustana College                           | IL |
| Greenville College                          | IL |
| Illinois Wesleyan University                | IL |
| Knox College                                | IL |
| North Central College                       | IL |
| Principia College                           | IL |

|                                          |    |
|------------------------------------------|----|
| Goshen College                           | IN |
| Grace College and Theological Seminary   | IN |
| Grand Valley State University            | MI |
| Greenville College                       | IL |
| Gustavus Adolphus College                | MN |
| Hanover College                          | IN |
| Houston Baptist University               | TX |
| Illinois Wesleyan University             | IL |
| Indiana Wesleyan University              | IN |
| Iowa Wesleyan College                    | IA |
| John Brown University                    | AR |
| John Carroll University                  | OH |
| Johnson & Wales University-Providence    | RI |
| Johnson C Smith University               | NC |
| Kentucky Wesleyan College                | KY |
| Kenyon College                           | OH |
| Knox College                             | IL |
| Kutztown University of Pennsylvania      | PA |
| Lafayette College                        | PA |
| Lawrence University                      | WI |
| Loyola Marymount University              | CA |
| Luther College                           | IA |
| Lyon College                             | AR |
| Marian University                        | IN |
| Marywood University                      | PA |
| McPherson College                        | KS |
| Miami University-Oxford                  | OH |
| Middlebury College                       | VT |
| Mississippi College                      | MS |
| Missouri State University                | MO |
| Molloy College                           | NY |
| Monmouth University                      | NJ |
| Montclair State University               | NJ |
| Moore College of Art and Design          | PA |
| Moravian College and Seminary            | PA |
| Mount Olive College                      | NC |
| Mount Saint Mary College                 | NY |
| Mount St Mary's University               | CA |
| Mount Vernon Nazarene University         | OH |
| North Central College                    | IL |
| North Georgia College & State University | GA |
| Northwest Nazarene University            | ID |
| Northwestern College                     | MN |
| Northwestern College-Orange City         | IA |
| Notre Dame College                       | OH |
| Nyack College                            | NY |

|                                         |    |
|-----------------------------------------|----|
| Southern Illinois University Carbondale | IL |
| Trinity Christian College               | IL |
| Bethel College                          | IN |
| Butler University                       | IN |
| Goshen College                          | IN |
| Grace College and Theological Seminary  | IN |
| Hanover College                         | IN |
| Indiana Wesleyan University             | IN |
| Marian University                       | IN |
| Taylor University                       | IN |
| Wabash College                          | IN |
| McPherson College                       | KS |
| Tabor College                           | KS |
| Asbury University                       | KY |
| Kentucky Wesleyan College               | KY |
| College of the Holy Cross               | MA |
| Emmanuel College                        | MA |
| Pine Manor College                      | MA |
| Regis College                           | MA |
| Salem State College                     | MA |
| Wheaton College-Norton                  | MA |
| Towson University                       | MD |
| Cornerstone University                  | MI |
| Grand Valley State University           | MI |
| Spring Arbor University                 | MI |
| Bethel University                       | MN |
| Gustavus Adolphus College               | MN |
| Northwestern College                    | MN |
| Avila University                        | MO |
| Missouri State University               | MO |
| Mississippi College                     | MS |
| Davidson College                        | NC |
| Johnson C Smith University              | NC |
| Mount Olive College                     | NC |
| Roanoke Bible College                   | NC |
| College of Saint Mary                   | NE |
| Creighton University                    | NE |
| Southern New Hampshire University       | NH |
| Monmouth University                     | NJ |
| Montclair State University              | NJ |
| University of Nevada-Reno               | NV |
| College of Mount Saint Vincent          | NY |
| Fordham University                      | NY |
| Molloy College                          | NY |
| Mount Saint Mary College                | NY |
| Nyack College                           | NY |

|                                         |    |
|-----------------------------------------|----|
| Oklahoma Wesleyan University            | OK |
| Palm Beach Atlantic University          | FL |
| Pepperdine University                   | CA |
| Pine Manor College                      | MA |
| Point Loma Nazarene University          | CA |
| Presbyterian College                    | SC |
| Principia College                       | IL |
| Quinnipiac University                   | CT |
| Regis College                           | MA |
| Regis University                        | CO |
| Rensselaer Polytechnic Institute        | NY |
| Ripon College                           | WI |
| Roanoke Bible College                   | NC |
| Roberts Wesleyan College                | NY |
| Sacred Heart University                 | CT |
| Saint Marys College of California       | CA |
| Saint Norbert College                   | WI |
| Salem State College                     | MA |
| Santa Clara University                  | CA |
| Sarah Lawrence College                  | NY |
| Seattle Pacific University              | WA |
| Seattle University                      | WA |
| Simpson University                      | CA |
| Southern Illinois University Carbondale | IL |
| Southern New Hampshire University       | NH |
| Southern Wesleyan University            | SC |
| Spring Arbor University                 | MI |
| St Francis College                      | NY |
| St John's University-New York           | NY |
| Sweet Briar College                     | VA |
| Tabor College                           | KS |
| Taylor University                       | IN |
| Texas A & M University                  | TX |
| The College of New Rochelle             | NY |
| The College of Wooster                  | OH |
| The Master's College and Seminary       | CA |
| Towson University                       | MD |
| Trinity Christian College               | IL |
| Union University                        | TN |
| University of California-San Diego      | CA |
| University of Nevada-Reno               | NV |
| University of Redlands                  | CA |
| University of Scranton                  | PA |
| University of Wisconsin-River Falls     | WI |
| Wabash College                          | IN |
| Wartburg College                        | IA |
| Waynesburg University                   | PA |
| Wesleyan College                        | GA |

