

Religious Change and College Students:

Risk Behaviors, Peer and Family Influence, and Life Satisfaction

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### Abstract

This study examined the relationships among religious change and risk behaviors, perceived influence from peers and family, and life satisfaction. In order to increase the knowledge of these potential correlates of religious change in college students, the researcher sought to identify the relationships among religious change and the risk behaviors of alcohol consumption, marijuana use, and increased sexual risk patterns, as well as among religious change and perceived influence from past peers, current peers, and family. Additionally, the association between religious change and life satisfaction was examined. The analysis of these relationships was conducted on a sample size of 145 students at a large, secular undergraduate institution in the Midwest, and each participant was asked to report information on each of the variables of interest. The results of this study indicated significant relationships among religious change and alcohol use, increased sexual risk behaviors, perceived current peer influence, and life satisfaction.

## **Religious Change and College Students:**

### **Risk Behaviors, Peer and Family Influence, and Life Satisfaction**

Religion is a salient aspect in the lives of countless individuals, each with their own stories of how they came to identify with a particular religion, or lack thereof. Religious identification, the way in which an individual relates to a specific religious group or doctrine, can change at any point in a person's life. However, studies have shown that religious exploration and change are common in the college setting, with different studies finding different rates of the prevalence of change. For example, Lee (2002) found the religious identities of approximately half of college students change during their college careers, while Bryant and Astin (2008) found that about one fifth of students "frequently questioned their religious/spiritual beliefs" (p. 12). Despite this prevalence of religious change for college students, contemporary scientific literature on college students and young adult religious change and identity is currently lacking, and many existing papers on the subject are decades old (Hastings & Hoge, 1976; Hoge & Petrillo, 1978; Wuthnow & Glock, 1973). Specifically, the potential external influences of religious change, which could be significant factors as to why college students alter their religious identities, are currently understudied. This study seeks to advance the knowledge of religious identity in college students by examining how and why their religious identities change, as well as what effect this has on their satisfaction with life. Furthermore, although countless theories exist to explain why religious identity for college students may change, this study will focus on the potential influence of risk behaviors, past and current peers, and family.

### **Religious Change in College**

The direction of religious change is not uniform; some students increase the strength of their religious identities, while others experience a weakening of their religious identities, and

some do not change at all. Many Christian groups today express strong concerns that attendance at secular institutions of higher education weakens religious identity, and conservative media outlets and politicians often cite the statistic that over half of students who attend college become less religious (Budziszewski, n.d.; Santorum, R., 2012; Kwon, 2006). However, the research behind this statistic seems to be unavailable.

Based on several articles published in the 1980s and 1990s, Lee (2002) hypothesized that that the majority of students in college experience religious decline. However, after conducting a study of over 4,000 college students, she found 37.9 percent of the students she surveyed experienced an increase in their religious identities, while 13.7 percent experienced a weakening of their religious identities, and 48.3 percent reported no change. This finding, which was the result of a longitudinal study at dozens of institutions across the United States, disproved Lee's hypothesis that most students would become less religious, but did indicate that religious change in general, including a strengthening of religious identity, is very common in the college setting (Lee, 2002). Bryant and Astin (2008) found similar results to Lee (2002), in their longitudinal study of more than 3,500 students. When the students in Bryant and Astin's sample were asked about their current religious beliefs, approximately one fifth reported religious questioning. These studies both indicate the existence, but not prevalence, of religious decline for students in college. Additionally, they point to the existence of increasing strength of religious identity for a notable group of college students.

Religious changes in any direction are worth examining because religion is a salient aspect in the lives of many college students. According to Bryant and Astin (2008), students struggling with their spirituality were more likely to experience psychological distress, a decrease in physical health, and less self-confidence. However, little is known about the

association between life satisfaction and the direction of religious change, or about the causes and effects of becoming more religious in college.

The relationships among religious change and life satisfaction, risk behaviors, and peer and family influences were all chosen for analysis because of the significant roles they often play in the lives of young adults. Life satisfaction is a salient aspect in the lives of people across ages, religions, and cultures, and it affects the way in which people live their lives and to what degree they find meaning and joy in what they do. Risk behaviors and peer and family influences also have important implications in the way people live, but in contrast to life satisfaction, these variables were chosen because they often undergo strong changes specifically when young adults enter college. When young adults enroll in college, they often enter into new situations, with less family influence, more peer influence, and, often, a higher opportunity to engage in risk behaviors. It is worth exploring what impact these significant life changes have on religious identity.

### **Risk Behaviors**

As described by Uecker, Regnerus, and Vaaler (2007), one theory as to why young adults change their religious identifications is that an increase in risk behaviors during this time causes cognitive dissonance between the activities young adults engage in and the teachings of their religions, which often discourage the use of illegal substances and non-marital sex. According to this line of thinking, when students engage in behaviors that are contrary to religious teachings, they must reconcile their actions and beliefs somehow. It is possible students may do this by becoming less religious.

This concept is supported by research by Uecker et al. (2007) that draws from data derived from a longitudinal study of over 15,000 young adults who were studied first as high

school students in 1994 and 1995 and again in 2001 and 2002, when they were generally between the ages of 18-25. During these surveys, the researchers asked numerous questions, including questions regarding religious involvement, importance, and affiliation, as well as questions to measure engagement in risk behaviors. In doing so, they found support for the relationship between recent sexual activity and religious decline for young adults ( $p < .01$ ), as well as between change in marijuana usage from the first wave to the third and young adult religious decline ( $p < .001$ ; Uecker et al., 2007). It is important to note that this correlation does not imply causation. However, the significance of this relationship is worth exploring further.

Menagi, Harrell, and June (2008) provided an example of the relationship between risk behaviors and religious identity specifically in regards to religious identity and alcohol consumption. Menagi et al.'s (2008) study of 221 college students looked at both religious commitment and religious coping (using religion to deal with personal challenges) in regards to alcohol use frequency, binge drinking, and alcohol-related problems. In doing so, they found significant correlations for all six relationships. Religious commitment was negatively correlated with alcohol use frequency ( $-0.40$ ;  $p < 0.001$ ), binge drinking ( $-0.28$ ;  $p < 0.001$ ), and alcohol-related problems ( $-0.16$ ,  $p < 0.05$ ). Religious coping was also negatively correlated with alcohol use frequency ( $-0.40$ ,  $p < 0.001$ ), binge drinking ( $-0.33$ ,  $p < 0.001$ ), and alcohol-related problems ( $-0.15$ ;  $p < .05$ ).

Ellison, Bradshaw, Rote, Storch, and Trevino (2008) also demonstrated the correlation between alcohol use and religious identity. In this study, the researchers surveyed over 1,000 students who were recruited from classrooms, in public places, and via email. By asking these students to report detailed information on both their religious identities and their alcohol consumption, Ellison et al. (2008) determined that religiously active students, particularly those

who identified as conservative Protestants or Muslims, tended to drink less often than their non-religious peers and students from different religious backgrounds.

Ellison et al. (2008) hypothesize this may be due to the possibility that religion teaches self-control behaviors, which may extend increased control in alcohol intake. Additionally, Ellison et al. suggest that when religious students who practice these behaviors spend time together, these behaviors will be enforced and less drinking will occur. This supports both the idea that religious identity is associated with alcohol consumption, as well as the idea that religious identity will be strongly influenced by peers.

### **Peers**

Peers have been shown to have a significant influence on the religious identification of individuals (Mayrl & Uecker, 2011; Desrosiers, Kelley, & Miller, 2011), with Mayrl and Uecker (2011) finding that students in homogeneously religious friend groups were less likely to develop more liberal beliefs after longitudinally surveying over 2,500 young people between the ages of 13 and 23.

Desrosiers et al. (2011) further explored the connection between peers and religious identity in their study of 615 young people between the ages of 13 and 23. This study focused on the effect of peer support of spirituality on Relational Spirituality, which is the degree to which individuals feel they have a personal, intimate relationship with a higher power. By measuring both Friends Spiritual Support and Relational Spirituality, Desrosiers et al. (2011) found a significant positive correlation between these two measures ( $0.29; p < .01$ ), indicating that increased peer support of a particular religion may cause people to have closer relationships with the higher power in which they believe and therefore a stronger religious identity.

