2014

Exploring the Relationship Between Self-Reported Religiosity and Alcohol Usage Among Undergraduate Students

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Eastern Illinois University

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Exploring the Relationship Between Self-Reported Religiosity

and Alcohol Usage Among Undergraduate Students

(TITLE)

BY

Angelica Maria Bradley

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Master of Science in College Student Affairs

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

2014

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Exploring the Relationship Between Self-Reported Religiosity and Alcohol Usage

Among Undergraduate Students

Angelica Bradley

Eastern Illinois University

ABSTRACT

Alcohol usage is one of the greatest high-risk behaviors that institutions face today. In this study, 166 undergraduates were surveyed to explore the relationship between their religiosity and alcohol usage. The data revealed that religious students drink less than unsure or spiritual students, supporting the Social Identity Theory, which suggests that a group a student most identifies with influences them the greatest. The study also suggests that we should seek to understand this relationship, which can lead to a better understanding of why students use alcohol, and therefore, a step closer to helping them succeed where it matters most.

DEDICATION

When I was growing up, my world revolved around my education. I loved going to school, and I hated leaving at the end of each day. My elementary school teacher, Ms. Theresa Crowley, pushed me to expand my education beyond the classroom. She challenged me to think critically, and write my thoughts and reflections down. Most importantly, she taught me to ask the question, "Why?" To this day, I still think about her when I read and write. Without her inspiration, challenge, and guidance, I would not be where I am today.

Because of Ms. Crowley, my dad said I would try and stay in school forever. Let's just say he was not shocked when I told him I was going to get my master's degree in a field that would allow me to work in an educational setting forever. My dad has always been my biggest supporter and my biggest challenger. Because of my dad, I have learned to stand up for my values and myself. He also taught me that it is not about *what* you do, but *how* you do it. Without him, I could not fathom how I would be as successful as I have been with my life so far.

My best friend is my mother, and I am not ashamed to say so. If there is one thing she has taught me, it's the value of being grateful. She used to tell me stories of growing up in Mexico, which taught me about the value of perspectives. She taught me about diversity and how to respect others for who they are, not what they have.

These three people have inspired me to be the best I can be and have taught me so many life lessons that have shaped who I am. This thesis not only represents my ability to conduct research appropriately, but it also represents my hard work and dedication that I learned from them. This is as much their work as it is mine.

ACKNOWLEDGEMENTS

My thesis project has been quite a journey during my graduate career. As I stated earlier, my thesis is not just a representation of my work and dedication, but the work and dedication of others as well. I am truly appreciative of the time that many took to assist me with my research, and the many that worked on their thesis projects alongside me.

My thesis advisor, Dr. Daniel Nadler, always encouraged me and made me believe that I could complete this project. He always made the thesis seem easy, which made me feel more confident after each meeting. My other committee members are Dr. Eric Davidson and Dr. Andrew Robinson. Dr. Davidson always brought enthusiasm for my thesis topic, and helped me look at the big picture throughout the process. Dr. Robinson always brought positivity and encouragement to my work. I was very fortunate to have such a strong and supportive committee.

While I was working on my thesis, I also held a graduate assistantship with New Student Programs, a department that I also worked for during my undergraduate career. My supervisors, Kimberlie Moock and Cordy Love, were always there for me beyond the workplace. The supervision and support I received from these two individuals played a large role in my success as both an undergraduate and graduate student. For this, I thank you.

Like most studies, this project could not have been possible without the participants that provided information about their beliefs and behaviors. To the 166 students that chose to click the link to my survey, I thank you.

I cannot forget to thank my fellow cohort members. This thesis is something we all have in common, just like our passion for student affairs. It has been a wild ride, and I thank those that I shared this experience with, because without your encouraging words and company during late night study sessions, I would not have had as positive of an experience completing this project. Thank you.

Lastly, I want to thank all of my loved ones that supported me along my journey, even though they might not have known what the field of student affairs really was at the time. To those that did not need an explanation for my study habits and seemingly strange attachment to two large binders labeled "Thesis" and "More Thesis," I thank you for your support and encouragement.

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CHAPTER I

Introduction

Alcohol and other drug use has been a public health problem among college students in America (Brandão, Correia, de Farias, Antunes, & da Silva, 2011; Brown, Salsman, Brechting, & Carlson, 2007; Carter, Brandon, & Goldman, 2010; Cooper, 2002; Demers, Beauregard, & Gliksman, 2013; Hingson, 2010). Of all the high-risk behaviors exhibited by college students, hazardous alcohol consumption has been considered the greatest one that postsecondary institutions face today (Brandão et al., 2011; Brown et al., 2007; Carter, Brandon, & Goldman, 2010; Cooper, 2002; Demers, Beauregard, & Gliksman, 2013; Hingson, 2010). Colleges and universities have been working toward creating and implementing alcohol prevention and intervention programs to reduce heavy drinking among their students, but these programs are in need of improvement (Levin, Lillis, Seeley, Hayes, Pistorello, & Biglan, 2012). Among other characteristics, many studies have suggested that religion and the perceived importance of religion, could play a key role in students' decision to not participate in high-risk behaviors such as alcohol and drug use and risky sexual behavior (Baier & Wright, 2001; Brown et al., 2007; Cooper, 2002; Finlay, Ram, Maggs, & Caldwell, 2012; Horton, Ellison, Loukas, Downey, & Barrett, 2012; Wallace & Forman, 1998; Wallace, Yamaguchi, Bachman, O'Malley, Schulenberg, & Johnston, 2007). It may be beneficial for postsecondary institutions to consider characteristics such as the perceived importance of religion when implementing alcohol prevention and intervention programs in order to increase the programs' effectiveness.

Purpose of the Study

The purpose of the study was to explore the relationship between self-identified religiosity and the alcohol usage among full-time undergraduate students. By exploring this relationship, the researcher can determine how self-reported religiosity relates to students' alcohol usage. The findings can be utilized to assist student affairs professionals in developing and enhancing alcohol abuse prevention programs at colleges and universities by targeting particular populations that possess characteristics that are found to be correlated with high-risk alcohol usage. Determining the role that the self-reported religiosity plays in students' alcohol usage can help student affairs professionals either eliminate or concentrate on this characteristic when developing alcohol abuse prevention programs.

Research Questions

The following primary research question was developed by the researcher and was used to provide guidance for the study:

1. How does self-identified religiosity or spirituality affect alcohol use among undergraduate college students?

In order to answer the primary research question, 4 secondary research questions were developed for the study:

1. Is there a difference in drinks per week among unsure, spiritual, and religious self-identified students?

2. Is there a difference in the AUDIT scores among unsure, spiritual, and religious self-identified students?

3. Is there a difference in distributions between unsure, spiritual, and religious self-identified students regarding binge drinking behaviors?