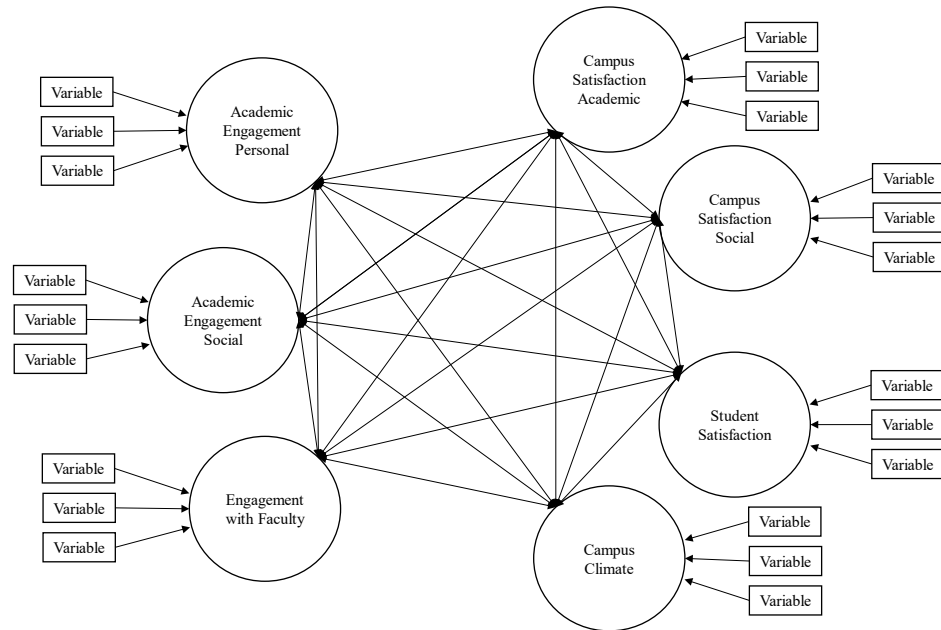
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|---------------------------------------|----|
| Rensselaer Polytechnic Institute      | NY |
| Roberts Wesleyan College              | NY |
| Sarah Lawrence College                | NY |
| St Francis College                    | NY |
| St John's University-New York         | NY |
| The College of New Rochelle           | NY |
| Bluffton University                   | OH |
| John Carroll University               | OH |
| Kenyon College                        | OH |
| Miami University-Oxford               | OH |
| Mount Vernon Nazarene University      | OH |
| Notre Dame College                    | OH |
| The College of Wooster                | OH |
| Oklahoma Wesleyan University          | OK |
| George Fox University                 | OR |
| Alvernia College                      | PA |
| Bucknell University                   | PA |
| Cedar Crest College                   | PA |
| Elizabethtown College                 | PA |
| Gannon University                     | PA |
| Geneva College                        | PA |
| Kutztown University of Pennsylvania   | PA |
| Lafayette College                     | PA |
| Marywood University                   | PA |
| Moore College of Art and Design       | PA |
| Moravian College and Seminary         | PA |
| University of Scranton                | PA |
| Waynesburg University                 | PA |
| Wilkes University                     | PA |
| Johnson & Wales University-Providence | RI |
| Columbia College-South Carolina       | SC |
| Erskine College and Seminary          | SC |
| Presbyterian College                  | SC |
| Southern Wesleyan University          | SC |
| Crichton College                      | TN |
| Union University                      | TN |
| Abilene Christian University          | TX |
| East Texas Baptist University         | TX |
| Houston Baptist University            | TX |
| Texas A & M University                | TX |
| Eastern Mennonite University          | VA |
| Sweet Briar College                   | VA |
| Middlebury College                    | VT |
| Gonzaga University                    | WA |
| Seattle Pacific University            | WA |
| Seattle University                    | WA |
| Beloit College                        | WI |
| Carthage College                      | WI |

|                            |    |
|----------------------------|----|
| Westmont College           | CA |
| Wheaton College-Norton     | MA |
| Wheeling Jesuit University | WV |
| Wilkes University          | PA |
| Woodbury University        | CA |