These findings strongly align with the Social Identification Model, which was explained and summarized by Turner (1982). According to this theory, people define themselves in terms of the groups they are in, and this strong group association may lead people to adopt the values and norms of their groups (Turner, 1982). Additionally, Turner (1982) explains that even perceiving a sense of belonging with a certain group is enough to result in behaviors that correspond to this group. If identity and behaviors are so closely connected to group membership, it follows that when young adults attend college and become members of new groups, their identities and behaviors, including those tied to religion, begin to reflect those of their new groups. Additionally, religious change due to changing peer groups could also potentially be due to cognitive dissonance. For example, befriending a person who would be condemned under certain religious teachings, due to religious preference or sexual orientation, may cause someone to rethink their religious identity.

### **Family**

Parents have been shown to have a significant impact on young adult religious identity, as was demonstrated by Okagaki, Hammond, and Seamon in a 1999 study of 94 primarily Christian young adults and their parents. Okagaki et al. (1999) found that young adults were more likely to share the religious beliefs of their parents when they perceived their parents to hold these beliefs strongly.

Power and McKinney (2013) confirmed the connection between the religious identities of college students and their perceptions of their parents' beliefs in their study of 486 college students. Furthermore, Power and McKinney (2013) found that parental practices can have significant effects on college students' religious identities. Therefore, it should follow that students who perceive greater influence from their parents will be less likely to change their



religious identities in college from the identities they had during their upbringing. Additionally, parental practices in regard to religious socialization will likely have an impact on whether college students will change or maintain their religious identities.

Despite these findings, research has shown that family influence likely decreases after high school, a phenomenon that Ozorak (1989) attributes to a sort of anchor effect. According to Ozorak (1989), parents act as “cognitive anchors” for religion, from which children begin their religious pathways (p. 460). However, as children become adults, they may increase their religious exploration and travel away from the starting points established by their parents (Ozorak, 1989).

### **Hypotheses of the Current Study**

This study explored the prevalence of college students changing their religious group or doctrine identifications, as well as several of the potential correlates of these changes: life satisfaction levels, engagement in risk behaviors, and peer and family influence. First, I hypothesized that more than half of college students would report experiencing some type of religious change, although not necessarily predominantly in one direction (Lee, 2002). I also hypothesized that college students who do experience religious change would have lower levels of life satisfaction than those who did not (Bryant & Astin, 2008). There is currently a lack of research on the effect of the direction of these changes, but I hypothesized that students who became less religious would have lower life satisfaction, as this situation would likely align with the “spiritual struggle” that Bryant and Astin (2008) correlated with less satisfaction with life. Additionally, I believed that engaging in the risk behaviors of alcohol consumption and marijuana use, as well as increasing the level of risk in sexual activities, would be associated

with a decrease in religious identification (Uecker et al., 2007; Ellison et al., 2008; Menagi et al., 2008).

I furthermore believed that the levels of perceived influence from both current and past peers (Mayrl & Uecker, 2011; Desrosiers et al., 2011; Turner, 1982) and family would be associated with religious change (Okagaki, Hammond, & Seamon, 1999; Power & McKinney, 2013; Ozorak, 1989). Within these results, I expected to see more students experience religious change when they perceived stronger religious influence from current friends. However, I also expected to see less change when students perceived high levels of influence from family and past friends.

## **Method**

### **Participants**

Researchers recruited a total of 145 participants from a pool of students at a large, public university in the Midwest. Of these 145 participants, 67.6 percent identified as White, 24.8 percent identified as Asian or Asian American, 4.1 percent identified as African or African American, 2.8 percent identified as Middle Eastern, 2.8 percent identified as Native American, 2.1 percent identified as Latino, 2.1 percent identified as South Asian, and 2.1 percent identified as Other. The youngest participant was 18 years old, and the oldest was 69, resulting in a range of 51, a median of 19, a mean of 20.33, and a standard deviation of 5.02. In regards to participant religious identities (Table 1), 59.3 percent of the participants defined themselves as Christian, 15.9 percent defined themselves as Agnostic, 15.2 percent defined themselves as Atheist, 7.6 percent defined themselves as Spiritual, 2.8 percent defined themselves as Muslim, 2.8 percent defined themselves as Jewish, 2.1 percent defined themselves as Buddhist, .7 percent identified as Hindu, and 10.3 percent defined themselves as Other. Of the participants in the

“Other” category, close to half of the participants listed some variation of a “non-religious” identification, while the other half identified with a religion not listed, including Shamanism, Paganism, and Wicca. Furthermore, of the 145 participants, 55.9 percent identified as female and 44.1 percent identified as male, and 78.6 percent reported being born in the United States, compared to 21.4 percent reporting being born elsewhere. Finally, when asked about their social class backgrounds, 3.4 percent of participants perceived themselves to be in the lowest economic class, 13.8 percent perceived themselves to be in the lower middle class, followed by 40.0 percent in the middle class, 40.7 percent in the upper middle class, and 2.1 percent in the upper class.

Each participant was asked to complete a survey entitled “College Students’ Attitudes on Religion” with the help of Qualtrics, an online tool for developing and distributing surveys (<http://www.qualtrics.com/>). The study was advertised through the Research Experience Program in the Psychology Department, which provides extra credit opportunities for some Psychology classes in exchange for participation in psychological research studies. A large portion of the students who take advantage of this program come from an introductory level psychology class, which includes students from a diverse group of majors.

### **Measures**

**Religious change.** After a number of demographic questions, including a question asking participants to list what religion they currently identify with and which religion they identified with prior to high school, the survey went into more detail regarding religious identity.

Participants were asked to indicate whether their religious identity had changed, and, if so, whether they had become much less religious, less religious, more religious, or much more religious in a multiple choice format. This occurrence and direction of religious change was

specifically determined utilizing two multiple-choice questions: “Would you say your religious identification has changed since starting college?” and “If your viewpoints have changed since you began college, how would you describe the change?” The five possible answers for the first question ranged from, “No, my views have not changed at all,” to “My views have completely changed.” If participants selected any option in this question other than “No, my views have not changed at all,” they were directed to the description of the religious change question, which had four options: “Much less religious,” “Less religious,” “More religious,” and “Much more religious.”

The survey also included an open-ended question that asked participants to describe the path they took to their current religious identification, in order to gain a more complete picture as to whether and why religious change occurred in their lives. The question specifically asked participants to:

Please write a summary of the path you took to your current religious identity or your identity as a non-religious person (e.g., what religion you identified with when you were younger, whether you changed your mind at any point, etc.). Be as detailed as possible, including reasons for why you made your decisions, and whether you talked to anyone about your decisions. It is okay if you do not currently identify with a religion, just write about why you hold or do not hold certain religious beliefs. It may be helpful to write as though you are telling a story about how you arrived at your current thinking about your religion.

Additionally, participants were asked a series of questions to determine current and past religious commitment. The first set of questions was derived from The Religious Commitment Inventory-10 (Worthington, 2012). As described in an analysis by Worthington (2003), this

survey has been utilized in measuring university students at both secular and Christian colleges, including people who identify with Christianity, Buddhism, Islam, Hinduism, and people who do not identify with a religion. This study determined that The Religious Commitment Inventory-10 has both high validity and reliability for the groups of college students it has been used to measure.

The original survey works to determine how dedicated individuals are to their current religions by asking participants to rate their agreement with 10 statements on a Likert scale. Some examples of the statements include, “I often read books and magazines about my faith,” “I spend time trying to grow in understanding of my faith,” and “I enjoy spending time with others of my religious affiliation.”