4. Is there a difference in distributions between unsure, spiritual, and religious self-identified students regarding frequency of drinking?

Hypotheses

In order to answer the first secondary research question, this study used a quantitative survey to measure the estimated number of drinks the participants consume per week. The survey also allowed participants to self-identify as unsure, spiritual, or religious with the aid of provided definitions for these terms. The hypotheses for this research question are as follows:

H_{01}: There is no significant difference in drinks per week among unsure, spiritual, and religious self-identified students.

H_{a1}: There is a significant difference in drinks per week among unsure, spiritual, and religious self-identified students.

H_0: $\mu_1 = \mu_2 = \mu_3$

H_a: $\mu_1 \neq \mu_2 \neq \mu_3$

In order to answer the second secondary research question, the survey included the 5-item AUDIT questionnaire in addition to allowing the participants to self-identify their level of religiosity as unsure, spiritual, or religious. The AUDIT provided numerical results to compare with the self-identified religiosity. The hypotheses for this research question are as follows:

H_{02}: There is no significant difference in the AUDIT scores among unsure, spiritual, and religious self-identified students.

H_{a2}: There is a significant difference in the AUDIT scores among unsure, spiritual, and religious self-identified students.

H_0: $\mu_1 = \mu_2 = \mu_3$

H_a: $\mu_1 \neq \mu_2 \neq \mu_3$

In order to answer the third secondary research question, the survey posed questions to females and males regarding the frequency of drinking 4 or more (for females) or 5 or more (for males) alcohol drinks in the past 7 days to determine the binge drinking behaviors of these groups. The distribution of these binge drinking behaviors was compared within groups of participants that self-identify as unsure, spiritual, or religious. The hypotheses for these questions are as follows:

H_{03}: There is no significant difference in distributions between unsure, spiritual, and religious self-identified students regarding binge drinking behaviors.

H_{a3}: There is a significant difference in distributions between unsure, spiritual, and religious self-identified students regarding binge drinking behaviors.

H_0: proportion of unsure = proportion of spiritual = proportion of religious

H_a: proportion of unsure $\neq$ proportion of spiritual $\neq$ proportion of religious

In order to answer the fourth secondary research question, the survey posed a question that asks participants how often they consume alcohol in the past 30 days, resulting in numerical responses between 0 and 30 to measure the frequency of drinking. The distribution of these responses was compared within groups of participants that self-identify as unsure, spiritual, or religious. The hypotheses for these questions are as follows:

H_{04}: There is no significant difference in distributions between unsure, spiritual, and religious self-identified students regarding frequency of drinking.

H_{a4}: There is a significant difference in distributions between unsure, spiritual, and religious self-identified students regarding frequency of drinking.

H_0: proportion of unsure = proportion of spiritual = proportion of religious

H_a: proportion of unsure $\neq$ proportion of spiritual $\neq$ proportion of religious

Significance of Study

As stated previously, alcohol usage has been and continues to be a public health issue among college students (Brandão et al., 2011; Brown et al., 2007; Carter, Brandon, & Goldman, 2010; Cooper, 2002; Demers, Beauregard, & Gliksman, 2013; Hingson, 2010). The Harvard School of Public Health created the College Alcohol Study (CAS) in 1992, and continued for 14 years (Wechsler & Nelson, 2008). In 1993, the first CAS found that binge drinking, or drinking 5 or more drinks, was prevalent in 44% of American college students (Wechsler, Lee, Kuo, Seibring, Nelson & Lee, 2002). Few changes were made in the alcohol-related behaviors of college students between the 1993 and 2001, and 48% of college students reported that getting drunk was an important reason for binge drinking. Hingson, Heeren, Winter, and Wechsler (2005) reported on a national study that estimated over 1,700 college students die from alcohol-related injuries. It is clear that colleges and universities must address this public health issue in order to combat the negative consequences that follow binge drinking among college students.

This study investigated the feeling of importance of religion and the potential role it plays in the decision to consume alcohol among undergraduate college students. If the

findings indicated that the perceived importance of religion plays a role in the decision not to consume alcohol, colleges and universities can identify that these groups of students are typically not in the high-risk population for health consequences associated with heavy drinking. Religious groups around the institution's campus would be able to use this information when assessing their group members and having discussions about alcohol consumption as well as other risky behaviors.

While a public institution cannot actively support one religious group over another, it can support a wide variety of religious groups by offering opportunities and venues for meetings and events. This study could show support that students who are more religious or spiritual tend to consume alcohol less, which would support the institution's continued support for these religious groups on campus.

Limitations of Study

The study performed data collection at a midsize, Midwestern university, where participants were selected using stratified random sampling. By using the student body population at the institution the researcher attends, they are using a group that is handy, or available, which makes the sample convenient. However, demographics were reported to analyze the likeliness of representativeness of the entire population, since it may be difficult to achieve representativeness of the population (Fraenkel, Wallen & Hyuan, 2011). A stratified random sample includes dividing the population into subgroups, such as dividing them by gender or racial heritage, and then sampling from those subgroups, which improves representativeness of the population (Fraenkel, Wallen & Hyuan, 2011). Surveys were distributed via e-mail by using electronic mailing lists. By only providing the survey online, the potential sample was limited to those regularly having access to the

Internet and their e-mail account. In addition to Internet access, this study used a sample located at one institution. Because the sampling only came from one university, it is difficult to generalize the results to other college populations (Bryman, 2012, p. 201; Fraenkel, Wallen, & Hyun, 2011, p. 99; Woodford, Krentzman, & Gattis, 2012).

A second limitation was non-responsive bias. Non-responsive bias addresses the possibility that those who did not respond to the survey would have answered differently than those who did (Kypri, Stephenson, & Langley, 2004). Depending on a variety of factors, students will choose not to respond to the e-mail, however, electronic surveys have been shown to have lower non-response rates in addition to the lower cost of production (Kypri, Stephenson, & Langley, 2004).

Another limitation is that the survey that was used offered no open-ended questions, which limited the amount of information the participants could share with the researcher. At times, participants may have felt that the provided answers do not apply to them, and may have chosen not to answer certain questions on the survey. The closed ended questions did not allow the participants to elaborate on their answers (Balkaran, 2010; Ivey & Ivey, 2007, p. 103).

Definition of Terms

The following terms and concepts were defined to ensure the understanding of their meaning in context to this proposed study.

Alcoholic drink. An alcoholic drink was defined as 5 oz. of wine, 10 oz. of a wine cooler, 12 oz. of beer, 10 oz. of microbrew, 8-9 oz. of malt liquor, Canadian beer, or Ice beer, and 1.5 oz. of 80-proof liquor (mixed drink or shot) (Core Institute, 2013).