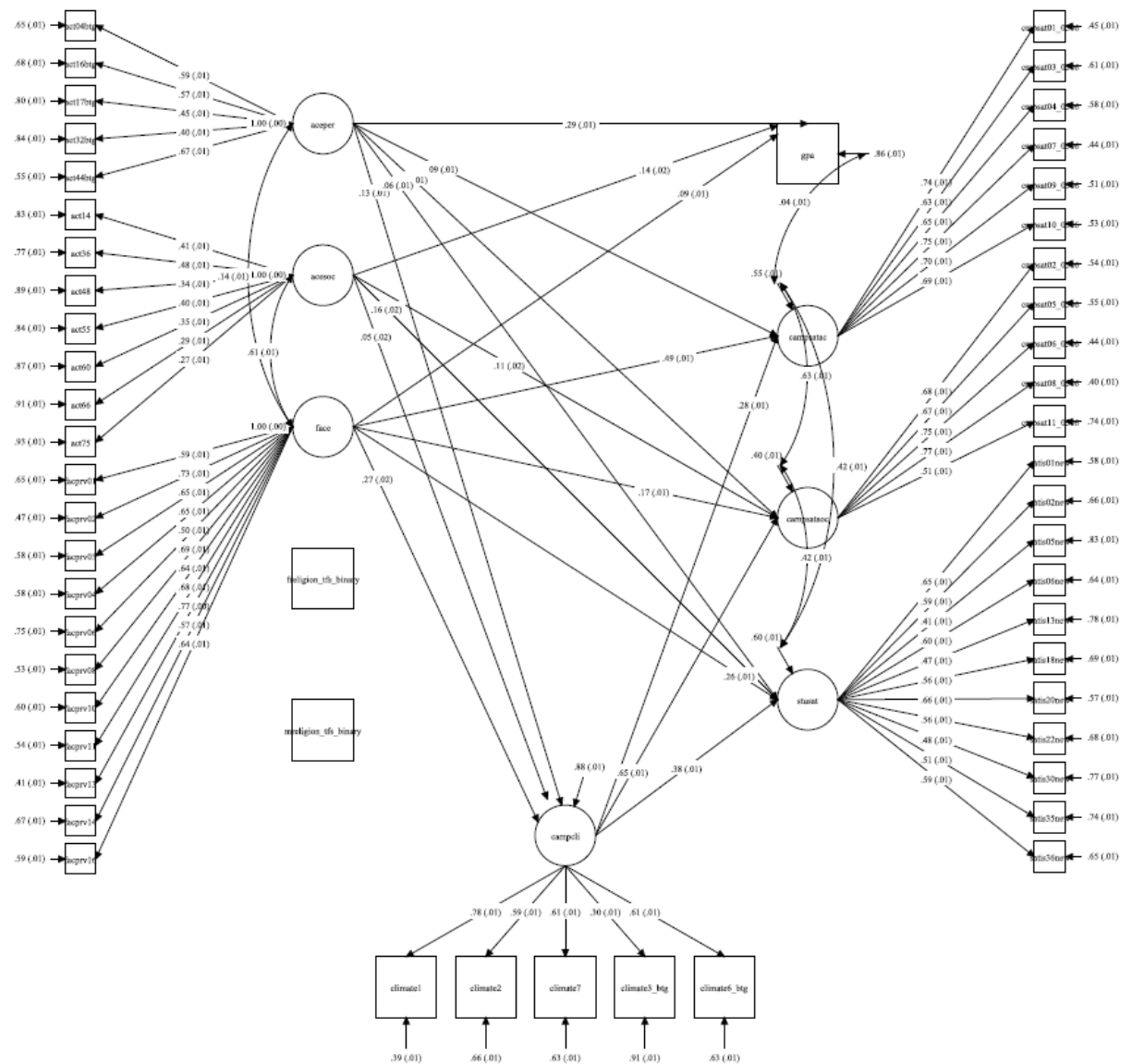
|                                     |    |
|-------------------------------------|----|
| Lawrence University                 | WI |
| Ripon College                       | WI |
| Saint Norbert College               | WI |
| University of Wisconsin-River Falls | WI |
| Wheeling Jesuit University          | WV |

## Appendix D - Models

### Conceptual model for SEM



## SEM Model for Religious Group from MPLus



*Note: Circles represent constructs: aceper is Academic Engagement-Personal, acesoc is Academic Engagement – Social, face is Engagement with Faculty, gpa is GPA, campsatac is Campus Satisfaction – Academic, campsatsoc is Campus Satisfaction – Social, campcli is Campus Climate, and stusac is Student Satisfaction with Support Services. Arrows between constructs indicate significant relationship where .xx is the Est. and (.xx) is p. Squares are the variables for construct, except for freligion\_tfs\_binary and mreligion\_tfs\_binary that are the variables for father's and mother's religion respectively.*