However, this scale was altered in three ways for the purposes of this study. First, the wording of the questions was changed to be more inclusive of people who currently do not or formerly did not identify with a particular religion. For example, we changed each of the above questions to, “I often read books and magazines that relate to my religious identity,” “I spend time trying to grow in understanding of my religious beliefs,” and “I enjoy spending time with others who hold my religious beliefs,” respectively. Additionally, the original scale uses a 5-point Likert scale ranging from “Not at all true of me” to “Totally true of me.” However, we chose to use a 4-point Likert scale, which ranges from “Strongly disagree” to “Strongly agree.” We also asked each of these questions twice, first to ask, “To what degree do you agree with this statement?” and then to ask, “Think back to the year before you attended college. During this year, to what degree would you have agreed with this statement?”

Spiritual experience was measured using a modified version of the Spiritual Experience Index (Genia, 1991). This scale features 38 seven-point Likert scale statements. However, we

chose 11 of these statements for the purposes of our study and altered the wording to make them more inclusive. For example, one of the original statements was, “My faith gives my life meaning and purpose.” To make this apply to religious and non-religious individuals, we changed this statement to, “I have a faith that gives my life meaning and purpose,” so people would have the option of indicating no faith preference and changing the double-barreled nature of the original question. The Spiritual Experience Index scale was found to have high rates of reliability when tested on 75 college students from different religious backgrounds, including Christians, Jewish people, Protestants, and people without an affiliation, and its correlations with religious dogmatism point to validity (Genia, 1991).

**Risk behaviors.** In order to determine whether religious change occurred as a result of cognitive dissonance from engaging in behaviors contrary to religious teachings, the survey asked the participants a number of questions regarding risk behaviors. Participants were asked, “Which would best describe the number of days on which you have consumed the following substances in the past 30 days?” for alcohol and marijuana use, and they were given the option of choosing “never,” “one or two days,” “three or four days,” “two or three times per week,” or “four or more times per week” for each of these substances. They were then asked to compare their usage of alcohol and marijuana on a five-point Likert scale ranging from “much less” to “much more” for each of these substances. The question on comparison, specifically asked, “In comparison to your time before college, how would you describe your current consumption of each substance?” The rating for this question was directly used in data analysis.

The survey also asked participants to describe their current sexual activity and their sexual activity prior to college. However, this survey used a qualitative model, rather than a quantitative model, to reflect the differences in sexual activity, depending on the number of

partners and the nature of their relationships. This model was used in the Multi-Site University Study of Identity and Culture (MUSIC) survey (2009) and asked participants to choose whether, “Sex with one committed partner,” “Sex with one casual partner,” “Sex with one partner most of the time, but also with other people,” “Sex with a number of different people,” or “I have not had sex” best described their vaginal, oral, or anal sexual activity in the past month. In our survey, we asked this question for both current sexual activity and sexual activity during the participants’ last year in high school. Additionally, we added the option to select, “Sex with a spouse,” as the religious implications for having sex with a spouse are significantly different than having sex outside of marriage in many religious teachings.

**Peers.** In order to assess potential influence of peers on the participants’ religious identities, the survey asked participants to list up to five of their closest current friends now and their five closest friends before college, as well as to rate how close they felt to each person on a five-point Likert scale ranging from “not very close” to “very close” and to label what they believed each person’s identity to be (“religious,” “non-religious,” or “other/unknown”). Participants were also asked to report whether and to what degree they felt those friends may have impacted their religious identifications, on a four-point scale ranging from “no, not at all” to “significantly.” During analysis, each of the individual ratings for perceived past peer influence and each of the ratings for perceived current peer influence were averaged together, in order to create a single rating of perceived peer influence for each group.

**Family.** The survey asked participants to describe their family in the same format, with participants first listing up to five of their family members, as well as how close they felt to those family members on a five-point scale. Additionally, participants were asked to label each family member as “religious,” “non-religious,” or “other/unknown” and to chose whether and to what

degree they felt these family members may have impacted their religious identifications on a four-point scale from “no, not at all” to “significantly.” Again, the individual ratings for each family member were averaged for each participant in order to create a single rating for perceived family influence.

The survey also asked to rate several five-point Likert Scale questions with responses ranging from “strongly disagree” to “strongly agree” regarding parental religious socialization patterns, which were based on the Religious Emphasis Scale, which was initially developed by Altemeyer (1988) and featured 10 questions. This scale, as updated in *Amazing Conversions* by Altemeyer and Hunsberger (1997), features 16 statements that ask participants to rate how true they are for them on a seven-point scale ranging from “to no extent at all” to “to a great extent”. This scale is oriented to the Christian religion, so we altered it to accommodate other religious perspectives, in addition to Christianity, and we also limited the number of statements asked. This adapted survey included six statements on parental religious socialization and emphasis including, “My parents thought that as a high school youth, I should obey their teachings in matters of faith.” and “My parents frequently talk with me about religion.” When the data was analyzed, one of the six statements, “It was more important to my parents that they encouraged me to think for myself in religious matters than I follow the teachings any specific religious institution, such as a church, mosque, or synagogue.” had to be scored in reverse, because it was contrary to the other statements. After reverse scoring, the ratings for each statement were averaged to create a single rating of parental religious socialization for each participant.

As reported by Hunsberger (1999), the original Religious Emphasis Scale was initially utilized on a sample size of 513 students in an introductory psychology class, as well as 549 of these students’ parents. In this analysis, the reliability was high, and the responses also proved to



have validity when correlated with responses from similar scales, including scales for intrinsic religious orientation and religious pressures (Hill & Hood, 1999).

**Life Satisfaction.** This survey utilized the Satisfaction With Life Scale to determine the current life satisfaction of each participant (Diener, Emmons, Larsen, & Griffin, 1985). This scale asks participants to report the level to which they agree with five statements on a seven-point scale from “strongly disagree” to “strongly agree.” Participants are specifically asked to report the level to which they agree with these five sentences, “In most ways, my life is close to my ideal.”, “The conditions of my life are excellent.”, “I am satisfied with my life.”, “So far, I have gotten the important things I want in life.”, and “If I could live my life over, I would change almost nothing.” When the results of the survey were analyzed, the ratings for each of these statements were averaged together to create one comprehensive rating for satisfaction with life.

The Satisfaction With Life Scale has been shown to have a high test-retest correlation after a two-month period, and it has high correlations with other scales for life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985). Furthermore, this scale has been used for decades on a diverse group of populations, including elderly adults, women who have experienced abuse, people in therapy, and, most importantly for this survey, college students (Pavot & Diener, 1993).

### **Procedure**

The survey was completed online with a survey tool called Qualtrics. Although the survey was online, each participant was asked to complete it on a computer in the laboratory of the principal investigator’s faculty adviser. Participants registered online for time slots to come to the laboratory to complete the survey. Once they arrived, research assistants directed them to sit at computers, where they electronically consented to participation in the study. Research

assistants informed participants of the confidential nature of the survey, requested their detailed and honest feedback, and told the participants they were free to ask questions at any time.

Once the participant began taking the survey, the door was closed, and the only people in the room were the participant or participants and the research assistant. The research assistants sat with their backs to the students, but remained available to answer any questions. The survey was comprised of both qualitative questions (to gain a comprehensive understanding of the participants' religious beliefs) and quantitative questions (to measure specific participant attributes, such as measures of risk-behavior frequency).

### **Results**

In order to determine the potential relationships among religious change and the variables of risk behaviors (alcohol use, marijuana use, and sexual activity), peer and family influence, and life satisfaction, two different measures of religious change were used. The first was based on a question that directly asked participants to choose whether they felt their religious identities had changed during college. This question was followed up on by a question that directly asked participants to select whether they felt they had become more or less religious. Through these questions, each participant was categorized as "Less religious," "More religious," or "No change," and these three categorizations were used to analyze religious change and its potential correlates. The occurrence and direction of religious change was also drawn from the narrative question regarding participants' religious pathways. Research assistants coded each narrative for religious change specifically in college, and each participant was also labeled as "Less religious," "More religious," or "No change," based on this analysis. The variables of risk behaviors, peer and family influence, and life satisfaction were then analyzed with this measure of religious change.