Binge drinking. Binge drinking was defined as consuming 4 or more drinks in a 2-hour time period for females or consuming 5 or more drinks in a 2-hour time period for males (Core Institute, 2013).

Full-time undergraduate student. For the purposes of this study, the term undergraduate student referred to a student enrolled at the university for at least 12 semester credit hours each semester and is actively seeking a bachelor's degree in a program offered by the university.

God. The term God was defined as a higher being. This higher being could be defined by an individual's religion, but a higher being did not need to be defined by a religion in order to be considered a higher being for an individual.

Hazardous alcohol consumption. This term was defined as "a level or pattern of consumption which, if it persisting, would likely to result in physical, psychological or social harm" (Miles, Winstock, & Strang, 2001).

Religiosity. Religiosity was defined as the "institutional and external expression of the sacred, which included religious behaviors like church attendance, prayer, and experiences with God" (Moore, 2013).

Spirituality. Spirituality was defined as the belief in God or a higher being, but not necessarily associated with a particular religious affiliation (Connors, Tonigan, & Miller, 1996).

Stratified random sample. Stratified random sample was defined as a sample selected so that certain characteristics of the sample occurred in the same proportion as the whole population, increasing representativeness of the population in the sample (Fraenkel, Wallen, & Hyun, 2011).

Worship service. Worship service was defined as any service or event where attendees partake in worship activities of a god or higher being.

Summary

Chapter I contained an introduction, purpose, and significance of the study, as well as posed a primary research question along with a hypotheses for the proposed study. Chapter II reviewed literature that referred to alcohol consumption in college students, religiosity among college students, and religiosity and high-risk behavior.

CHAPTER II

Review of Literature

This chapter provided a review of the literature and examined religiosity and spirituality among college students, alcohol consumption among college students and the relationship between religiosity and high-risk behaviors.

Alcohol Consumption among College Students

Alcohol abuse is a public health issue that is prevalent among young adults entering college (Brandão et al., 2011; Brown et al., 2007; Carter, Brandon, & Goldman, 2010; Cooper, 2002; Demers, Beauregard, & Gliksman, 2013; Hingson, 2010). Many studies have compared young adults that chose to go to college and those that did not, to see if the college environment played a role in the prevalence of hazardous alcohol consumption (Carter, Brandon, & Goldman, 2010; Greenbaum, Darkes, Brandon, & Del Boca, 2011). For example, Carter, Brandon, and Goldman (2010) took 18 previously conducted studies that compared groups of young adults who attended college and those who did not. They found that there was no consistency among the studies in terms of the definitions of "college" and "non-college" students. However, they did find that inspective of the varying definitions, researchers still found that college students drank heavier than non-college students. Many factors associated with college life can affect their alcohol consumption, such as Greek life, membership in a sports team, and location of residence (Carter et al., 2010). Contrary to the previous study, Goldman, Greenbaum, Darkes, Brandon, and Del Boca (2011) examined the alcohol consumption behaviors of both college and non-college students over a period of 52 weeks. They found no significant difference between the two groups; however, alcohol consumption did

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increase during particular holidays, like Christmas and New Year's Eve. Some factors to consider when conducting research would be the time of data collection, and if those previous 18 studies that Carter et al. (2010) examined collected data from both college and non-college students at the same time, or at different time periods.

No matter the time of the year, college students still drank more heavily compared to other age groups (Carter, Brandon, & Goldman, 2010; Greenbaum, Darkes, Brandon, & Del Boca, 2011). Hingson (2010) reviewed the National Institute on Alcohol Abuse and Alcoholism report on college drinking and found that between 1999 and 2005, the percentage of students who drank more than 5 drinks in the past 30 days increased from 41.7% to 45.2%. In addition, driving under the influence also increased from 26.1% to 29.2% during the same time frame. Although colleges and universities have been implementing intervention programs, they have not been as effective as planned. Hingson (2010) suggested that postsecondary institutions tried a more individually oriented approach with the creation of these programs instead of a "one-size-fits-all" approach.

In a similar study, Nelson, Xuan, Weitzman, and Wechsler (2009), analyzed results from the Harvard School of Public Health College Alcohol Study between the years 1993 and 2005. Similar to Hingson, they found colleges that reported having high levels of heavy drinking in 1993 still reported these high levels in 2005. However, they found a significant decline in driving under the influence between 1997 and 2005. Both studies determined that colleges and universities lacked progress in their efforts to reduce hazardous alcohol consumption on their campuses.

Around the same time frame that data was collected for the previous 2 studies, Wechsler, Seibring, Liu, and Ahl (2004) sent out surveys to college administrators that addressed their alcohol intervention programs. Most schools considered hazardous alcohol consumption to still be an issue on their campus, and also conducted alcohol education targeted towards freshmen, fraternity and sorority members, and athletes. All 747 institutions that responded were 4-year universities that implemented an alcohol prevention program, but no evidence had been provided or published showing that these alcohol prevention programs actually decreased their student body alcohol consumption.

College Student Drinking and Risky Behaviors

Varela and Pritchard (2011) hypothesized that college students were more likely to engage in risky behaviors like hazardous alcohol consumption in a group than by themselves. Based on the social cognitive theory that suggests that students learn to cope with stress by watching and doing what their peers around them do, they predicted that the transition from high school to college may provide the stress that creates the opportunity for the social cognitive theory to take place. Similarly, Brandão et al. (2011) stated that the age group entering college looked to model their behaviors after students who were already present at the university. Although this study took place in Brazil, it shows that alcohol consumption behavior results correlates with results from other countries. Another study that compared students from Greece and students from the United States found that American students tended to drink more when they were under the age of 21 and less when they were older than 21, whereas Greek students tended to drink moderately across their college experience (Kitsantas, Kitsantas, & Anagnostopoulo, 2008). It may be beneficial for college administrators to look at certain

aspects of this culture and determine what factors lead to lower alcohol consumption in these groups.

Other studies have attempted to explore relationships between college student alcohol consumption and risky behaviors. Cooper (2002) examined this relationship in an attempt to determine if engaging in one behavior increased the likelihood of engaging in the other behavior. Cooper reviewed studies within the last 10 years, and found that college students who believe alcohol use directly causes risky sexual behavior would engage in risky sexual behavior after consuming alcohol. Cooper also found that the likelihood that a student has ever drank alcohol increased the likelihood that the same individual has also had sex, and the amount of alcohol consumed also predicted the student's sexual involvement. In other words, the more a student drank, the more sexually involved the student was. These results suggested that the prevalence of hazardous alcohol consumption on campuses was a contributing factor to the prevalence of negative consequences of risky sexual behavior, like STDs and unwanted pregnancies.

Alcohol Prevention and Intervention Programs in Colleges and Universities

Many studies addressed the issue of college hazardous alcohol consumption and alcohol prevention programs (Demers, Beauregard, Gliksman, 2013; Hingson, 2010; Levin et al., 2012; Mallett, Bachrach, & Turrisi, 2009; Neighbors et al., 2010; Nelson et al., 2009; Wechsler et al., 2004). For example, Mallett, Bachrach, and Turrisi (2009) administered surveys that assessed students' beliefs and behaviors about alcohol consumption in an attempt to examine intrapersonal and interpersonal influences on college students' alcohol consumption behaviors. They found that students were more likely to be influenced by their closest friends opposed to family and other friends.

Mallet et al. (2009) suggested that alcohol prevention and intervention programs seek to address drinking perceptions of students' close friends. In another study, Neighbors (2010) suggested that postsecondary institution administrators identify moderators of perceived social norms and alcohol consumption in order to create alcohol prevention and intervention programs. Neighbors examined the relationship between students' perceived norms and their alcohol use and found that the more strongly a student identified with a group, the stronger the association was between the perceived norms for drinking in the group and their own drinking habits. In other words, the more connected a student felt to a particularly group of people, the more similar their alcohol consumption and the group's perceived alcohol consumption were.

Other studies have been done to determine particular factors that contribute to higher levels of drinking on college students. Demers et al. (2013) surveyed over 6,000 students in Canada and assessed their alcohol consumption behaviors. They found that college students residing off campus tended to consume more alcohol, and those who were first-year male students drank the most drinks and drank more frequently. This study suggested targeting these characteristics when considering alcohol prevention and intervention programs as well as implementing alcohol control policies. Most of the time, alcohol and drug policies focused on students that lived in on-campus residence halls, and it was difficult to regulate alcohol consumption off campus. However, colleges and universities could work to create programs and policies that seek to reduce overall heavy alcohol consumption in their students.

Another study addressed students' experiences as a potential factor in their alcohol consumption behaviors (Levin et al., 2012). It explored the relationship between

experiential avoidance, or the attempt to avoid past experiences, and alcohol consumption

in college students. The researchers found that their hypothesis which stated that

experiential avoidance does play a major role in college students' alcohol consumption

behaviors was supported by their results. They also found that experiences and

experiential avoidance significantly predicted alcohol abuse and related alcohol problems

that pertain to both physical and mental health of college students. They suggested that

alcohol intervention programs target this experiential avoidance and that longitudinal

studies test the development of experiential avoidance and alcohol dependence behaviors.

Religiosity and Spirituality among College Students

Although the majority of America's higher education was founded in religion and

religious traditions, values in scientific objectivity and other secular ideals developed

during the late 19th century (Bryant, Choi, & Yasuno, 2003; Cohen & Kisker, 2010).

Although this contributed to further scientific advancement and recognition of

professionals and ideologies from non-religious philosophies, spiritualism and religiosity

began to appear abstract in the world of higher education (Astin, 2003; Bryant, Choi, &

Yasuno, 2003).

Many studies have reported a decrease in students' religiousness and participation

in religious practices during their college careers (Astin, Astin, & Lindholm, 2011a;

Bryant, Choi, & Yasuno, 2003; Montgomery-Goodnough & Gallagher, 2007). Bryant,

Choi, and Yasuno (2003) explored the degree to which students were involved in

religious activities and spiritualism by using a longitudinal sample of first-year college

students. Their participants completed the Cooperative Institutional Research Program

(CIRP) Freshman Survey during the fall semester of 2000 and completed a follow-up

survey called Your First College Year (YFCY) during the spring semester of 2001. The results showed that the percentage of students who did not attend religious services increased by 27% and 10.3% of students stopped praying or meditating in their first year of college. These findings supported the claim that students become less religiously involved, which paralleled other studies on this topic (Astin, Astin, & Lindholm, 2011b; Lee, 2002; Saenz & Barrera, 2007; Small & Bowman, 2011).

Other studies looked at what specific groups of college students significantly change in their religiosity during their college careers and how other factors such as institutional types affected their religiosity (Lee, 2002; Pascarella & Terenzini, 1991).

Religiosity and College Student Alcohol Consumption

Studies have been conducted on college student spirituality and its development, especially in relation to health and wellbeing (Brown et al., 2007; Bryant, 2007; Horton et al., 2012; Maselko & Kubzansky, 2006; Wallace et al., 2007). For instance, Bryant (2007) examined gender differences in the development of spirituality among college students. Bryant found that based on the survey instrument used, women tended to be more spiritually and religiously inclined than men. However, Bryant noted that society might play a factor in how each gender responded to the survey. For example, women may have felt more inclined to self-report as being very spiritual because they "should," and men may have felt more inclined to self-report as being less spiritual because society might suggest it is more feminine to do so. In addition, Bryant also found that religious friends influenced women more than they influenced men, and suggests that future research seeks why this is so.

Other than gender differences in spirituality, studies have explored how

spirituality and religiosity affects high-risk behaviors such as criminal activity and

alcohol and drug use (Baier & Wright, 2001; Borynski, 2003). Baier and Wright (2001)

addressed the relationship between religiosity and criminal activity, and found that

depending on the criminal act, religion did play a role. They divided criminal activities

into 2 categories. If the activity directly affected another individual, like homicide or

rape, they were considered "victim" crimes, and if they did not directly affect another

individual, like illicit drug and alcohol use, they were considered "non-victim" crimes.

They found that religion played a role in deterring non-victim crimes than victim crimes.

Further research should address why this is so, and since there was a slight significance in

race and ethnicity, further research should also address this aspect of the results.

Wallace and Forman (1998) explored religions' role in reducing health risks

among adolescents in high school. Their research surveyed high school seniors and

addressed their religious beliefs and activities, as well as their health behaviors. They

found that participants who went to church weekly were less likely than others to engage

in high-risk behaviors like alcohol consumption. They also found that religious attitudes

were positively related to promoting positive health behaviors. Because this research was

done over 10 years ago, it is important to see how these relationships may have changed

over the years. Brown et al. (2007) examined religion's role in preventing underage

alcohol consumption. They surveyed almost 300 students at the University of Kentucky

and found that religiousness was associated with less frequent alcohol use and fewer

alcohol problems. Wallace et al. (2007) addressed the potential impact of religiosity on

adolescent substance abuse. They hypothesized that there was an inverse relationship

between religiosity of the environment (high school) and of the individual and substance abuse. They found that religiosity of the high school did result in a lower frequency of substance abuse in their high school students; however, religiosity of the individual played a more significant role in their individual substance abuse.

Horton et al. (2012) addressed undergraduate students' attachment to God and how it affected their engagement in high-risk behaviors. By examining religious attendance, they found that those who attended religious services more frequently had lower drug and alcohol usage, as well as lower engagement in risky sexual behaviors. Similarly, Finlay et al. (2012) examined students' leisure activities in relation to their alcohol consumption and found that those who participated in spiritual activities were less likely to spend their leisure time consuming alcohol.