### **Religious Change Based on Direct Question**

**Religious Change.** Of the 145 participants surveyed, 59.3 percent reported not experiencing religious change while in college, compared to 23.4 percent participants who reported becoming less religious and 17.2 percent becoming more religious. The means, standard deviations, and ranges of the data for the risk behaviors, peer and family influence, and life satisfaction can be found in Table 2. Additionally, the means and standard deviations for each of these variables, categorized by the type of religious change present, can be found in Table 3, and the correlations between religious change and each of these variables can be found in Table 5.

**Risk Behaviors.** In regards to risk behaviors, there was not a significant effect of marijuana use on religious change ( $F(2, 141) = 0.29, p = .75$ ) when analyzed with a One-Way ANOVA, as the usage of marijuana was very similar between people who had become less religious ( $M = 0.53, SD = 0.66$ ), people who had become more religious ( $M = 0.40, SD = 0.58$ ), and people who did not experience religious change ( $M = 0.47, SD = 0.67$ ). However, a One-Way ANOVA did find a significant difference in alcohol use, based on whether participants had experienced religious change ( $F(2, 141) = 7.94, p = .001$ ). The nature of this difference can be seen in Figure 1. Although people who became less religious ( $M = 1.45, SD = 0.67$ ) and people who became more religious ( $M = 1.04, SD = 0.79$ ) did not differ significantly in their alcohol use ( $p = .12$ ), nor did people who did not change ( $M = 0.84, SD = .078$ ) and people who became more religious ( $p = .50$ ), a Tukey HSD post-hoc comparison did find a significant difference between participants who became less religious and people who did not experience religious change in regards to an increase in alcohol use ( $p < .001$ ), with people who became less religious engaging in more alcohol use than people who did not change their religious identities. This

comparison was additionally analyzed using an independent samples  $t$  test ( $t(117) = -4.02, p < .001$ ), and a Cohen's  $d$  test found the comparison to have a small effect ( $d = 0.21$ ).

There was not a statistically significant difference between the sexual activity patterns of those who had and had not experienced religious change ( $F(2, 142) = 0.47, p = 0.63$ ) when analyzed with a Repeated Measures ANOVA that compared previous and current sexual activity patterns and then looked at the differences in religious change based on changes in sexual activity. Despite the lack of significance, people who became less religious in college did tend to engage in sexual risk behaviors at a slightly higher rate ( $M = 2.74, SD = 1.56$ ) than people who did not change their religious identities ( $M = 2.24, SD = 1.47$ ), and both groups tended to engage in more sexual risk behaviors than people who became more religious ( $M = 2.12, SD = 1.33$ ). In contrast, the rates of sexual risk behaviors prior to college were relatively similar among people who later became less religious in college ( $M = 2.03, SD = 1.47$ ), people who became more religious in college ( $M = 2.04, SD = 1.47$ ), and people who did not experience religious change in college ( $M = 2.24, SD = 1.47$ ).

**Peer and Family Influence.** In regards to peer and family influences, a One-Way ANOVA did not indicate a significant effect of perceived religious influence of past peers on religious change ( $F(2, 141) = 0.42, p = .66$ ). The rates of perceived past peer influence were similar, regardless of whether students had become less religious ( $M = 1.73, SD = 0.70$ ), more religious ( $M = 1.69, SD = 0.59$ ), or had not experienced change ( $M = 1.61, SD = 0.75$ ). Nevertheless, there was a statistically significant effect of perceived influence of current peers on religious change ( $F(2, 142) = 5.15, p = .007$ ; Figure 2), which a Tukey HSD post-hoc comparison demonstrated to be especially salient in the difference in perceived influence of current peers between participants who did not experience religious change ( $M = 1.49, SD =$

0.67) and participants who became more religious ( $M = 1.99$ ,  $SD = 0.90$ ;  $p = 0.005$ ). This comparison was additionally analyzed using an independent samples  $t$  test ( $t(109) = -2.06$ ,  $p = 0.003$ ), and the effect size was determined to be moderate ( $d = 0.64$ ), based on a Cohen's  $d$  test.

There was not a significant effect of perceived religious influence of family members on religious change ( $F(2, 142) = 2.55$ ,  $p = .08$ ). However, there was a trend towards less religious change in participants who perceived more influence from family members, as people who did not experience religious change perceived slightly more familial influence ( $M = 2.46$ ,  $SD = 0.90$ ) than people who became less religious ( $M = 2.13$ ,  $SD = 0.76$ ) and people who became more religious ( $M = 2.14$ ,  $SD = 0.77$ ). Overall, the mean for perceived influence from family ( $M = 2.33$ ,  $SD = 0.86$ ) was slightly higher than the means for perceived peer influence, both for past friends ( $M = 1.65$ ,  $SD = 0.71$ ) and current friends ( $M = 1.61$ ,  $SD = 0.86$ ).

**Life Satisfaction.** A One-Way ANOVA revealed a statistically significant difference between life satisfaction levels of participants, depending on their experience with religious change ( $F(2, 142) = 7.53$ ,  $p = .001$ , Figure 3). Based on a Tukey HSD post-hoc comparison, the difference was largest between life satisfaction for people who did not change their religious identities ( $M = 5.27$ ,  $SD = 1.05$ ) and people who became more religious ( $M = 4.32$ ,  $SD = 1.20$ ;  $p < 0.001$ ), as well as between people who became less religious ( $M = 5.03$ ,  $SD = 1.05$ ) and people who became more religious ( $p = 0.04$ ). However, the difference between people who did not change their identities and people who became less religious was not significant ( $p = 0.52$ ).

The life satisfaction comparison between people who did not experience religious change and people who became more religious was analyzed with an independent samples  $t$  test ( $t(109) = 3.86$ ,  $p < .001$ ), and a Cohen's  $d$  test found the effect to be large ( $d = 0.84$ ). The comparison between people who became less religious and people who became more religious was also

analyzed using an independent samples  $t$  test ( $t(57) = 2.41, p = 0.02$ ), and the effect size was moderate when measured via Cohen's  $d$  ( $d = 0.63$ ).

### **Religious Change Based on Narrative Coding**

**Religious Change.** Relationships between religious change and the risk behavior, peer and family influence, and life satisfaction variables were also analyzed using the data from the narrative coding. The religious pathway open-ended question was primarily coded by a group of five research assistants, who focused on narratives that explicitly mentioned college in the context of religion. Of the 145 initial narratives, 35 of them included an impact of college to their religious identities, to some degree. Of these 35, 31.4 percent reported no change, 34.3 percent reported becoming less religious, 20.0 percent reported becoming more religious, 8.6 percent reported becoming more religious and then less religious, and 5.7 percent reported becoming less religious and then more religious. However, for the purposes of this analysis, we limited these categories to no change (31.4 percent), less religious (42.9 percent), and more religious (25.7 percent) by coding the multiple levels of religious change as what the participant started with and ultimately ended with. This method of analyzing religious change slightly differed from the direct questioning. However, the direct question and the coded responses matched up 77.14 percent of the time, and a chi-square test did find a relationship between the two measures of religious change,  $\chi^2(4, N = 35) = p < .001$ .

**Risk Behaviors.** The relationships between variables were much less significant for the coded responses and can be found in Table 4. Additionally, the correlations between variables and religious change can be found in Table 5. There was not a significant difference in alcohol consumption ( $F(2, 32) = 1.46, p = .25$ ) or marijuana use ( $F(2, 31) = 0.81, p = .46$ ) based on religious change when measured with a One-Way ANOVA. However, there was a trend towards

students who had increased their alcohol consumption becoming less religious ( $M = 1.40$ ,  $SD = 0.74$ ) than students who had not experienced religious change ( $M = 1.18$ ,  $SD = 0.75$ ), and it was also more likely for students who did not change their religious identity to experience a greater increase in alcohol consumption than students who became more religious ( $M = 0.89$ ,  $SD = 0.60$ ). The data for the marijuana use were very similar between religious identity changes, although students who did not change their identities ( $M = 0.70$ ,  $SD = 0.22$ ) were slightly more likely to have increased their marijuana use than those who became less religious ( $M = 0.67$ ,  $SD = 0.18$ ) or more religious ( $M = 0.33$ ,  $SD = 0.24$ ).