Summary

Although various studies have been done on religiosity and college student alcohol consumption, many findings have been inconsistent due to various definitions of "college student," "religion," and "spirituality" (Baier & Wright, 2001; Brown et al., 2007; Carter, Brandon & Goldman, 2010; Goldman et al., 2011). The proposed study seeks to explore the relationship between self-reported religiosity in college students and their alcohol usage.

CHAPTER III

Methods

This chapter outlined the methodology of the study designed to explore the relationship between self-identified religiosity and alcohol usage in undergraduate college students. This chapter described the study design, participants, study site, instruments, data collection, data analysis, and treatment of data.

Study Design

This study used a quantitative approach consisting of the administering of an online survey via e-mail to 1,000 undergraduate students enrolled full-time at midsized, Midwestern public university. Research studies have shown that college students tend to have higher response rates for online surveys than paper surveys (Antons, Dilla, & Fultz, 1997; Astin, 2003).

Participants

Participants were entirely voluntary; those that chose to respond to the e-mail by participating in the online survey were included in the study if they were considered eligible. Those considered eligible were undergraduate students between the ages of 18 and 24 who were enrolled at the university for at least 12 semester credit hours each semester and were enrolled in a program offered by the university. The e-mail containing the link to the online survey was sent to 250 students in each class, totaling at 1,000 undergraduate students. Although the university is composed of almost 60% females and 40% males, both genders were sampled equally because male participants tend to have a lower response rate to surveys than female participants (Sax, Gilmartin, & Bryant, 2003; Underwood, Kim, & Matier, 2000). Participants were informed that participation in the

study was completely voluntary and they could withdraw from the online survey at any point in time.

Site

Data collection took place at a midsized institution with approximately 10,000 enrolled undergraduate students located in the Midwest region of the United States. In the fall of 2012, the undergraduate student body was comprised of 59.23% females and 40.77% males. The racial makeup of the undergraduate student body was as follows: 72.46% white, 16.42% black/African American, 4.11% Hispanic, 3.61% unknown/not reported, 1.56% multiracial, 0.82% Asian, 0.68% international, 0.25% American Indian/Alaskan Native, and 0.09% Native Hawaiian/other Pacific (Eastern Illinois University, 2012). There were 15 religiously affiliated registered student organizations at Eastern Illinois University. In terms of alcohol education and prevention programs, Eastern required all new incoming students to participate in an alcohol education program known as AlcoholEdu. This program is catered to all levels of drinkers, from non-drinkers to heavy drinkers, and seeks to provide an individual experience for each student based on their experiences and habits (AlcoholEdu for College, 2011).

Instruments

The researcher administered an online survey to 1,000 full-time undergraduate students via e-mail using the program Qualtrics. The survey included the Religious Background and Behavior Survey created by Connors et al. (1996) to assess their self-identified religiosity or spirituality. The survey contained 13 items that allowed the participants to rate how often they partake in religious activities on a scale of 1 to 8, where 1 represented that they never partake in the activity, and 8 represented that they

partake in the activity more than once a day. Connors et al. (1996) developed the questionnaire to create a reliable measure of religiosity, especially when researching alcohol and substance use. Participants in their development included 1,726 alcohol abusers that were participating in Project MATCH, a study of patient-treatment matching. The Cronbach alpha for the questionnaire was .86, which indicated high internal consistency; and the test-retest correlations for the components were .94 or higher, which indicated strong reliability. Connors et al. (1996) concluded that the questionnaire was a useful and reliable way of measuring religiosity, especially when studying addictive behaviors.

To measure alcohol usage in college students, the online survey contained the 5-item Alcohol Use Disorders Identification Test (AUDIT). The 5-item AUDIT contained questions that addressed the frequency of alcohol consumption as well as problems caused by alcohol usage. The original AUDIT was a 10-item questionnaire that was developed by Saunders, Aasland, Babor, de la Fuente, and Grant (1993) to measure hazardous and harmful alcohol consumption. The instrument was developed from a World Health Organization project with 6 countries: Australia, Bulgaria, Kenya, Mexico, Norway, and the United States. In total, 1,888 participants were interviewed and placed into one of 3 categories: non-drinkers (those who abstain from alcohol or drink 3 times or fewer in the past year), drinking patients (those who drank at least 4 times within the past year, but have never received treatment for a drinking problem), and alcoholics (those who have been diagnosed as alcoholic and have received treatment or seeking treatment). Out of the 150 questions that were administered to the participants, 10 questions were selected by statistical analysis and operational requirements (i.e. representing the domains

of alcohol consumption). After determining a scoring method, the researchers found that 92% of the participants that were hazardous drinkers scored 8 or higher, and 94% of the participants that were non-hazardous drinkers scored below 8. Saunders et al. (1993) concluded that the AUDIT was a useful instrument to detect hazardous and harmful alcohol use in clinical settings. Since 2002, the reliability coefficient of almost 20 published studies that have used the AUDIT has been 0.83 (Reinert & Allen, 2007).

In addition to clinical settings, the AUDIT has been used in studies with college students (Miles, Winstock, & Strang, 2001; Young & Mayson, 2010). Young and Mayson (2010) used the 10-item AUDIT to obtain accurate drinking norms for students that were living on campus in residence halls for future use with social norms alcohol interventions. Miles, Winstock, and Strang (2001) used the 5-item AUDIT on a sample of 393 students in colleges located in South London. They found that self-reported patterns of alcohol consumption significantly predicted their AUDIT scores using linear regression. Miles, Winstock, and Strang (2001) concluded that compared to other alcohol surveys, the 5-item AUDIT was more appropriate for this study because of its short length, relevance, and ability to detect dangerous levels of alcohol consumption, not alcohol dependence, which was why the current study contained the 5-item AUDIT instead of the 10-item AUDIT. Kokotailo, Egan, Gangnon, Brown, Mundt, and Fleming (2004) conducted a study that also supported the use of the AUDIT for the college student population.

Additional questions were added to the survey to measure frequency of drinking, binge drinking behaviors, and the estimated number of drinks consumed per week. Refer to Appendix A for the copy of the proposed online survey.

Data Collection

The online survey was administered via e-mail initially on April 21, 2014, along with 2 reminder e-mails on April 24 and April 29, 2014. The e-mail contained a letter discussing the purpose of the study, as well as the estimated length of time it would take to complete the survey (See Appendix B). After the online survey was administered through Qualtrics using technology services offered on campus, data were received and coded for analysis using the Statistical Package for the Social Sciences (SPSS) Version 20 (2012).

Data Analysis

The survey responses were collected electronically during the spring 2014 semester through Qualtrics by emailing participants a letter of informed consent that included a link to the online survey. The responses were collected and imported into SPSS for analysis.

AUDIT scoring. To calculate a score for the AUDIT, each item was scored on a scale of 0 to 4, where "Never," "No," and "1 or 2" responses received a score of 0, and "Four or more times a month," "Daily or almost daily," "Yes, during the past year," and "10 or more" received a score of 4. These procedures were used in both the development of the 10-item AUDIT as well as the 5-item AUDIT (Miles, Winstock, & Strang, 2001; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993).

Analysis of Variance. For the first secondary research question, the Analysis of Variance (ANOVA) was used to compare differences between multiple means between self-identified groups of unsure, spiritual, and religious participants and the average number of drinks consumed per week. For the second secondary research question, the

ANOVA was used to compare differences between multiple means between self-identified groups of unsure, spiritual, and religious participants and their calculated AUDIT scores. For significant ANOVAs, the Tukey Post-Hoc analyses were then performed to determine which sets of paired means were statistically different from each other.

Chi-Square Analysis Test of Independence. For the third secondary research question, the Chi-Square Analysis Test of Independence was used to compare the independence of how a student self-identifies their religiosity (unsure, spiritual, or religious) and whether or not they participate in binge drinking behaviors. For the fourth secondary research question, the Chi-Square Analysis Test of Independence was used to compare the independence of how a student self-identifies their religiosity and the extent of their drinking frequency.

Treatment of Data

Data were collected electronically through Qualtrics and transcribed into SPSS for analysis. When stored in SPSS, names of the participants were not directly attached to their survey responses. Those with access to the raw data were only those directly involved with the facilitation and supervision of the proposed research study. After completing research and data analysis, all files containing the raw data were deleted.

Summary

Chapter III discussed the proposed methodology of the study, which included the study design, potential participants, survey instruments, and the proposed method of data collection and analysis. Chapter IV contains a presentation of the findings to the 4 research questions found in Chapter I.

CHAPTER IV

Results

The study was designed to explore the relationship between self-identified religiosity and the alcohol usage among full-time undergraduate students. For the first 2 research questions, analysis of variance (ANOVA) tests were conducted to determine if there were significant differences among self-identified unsure, spiritual, and religious students.

For the last 2 research questions, the Chi Square Analysis Test of Independence was conducted to determine if there were significant differences among the 3 groups of students. For this study, the 3 groups of students, unsure, spiritual, and religious, represented the independent variable in all statistical analyses for the 4 research questions. The intention of the statistical analyses was to determine if there were significant differences between the 3 groups of students and various dependent variables: drinks per week, Alcohol Use Disorders Identification Test (AUDIT) scores, binge drinking behaviors, and frequency of drinking.

Sample Characteristics

The electronic survey invitation was sent to 1,000 participants, randomly selected from the entire student body of 8,975 undergraduate students. To attempt to have a representative sample, 50% of the participants selected were male and 50% of the others were female. In addition to sampling a particular ratio for gender, the random selection was also composed of 25% from each class standing, determined by the total number of credit hours completed. In total, 166 survey responses were collected, yielding a 16.6% response rate. For the purpose of this study, only survey responses that included

participants self-identifying as unsure, spiritual, or religious were used in data analysis. Of the 166 responses, 132 were self-identified as unsure (n = 10, 16.6%), spiritual (n = 47, 28.3%), or religious (n = 75, 45.2%) (Figure 1). Of these 132 survey responses, 25.0% were male (n = 33) and 73.5% were female (n = 97). The remaining 2 participants preferred not to disclose their gender. The ages of the participants ranged from 18 to 24 (M = 20.38, SD = 1.45). In regard to ethnicity, 84.1% of students reported identifying as White/Caucasian (n = 111), 12.1% as Black/African American (n = 16), 1.5% as Hispanic/Latino (n = 2), 0.8% as Asian/Pacific Islander (n = 1), 0.8% as Multicultural (n = 1), and 0.8% identified as "Other" (n = 1).

Two goodness of fit tests were performed to determine if the sample was representative of the student body population. The first goodness of fit test analyzed the proportion of males and females in the sample, however, the distribution of males and females was not statistically representative of the target population, X^2 (1, N = 166) = 9.54, p < 0.05. The second goodness of fit test analyzed the proportion of each race in the sample, which was determined to be statistically representative of the target population, X^2 (4, N = 166) = 5.56, p > 0.05.
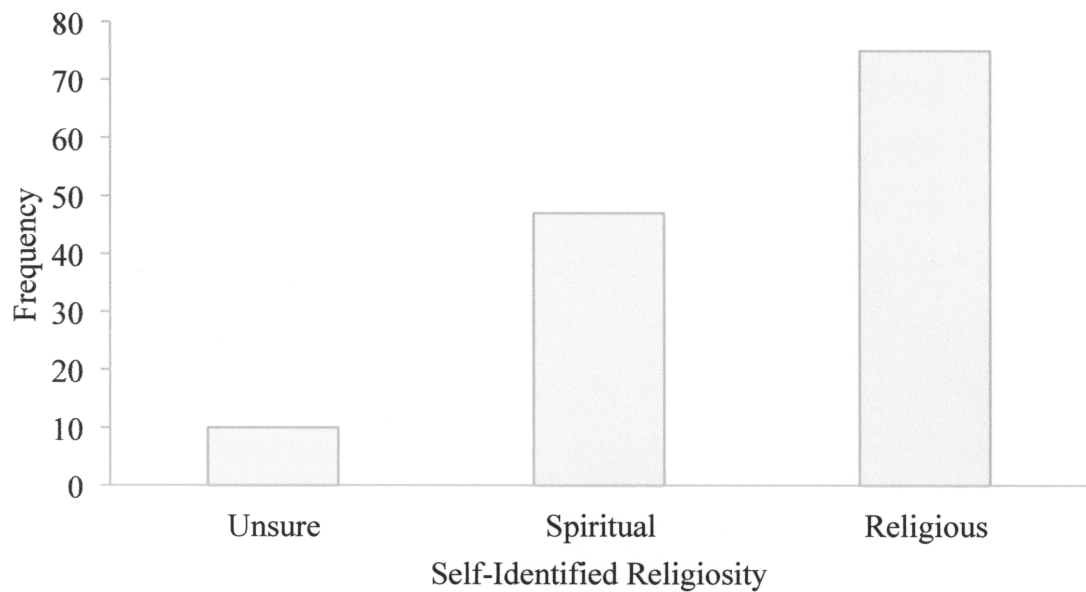
Figure 1. Distribution of self-identified religiosity among undergraduate students. This figure illustrates the amount of students that identified as unsure, spiritual, or religious.