There did appear to be a significant effect of sexual activity patterns on religious change ( $F(2, 32) = 3.22$ ,  $p = .05$ , Figure 4). Based on a Tukey HSD post-hoc comparison, this applied to the difference in the change in sexual activity patterns between people who became less religious versus more religious ( $p = .05$ ), but not to the difference between people who did not change and those who became less religious ( $p = .81$ ), nor between people who did not change and those who became more religious ( $p = .19$ ). The effect size for these comparisons was calculated using partial eta squared ( $partial \eta^2 = 0.17$ ).

**Peer Influence, Family Influence, and Life Satisfaction.** In regards to religious change and the influences of personal relationships, there was no significant effect of friends from high school ( $F(2, 32) = 0.07$ ,  $p = .93$ ) or family members ( $F(2,32) = 0.14$ ,  $p = .87$ ) on religious change. This analysis also did not find any significant effect of current friends on religious change ( $F(2,32) = 2.60$ ,  $p = .09$ ). However, there was a definite trend towards the increase of religious identity strength and high influence from current friends, with people who became more religious having a higher rating of perceived current peer influence ( $M = 2.17$ ,  $SD = 0.87$ ) than people who became less religious ( $M = 1.59$ ,  $SD = 0.52$ ) or more religious ( $M = 1.55$ ,  $SD =$

0.72). Additionally, the analysis with the narrative coding did not find significance in the difference between life satisfaction levels of people, based on whether they had experienced religious change and, if so, in what direction ( $F(2, 32) = 0.03, p = .97$ ).

### **Commonalities Between Religious Change Measures**

Both measures of religious change pointed to a strong relationship between religious change and the perceived influence of current friends. However, the direct religious change question also found significance for the relationships between religious change and alcohol use, as well as between religious change and life satisfaction. The narrative coding did not find a significant relationship for these variables, but it did find a significant relationship between religious change and an increase in sexual risk behaviors.

### **Discussion**

I hypothesized that the majority of college students would experience some form of religious change, although the direction of the change was unknown. In regards to the correlations of change, I hypothesized decreasing religious identity strength would be associated with decreased life satisfaction and an increase in risk behaviors, including alcohol use, marijuana use, and sexual risk behaviors. Furthermore, I believed current peer influence would be positively associated with the occurrence of religious change, and that past peer influence and family influence would be negatively associated with the occurrence of religious change.

Whether the initial hypotheses were supported or not was dependent on which measure for religious change was utilized. When the variables were analyzed using the questions that directly asked “Would you say your religious identification has changed since college?” and “If your viewpoints have changed since you began college, how would you describe the change?” the results differed from when religious change in college was determined based on coding



results from an extensive religious pathway narrative question. This difference was particularly salient in regards to whether and how students experienced changing religious identities.

### **Religious Change**

Our initial hypothesis regarding religious change was that over half of students would report experiencing some type of religious change in college, which was based on Lee's results in 2002 that found just over half of students reported religious change. This hypothesis was unsupported in the direct question analysis, in which almost 60 percent of students reported not experiencing any religious change. However, it was fairly close to the initial predictions, which were more clearly supported when religious change in college was coded from the direct narratives; in this analysis, 68.6 percent of students indicated a change in religion since college.

Furthermore, the results demonstrated the prevalence of different directions of religious change. In the direct analysis, 23.4 percent of students reported becoming less religious, and 17.2 percent reported becoming more religious, while in the narrative question, 42.9 percent became less religious, and 25.7 percent reported becoming more religious. These statistics were useful in comparing risk behaviors, life satisfaction, and peer and family influence with the direction of change, in addition to the existence of change.

However, the two methods of determining religious change differed quite a bit, and the narrative question indicated a significantly higher percentage of religious change. This can likely be attributed to the fact that only narratives that expressly stated change in college were utilized. Of the 145 narratives, only 35 used words to directly refer to college in their narratives. Therefore, if people did not experience religious change in college, it would have been less likely for them to say anything about it. Furthermore, some people did not specifically talk about experiencing change in college, but they did use more ambiguous wording to possibly talk about

a similar time frame, such as “as I got older.” This means that the data for this variable may not be completely representative of the sample as a whole. It is interesting to note that of the people who talked about religious change in college (35 out of 145, or approximately 24 percent of the sample), 42.9 percent of them became less religious, which is much higher than the 25.7 percent who reported becoming more religious. The direct question also demonstrated that more students in the sample became less religious than more religious, but the difference is much higher with this measure. Although the reasoning for this discrepancy is unknown, it may be because people who become less religious perceive this change to be more salient than people who become more religious, which would make them more likely to write about it. However, additional research would need to be conducted to confirm this.

### **Risk Behaviors**

In regards to risk behaviors, the analysis with the direct question found significance for the relationship between religious change and an increase in alcohol use, which was particularly salient in the difference between people who did not experience religious change and people who became less religious. These results supported my hypothesis that religious change would be associated with an increased use of alcohol, and they also aligned with previous literature on the topic (Uecker et al., 2007; Ellison et al., 2008; Menagi et al., 2008). However, although there were mild trends for marijuana use, the results were not significant, which is contrary to findings by Uecker et al. (2007).

In contrast, the results for the narrative question analysis did not indicate any significant relationships for alcohol or marijuana use. The trends for alcohol use did indicate people who became less religious were more likely to have increased their alcohol use since their time in college. However, with the direct question, the biggest difference was between people who had

become less religious versus people who had not changed their religious identities, while the biggest difference in this analysis was between people who had become less religious versus people who had become more religious. Additionally, marijuana use in comparison to high school was largely the same across the board, although an increase in marijuana use was slightly more common for people who did not experience religious change.

An increase in sexual risk behaviors was significant in the narrative question, in which students who reported increasingly their level of sexual risk were significantly more likely to report becoming less religious than more religious. This trend was also found with the direct question, although not to a significant degree. This finding supports research on this topic (Uecker et al., 2007), as well as the hypothesis that an increase in sexual risk patterns would be associated with a decrease in religious identity.

### **Peer Influence**

The results for perceived past peer and current peer influence partially supported the hypothesis that these two groups of people would have a significant influence on religious change (Mayrl & Uecker, 2011; Desrosiers et al., 2011; Turner, 1982). The perceived influence of past peers did not seem to be related to religious change. However, there was a significant relationship between perceived current peer influence and religious change when analyzed with the direct question results, as well as a strong trend towards this relationship when analyzed with the narrative question results. Both analyses indicated that stronger perceived influence from friends in college is strongly associated with increased religious identity, followed by a decrease in religious identity. This supports the hypothesis that current friends would have an effect and provides credit to research on this topic (Mayrl & Uecker, 2011; Desrosiers et al., 2011; Turner, 1982).

**Family Influence**

Although family was expected to have a significant influence on religious identity (Okagaki, Hammond, & Seamon, 1999; Power & McKinney, 2013; Ozorak, 1989), the results did not demonstrate this to be the case. The direct question did reveal a modest trend towards less religious change when the student perceived stronger family influence. However, there was only a slight effect with this measure of religious change, and the narrative question measure did not demonstrate any relationship between religious change and the level to which the student perceived influence from his or her family.

**Life Satisfaction**

The relationship between life satisfaction and religious change highly differed in the analyses for the direct and narrative questions. The narrative question found no relationship, and it did not indicate any notable trends. However, the direct question analysis strongly supported the hypothesis that life satisfaction and religious change would be significantly related. The direct question analysis found that people who did not change religions and people who became less religious were significantly more satisfied with life than people who became more religious.

These findings partially supported the hypothesis on this relationship and the literature that relates to this topic (Bryant & Astin, 2008). These data do support the idea that students who experience religious change are likely to have less life satisfaction than students who do not experience change. However, the significantly less life satisfaction for students who become more religious was surprising and contrary to the original hypothesis.

It is reasonable to suspect that religious change in general can lead to a decrease in life satisfaction, as many people hold religion very central to their identities, and a change in this sense of self could cause significant inner turmoil. It is less clear why increasing religious

identity strength is associated with lower life satisfaction. It could be possible that it is more difficult to have an increasing religious identity in a secular institution. However, more research would need to be conducted to explore that relationship.

### **Limitations and Future Directions**

It would have been ideal to conduct this research as a longitudinal study. The majority of the questions used in this survey asked participants to compare their current identities and behaviors to their identities and behaviors before college. Although there is no reason to believe the participants would forget about their past behaviors, it is possible that their current perceived notions of their past selves differ slightly from how they actually thought and acted.

A longitudinal study would have allowed us to target more upperclassmen. Although there were a decent number of third and fourth year students, a large portion of our sample size were still in their first year of college. While many of these students had already experienced some form of religious change, it is possible that some students may not experience religious change until later in their college career. A longitudinal study would have addressed this and provided for a more informative picture of exactly when and why religious change occurred in each students' college years, if at all.

It also would have been beneficial to have a more religiously and racially diverse sample. Although the sample did include people who identified as Atheist, Agnostic, Muslim, Jewish, Buddhist, Hindu, Pagan, Wiccan, and Spiritual, the majority of the participants identified as Christian (59.3 percent). Similarly, the sample was composed of people who identified as Asian, African American, Latino, South Asian, Middle Eastern, and Native American, but people who identified as Caucasian formed the majority of participants (67.6 percent).

Furthermore, the open-ended narrative question on religion asked participants to describe their full religious pathway. This allowed for a lot of interesting insight regarding the path each participant took and what influenced him or her along the way. However, it would have been helpful to have a narrative question specifically asking participants to describe their religious pathway in college as well. One of the biggest problems with the narrative questions was that only 35 people specifically mentioned college, so the sample size for the data used with this measure was much smaller. Asking participants to talk only about their religious experience in college would have amended this because it would have led everyone to talk about their religious experiences in college. Therefore, everyone's college pathways would have been included, and not just the students who felt college had significantly impact their religious identities.

The notable difference between the outcomes for the direct question and the narrative question may also be due to the ways in which people choose to identify themselves. For example, some people expressed feeling disillusioned with religion in their narratives, but stated that when asked, they still identified with a particular religion because it was easier or more socially acceptable. In a similar way, some people may have talked about how they feel they are becoming less religious in their narratives, but choose not to immediately labeled themselves as "less religious" in the direct question.

Finally, this study analyzed measures of religious identity that asked participants to directly name whether they felt they had become more religious, as well as to describe their religious pathways. However, religious identity is a complex construct with a number of variables and potential correlates. For example, religious identity can be comprised of religious attendance, religious beliefs, and religious expression, and looking at each of these variables individually in regards to college students could have provided further information on the

subject. Additionally, religious identity, the degree to which a person relates to a specific religious institution, and spiritual identity, the degree to which a person believes in some sort of higher power, are different constructs that may have interesting interactions for college students. Although there was not enough space to thoroughly examine each of these factors, the connections between them are central to religious identity, and only further research on these variables will be able to develop a comprehensive look at the religious identities of college students.

### **Conclusion**

Despite these flaws, this study increased the knowledge of religious change and the variables that may be associated with it. Although significance was dependent on the measure of religious change used, the analysis of this survey did result in several significant relationships. There was a significant relationship among religious change and life satisfaction, alcohol use, perceived influence from current peers, and increased sexual risk behaviors. Furthermore, there were slight trends toward the relationship among religious change and marijuana use and family influence. This knowledge can be used to better understand what variables are associated with change in the religious identities of college students, which could be used to help guide students through this often-challenging process.

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<b>Religion</b>	<b>Frequency</b>	<b>Percent</b>
Christian	86	59.3
Agnostic	23	15.9
Atheist	22	15.2
Spiritual	11	7.6
Muslim	4	2.8
Jewish	4	2.8
Buddhist	3	2.1
Hindu	1	0.7
Other	15	10.3

*Table 1.* Participant Religious Identities

<b>Potential Correlates of Religious Change</b>			
Variable	Means	Standard Deviations	Range
<b>Risk Behaviors</b>			
Alcohol Use Compared to High School	2.81	1.31	4
Marijuana Use Compared to High School	2.56	1.04	4
Sexual Activity Patterns (Pre-college)	2.08	1.40	5
Sexual Activity Patterns (Current)	2.34	1.48	5
<b>Peer and Family Influence</b>			
Current Peer	1.61	0.72	3
Past Peer	1.65	0.71	3
Family	2.33	0.86	3
<b>Life Satisfaction</b>			
Life Satisfaction	5.05	1.12	5.80

*Table 2.* Descriptive Statistics for Potential Correlates of Religious Change

<b>Potential Correlates of Religious Change by Change Type (Direct Question)</b>			
Variable	Less Religious	More Religious	No Change
<b>Risk Behaviors</b>			
Alcohol Use Compared to High School	Mean: 1.45 SD: 0.67	Mean: 1.04 SD: 0.79	Mean: 0.84 SD: 0.78
Marijuana Use Compared to High School	Mean: 0.53 SD: 0.66	Mean: 0.40 SD: 0.58	Mean: 0.47 SD: 0.67
Sexual Activity Patterns (Pre-college)	Mean: 2.03 SD: 1.47	Mean: 2.04 SD: 1.17	Mean: 2.12 SD: 1.44
Sexual Activity Patterns (Current)	Mean: 2.74 SD: 1.56	Mean: 2.12 SD: 1.33	Mean: 2.24 SD: 1.47
<b>Peer and Family Influence</b>			
Current Peer	Mean: 1.64 SD: 0.59	Mean: 1.99 SD: 0.90	Mean: 1.49 SD: 0.67
Past Peer	Mean: 1.73 SD: 0.70	Mean: 1.69 SD: 0.59	Mean: 1.61 SD: 0.75
Family	Mean: 2.13 SD: 0.76	Mean: 2.14 SD: 0.77	Mean: 2.46 SD: 0.90
<b>Life Satisfaction</b>			
Life Satisfaction	Mean: 5.03 SD: 1.05	Mean: 2.32 SD: 1.20	Mean: 5.27 SD: 1.05

*Table 3.* Means and Standard Deviations for Each of the Potential Correlates of Religious Change Categorized by Type of Religious Change According to the Direct Question Analysis

<b>Potential Correlates of Religious Change by Change Type (Narrative Question)</b>			
Variable	Less Religious	More Religious	No Change
<b>Risk Behaviors</b>			
Alcohol Use Compared to High School	Mean: 1.40 SD: 0.74	Mean: 0.89 SD: 0.60	Mean: 1.18 SD: 0.75
Marijuana Use Compared to High School	Mean: 0.67 SD: 0.18	Mean: 0.33 SD: 0.24	Mean: 0.70 SD: 0.22
Sexual Activity Patterns (Pre-college)	Mean: 2.87 SD: 1.64	Mean: 1.44 SD: 0.88	Mean: 2.55 SD: 1.51
Sexual Activity Patterns (Current)	Mean: 3.00 SD: 1.69	Mean: 1.89 SD: 1.05	Mean: 2.73 SD: 1.27
<b>Peer and Family Influence</b>			
Current Peer	Mean: 1.59 SD: 0.52	Mean: 2.17 SD: 0.87	Mean: 1.55 SD: 0.72
Past Peer	Mean: 1.85 SD: 0.73	Mean: 1.74 SD: 0.59	Mean: 1.80 SD: 0.77
Family	Mean: 2.09 SD: 0.74	Mean: 2.10 SD: 0.62	Mean: 2.23 SD: 0.82
<b>Life Satisfaction</b>			
Life Satisfaction	Mean: 4.69 SD: 1.26	Mean: 4.71 SD: 1.20	Mean: 4.82 SD: 1.51

*Table 4.* Means and Standard Deviations for Each of the Potential Correlates of Religious Change Categorized by Type of Religious Change According to the Narrative Question Analysis

## Correlations

		Direct Religious Change Question	Coded Religious Change Question
Alcohol Use Compared to High School	Pearson Correlation Sig. (2-tailed) N	.181* .030 144	-.139 .426 35
Marijuana Use Compared to High School	Pearson Correlation Sig. (2-tailed) N	-.023 .781 144	-.194 .271 34
Sexual Activity Patterns Prior to College	Pearson Correlation Sig. (2-tailed) N	-.026 .761 145	-.258 .134 35
Current Sexual Activity Patterns	Pearson Correlation Sig. (2-tailed) N	.016 .849 145	-.204 .239 35
Current Peer Influence	Pearson Correlation Sig. (2-tailed) N	.254** .002 145	.322 .060 35
Past Peer Influence	Pearson Correlation Sig. (2-tailed) N	.060 .475 144	-.030 .865 35
Family Influence	Pearson Correlation Sig. (2-tailed) N	-.167* .044 145	-.075 .667 35
Life Satisfaction	Pearson Correlation Sig. (2-tailed) N	-.298** .000 145	-.034 .848 35

\*. Correlation is significant at the 0.05 level (2-tailed).