Self-reported academic grade point averages ranged from 1.9 to 4.0 ($M = 3.31$, $SD = 0.49$). In regards to acquiring course credits elsewhere, 41.7% of participants reported receiving course credits from high school advanced placement or dual-credit courses ($n = 55$), 37.1% from community college courses or another 2-year institution ($n = 49$), and 3.8% from another 4-year institution ($n = 5$). The number of semesters participants have attended the university ranged from 1 semester to 10 ($M = 4.94$, $SD = 2.38$).

The primary research question of this study was: How does self-identified religiosity or spirituality affect alcohol use among undergraduate college students? To answer this question, 4 secondary research questions were developed along with proper data analysis procedures.

Research Question 1: Is there a difference in drinks per week among unsure, spiritual, and religious self-identified students?

To answer this first research question, the participants were asked to identify as one of the following: atheist, agnostic, unsure, spiritual, or religious. Participants were also asked to estimate the total number of drinks they have consumed over the last 7 days. To determine if there was a difference in drinks per week among unsure, spiritual, and religious self-identified students, an ANOVA was conducted to compare the means among the 3 groups. The independent variable was the 3 self-identified groups of students, and the dependent variable was the estimated number of drinks consumed in 7 days. Table 1 displays the results of the analysis of variance between participants' self-identified religiosity and number of drinks they consumed over the last 7 days (drinks per week).

Table 1

One-Way Analysis of Variance of Self-Identified Religiosity and Drinks per Week

Source	Sums of Squares	*df*	Mean Square	*F*	*p*
Between groups	179.11	2	89.56	1.66	.19
Within groups	6945.80	129	53.84		
Total	7124.91	131			

Note: $p = 0.05$. $N = 132$.

The differences among unsure, spiritual, and religious students in the estimated drinks consumed per week were not statistically significant at the .05 confidence level, $F(2, 129) = 1.66$, $p = 0.19$ (Table 1). The 10 participants that self-identified as unsure reported consuming an average of 2.30 drinks in 7 days ($SD = 3.16$); the 47 participants

that self-identified as spiritual reported consuming an average of 5.45 drinks in 7 days

(*SD* = 9.64); the 75 participants that self-identified as religious reported consuming an

average of 3.16 drinks in 7 days (*SD* = 5.90).

Research Question 2: Is there a different in the AUDIT scores among unsure,

spiritual, and religious self-identified students?

To answer this second research question, the survey included the 5-item AUDIT.

After totaling all scores for each individual participant, the mean scores were compared

among the 3 self-identified groups: unsure, spiritual, and religious. To compare these

means, an ANOVA was conducted, with the independent variable continuing to be the 3

self-identified groups and the dependent variable as the total AUDIT scores. Table 2

displays the results of the analysis of variance between participants' self-identified

religiosity and their total AUDIT scores.

Table 2

One-Way Analysis of Variance of Self-Identified Religiosity and AUDIT Scores

Source	Sums of Squares	*df*	Mean Square	*F*	*p*
Between groups	4.76	2	2.38	0.33	.72
Within groups	925.90	129	7.18		
Total	930.66	131			

Note: *p* = 0.05. *N* = 132.

The differences among these 3 groups in AUDIT scores were not statistically

significant at the .05 confidence level, *F*(2, 129) = 0.33, *p* = .72 (Table 2).

Although there were no statistically significant results, the average AUDIT scores

slightly decreased between each group of students (Table 3). The 10 participants that

self-identified as unsure had an average AUDIT score of 9.23 (*SD* = 2.53); the 47

participants that self-identified as spiritual had an average AUDIT score of 8.98 (*SD* =

2.44); the 75 participants that self-identified as religious had an average AUDIT score of

8.67 (*SD* = 2.83).

Table 3

Mean AUDIT Scores of Self-Identified Unsure, Spiritual, and Religious Students

Self-Identified Religiosity	*n*	*M*	*SD*
Unsure	10	9.24	2.53
Spiritual	47	8.98	2.44
Religious	75	8.67	2.83

Note: *N* = 132

Research Question 3: Is there a difference in distributions between unsure, spiritual, and religious self-identified students regarding binge drinking behaviors?

To answer this third research question, the survey asked participants how many

times they have consumed 4 drinks, if female, or 5 drinks, if male, within a 2-hour time

period within the last 2 weeks. If students answered any number of times above 0, they

were considered performing binge drinking behaviors ("Yes"); however, if they answered

0 or never, they were considered not performing binge drinking behaviors ("No").

To compare the distributions among the 3 groups of students and binge drinking

behaviors, a Chi-Square Analysis Test of Independence was conducted with the 3 self-

identified groups of unsure, spiritual, and religious students as the independent variable

and performing binge drinking behaviors as the dependent variable. Table 4 displays the

chi-square analysis results between participants' self-identified religiosity and their

reported binge drinking behaviors.

Table 4

Chi Square of Relationship Between Religiosity and Binge Drinking Behaviors

	Self-Identified Religiosity					
Binge Drinking	Unsure	Spiritual	Religious	Total	X^2	Φ
Yes	5	17	18	40	4.01	.13
No	5	30	57	92		
Total	10	47	75	132		

Note: $p = 0.05$. $N = 132$.

The results showed that there was no statistically significant difference in the

percentage of participants that performed binge drinking behaviors among the 3 self-

identified groups at the .05 confidence level, X^2 (2, $N = 132$) = 4.01, $p = 0.13$ (Table 4).

Research Question 4: Is there a difference in distributions between unsure, spiritual,

and religious self-identified students regarding frequency of drinking?

To answer this fourth research question, the survey asked participants how many

days they consumed alcohol in the past 30 days to measure the frequency of drinking. To

compare the distributions among the 3 groups of students and the frequency of drinking,

a Chi-Square Analysis Test of Independence was conducted with the 3 self-identified

groups of unsure, spiritual, and religious students as the independent variable and

frequency of drinking as the dependent variable. Initially, the frequency of drinking

variable was divided into 7 categories, but over 50% of the cells had less than 5 cases. In

order to increase the number of cases per cell, the cells were combined to make 3 total

categories with only 2 cells below 5 cases. Table 5 displays the chi-square analysis

results between participants' self-identified religiosity and how many days they

consumed alcohol in the past 30 days (frequency of drinking).

Table 5

Chi-Square of Relationship Between Religiosity and Frequency of Drinking

Frequency of Drinking	Self-Identified Religiosity			Total	X^2	Φ
	Unsure	Spiritual	Religious			
0 Days	1	6*	22**	29	14.74	.005
1-9 Days	9**	29	48	86		
10-30 Days	0	12**	5*	17		
Total	10	47	75	132		

Note: 2 cells (22.2%) have a count less than 5; $p = 0.05$. $N = 132$. * indicates that the

distribution was significantly lower than in the other 2 groups; ** indicates that the

distribution was significantly higher than in the other 2 groups.