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

*Table 5.* Correlations between Religious Change as Measured by the Direct and Narrative Questions and the Variables for Risk Behaviors, Peer and Family Influence, and Life Satisfaction

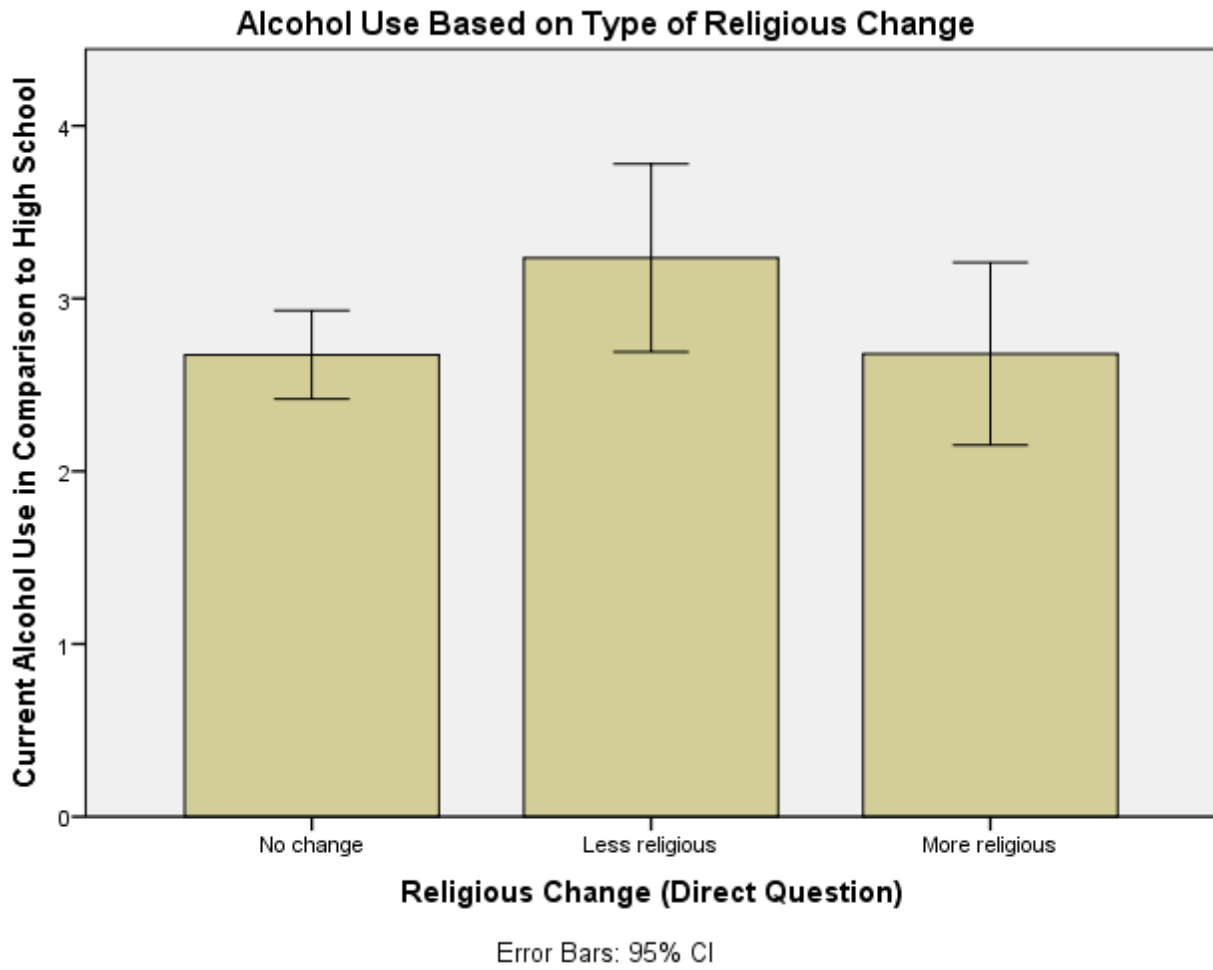
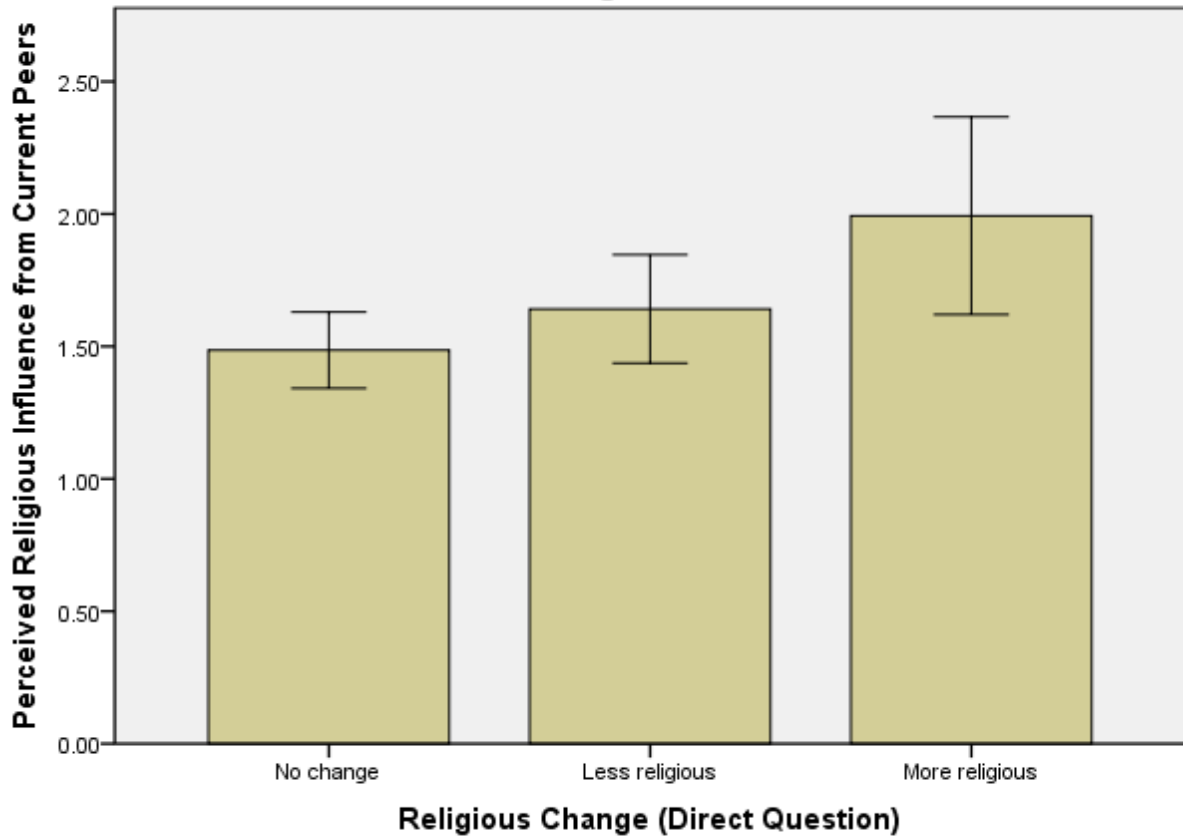


Figure 1. Alcohol Use Categorized by Type of Religious Change



**Perceived Religious Influence from Current Peers Based on Type of Religious Change**



Error Bars: 95% CI

*Figure 2.* Perceived Religious Influence from Current Peers, as Categorized by Type of Religious Change

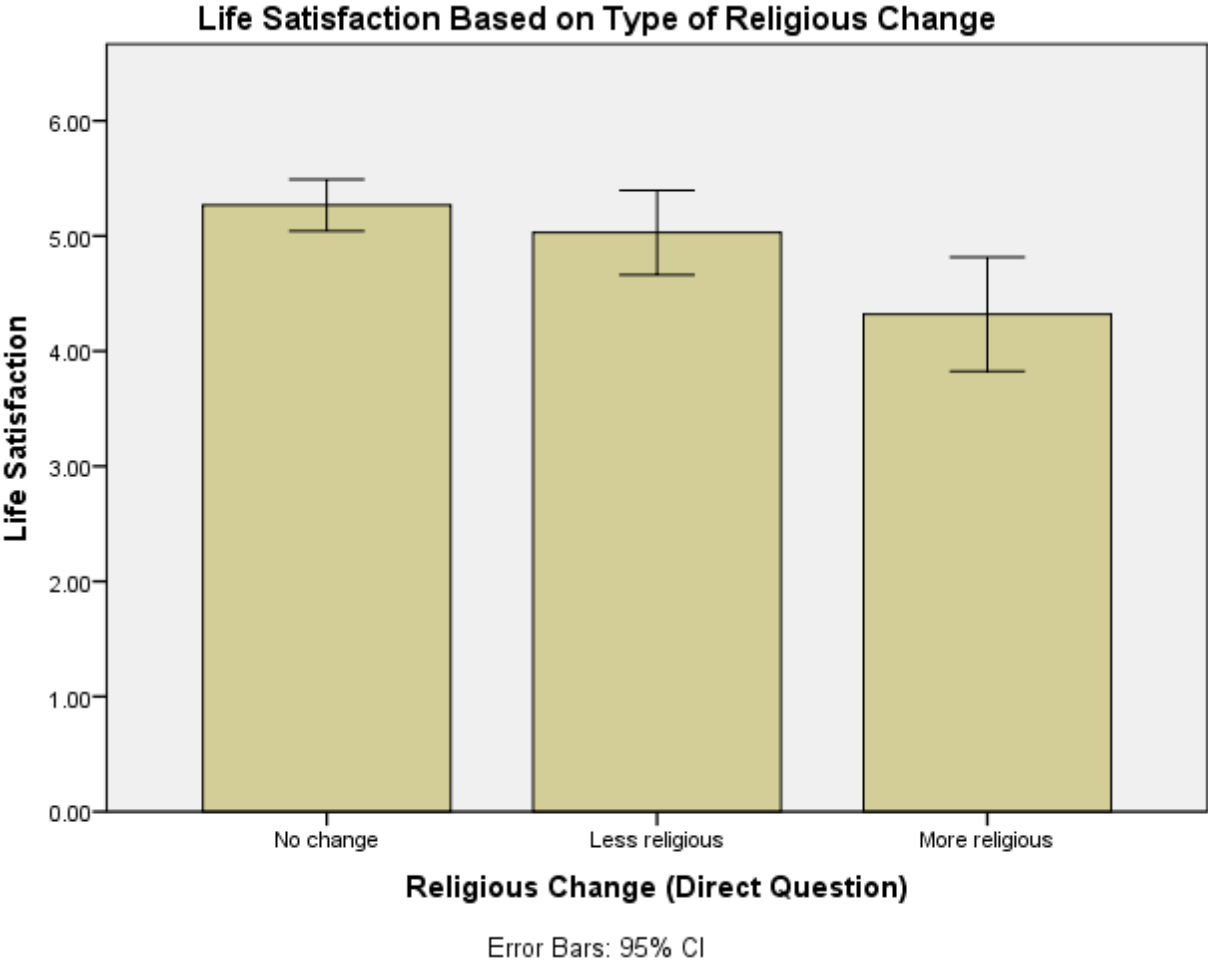


Figure 3. Life Satisfaction, as Categorized by Type of Religious Change

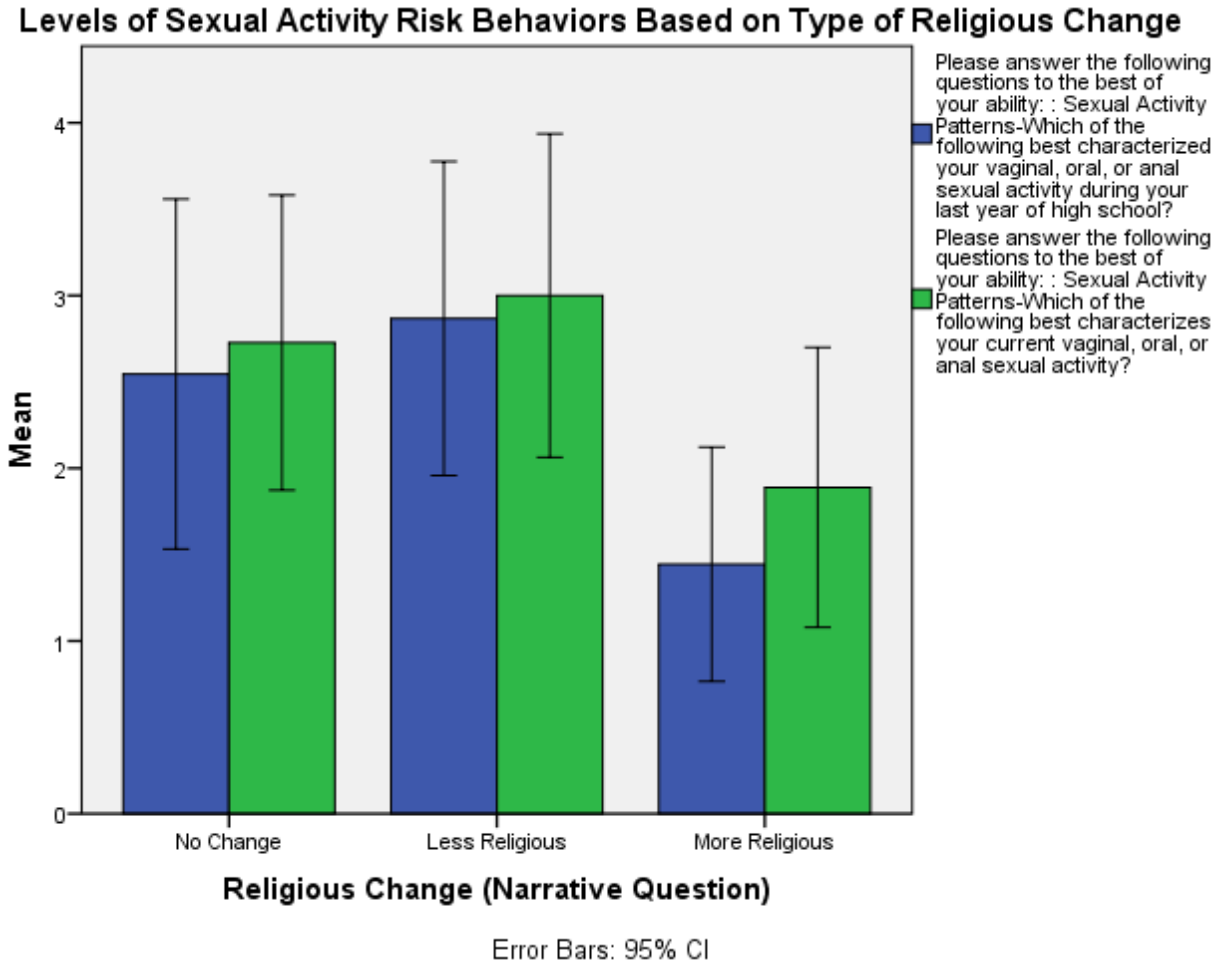


Figure 4. Comparison of Sexual Activity Risk Behaviors Before and During College as Categorized by Religious Change