The results showed that there was a statistically significant difference in the

frequency of drinking among the 3 self-identified groups at the .05 confidence level, X^2

$(4, N = 132) = 14.74, p = 0.005$ (Table 5).

Summary

Undergraduate students at a midsized Midwestern institution participated in an

online survey during the spring 2014 semester to gather information on their religiosity

and alcohol usage behaviors. For the first 3 research questions, there were no statistically

significant differences in religiosity and alcohol consumption between students that

identified as unsure, spiritual, or religious. Although there were no statistically

significant differences for these research questions, the mean AUDIT scores for these 3

groups decrease as the religiosity of each group increased; unsure students had the

highest average AUDIT score and religious students had the lowest average AUDIT

score (Table 3). For the last research question, there was a statistically significant

difference between the frequency of drinking among unsure, spiritual, and religious

students (Table 5). Chapter V contains more information regarding the results of the

study, including conclusions, limitations, and recommendations for further research.

CHAPTER V

Discussion

Summary of Study

The purpose of this study was to explore the relationship between the religiosity of undergraduate students and their alcohol usage. This chapter discusses the findings, presents limitations and recommendations for future research, as well as provides an overall conclusion of this study.

The research questions that were developed provided guidance for the study. Through an online survey, 166 responses were collected from undergraduate students on their self-identified religiosity and alcohol usage. Findings were observed after the data were analyzed.

Primary Research Question. How does self-identified religiosity or spirituality affect alcohol use among undergraduate college students? In order to answer the primary research question, 4 secondary research questions were developed for the study.

Research Question #1. Is there a difference in drinks per week among unsure, spiritual, and religious self-identified students?

Burke, Van Olphen, Eliason, Howell, and Gonzalez (2014) conducted a study that examined religiosity as a protective factor when comparing alcohol usage among religious, spiritual, and secular college students. They found that when comparing college students by their self-identified religiosity, students that reported being religious had significantly lower alcohol use than spiritual or secular students. In particular, religious students reported having significantly fewer drinks per week, drank fewer days in the past month, and reported fewer binge drinking behaviors. Neighbors, Brown,

Dibello, Rodriguez, and Foster (2012) found that the most significant different was in drinks per week when they compared it to religious values of college students.

Although the studies mentioned found that religious students reported significantly fewer drinks per week, this study did not have the same result. Drinks per week did not vary significantly among religious, spiritual, and unsure students.

Research Question #2. Is there a difference in the AUDIT scores among unsure, spiritual, and religious self-identified students?

Previous research has been done on AUDIT scores and college students, however, there was no research found that compared college students' AUDIT scores and their religiosity. The AUDIT was developed to measure hazardous alcohol consumption, so studies using the AUDIT that involved college students were looking to measure binge drinking behaviors. Miles, Winston, and Strang (2001) found that the 5-item AUDIT was appropriate to use on college students opposed to the original 10-item AUDIT because of its short length and consistent ability to predict dangerous levels of alcohol consumption.

The results from this study showed no statistically significant difference in total AUDIT scores among religious, spiritual, and unsure participants. However, when looking at the mean total AUDIT score for each group, the values decreased as religiosity increases. These results supported studies that claimed that students who are more religious tend to partake in alcohol consumption and other risky behaviors less frequently than other students (Baier & Wright, 2001; Borynski, 2003; Brown et al., 2007; Horton et al., 2012; Maselko & Kubzansky, 2006; Wallace et al., 2007).

Although no research has been found comparing AUDIT scores to religiosity among college students, many studies have been conducted that compared religiosity of

college students and their alcohol behaviors, including binge drinking, which leads to the third research question.

Research Question #3. Is there a difference in distributions between unsure, spiritual, and religious self-identified students regarding binge drinking behaviors?

Burke et al. (2014) not only found that religious students had fewer drinks per week, they also found that they reported fewer binge drinking behaviors. Other previous studies have also reported similar results. Brown et al. (2007), Horton et al. (2012), and Finlay et al. (2012) support the idea that religious college students do not perform binge drinking behaviors as often. However, this study did not have results that aligned with these previous studies. The results from this study showed that the frequency of binge drinking did not differ between religious, spiritual, and unsure participants.

Research Question #4. Is there a difference in distributions between unsure, spiritual, and religious self-identified students regarding frequency of drinking?

Previous research has shown that religious students tend to drink less frequently than other students (Brown et al., 2007; Burke et al., 2014; Finlay et al., 2012; Horton et al., 2012; Neighbors, Brown, Dibello, Rodriguez, & Foster, 2012). Burke et al. (2014) found that religious students reported drinking less days per month than spiritual or secular students. Neighbors, Brown, Dibello, Rodriguez, and Foster (2012) found that overall, participants who were more religious tended to drink less frequently than other students, including drinking less days in the past month.

This study supports the findings of Burke et al. (2014) and Neighbors, Brown, Dibello, Rodriguez, and Foster (2012). When measuring the frequency of drinking as number of times students drank in the last 30 days, religious students reported

significantly fewer days than spiritual or unsure students. While drinks per week, AUDIT scores, and binge drinking behaviors were not significantly different among the 3 groups of students in this study, the frequency of drinking per month does provide some insight into the alcohol usage behaviors in relation to college student religiosity.

Significance of Findings

Previous studies have labeled alcohol abuse as a public health issue that is prevalent among young adults in college (Brandão et al., 2011; Brown et al., 2007; Carter, Brandon, & Goldman, 2010; Cooper, 2002; Demers, Beauregard, & Gliksman, 2013; Hingson, 2010). This study's results support the statement that alcohol abuse is prevalent among college students, with 92 of the 132 participants (69.70%) self-reporting binge drinking behaviors (Table 4).

Many studies have reported that out of their participants, the ones who report being more religious had lower alcohol usage than those who were less religious or not religious at all (Brown et al., 2007; Burke et al.,2014; Finlay et al., 2012; Horton et al., 2012; Neighbors, Brown, Dibello, Rodriguez, & Foster 2012; Wallace et al., 2007). Although results from this study only found one significant difference in alcohol usage between religious, spiritual, and unsure students, the significance may be the most influential. This study found that religious students reported drinking on fewer days in the past 30 days than spiritual or unsure students. Borynski (2003) also found that college students do not vary in their binge drinking behaviors or the average number of drinks they consume, no matter if they were a member of an organization that drinks heavily or not. Although Borynski did not find significance in these measures for alcohol

usage, there was a statistically significant difference in the frequency of alcohol usage, which is supported by the results from the current study.

Although there was no significant difference in the amount they drink in each sitting, if religious students drink on significantly fewer days, than they drink significantly less than spiritual and unsure students. Therefore, this study supported the overall report from the previous studies mentioned that religious students have lower alcohol usage than less religious or non-religious students.

Limitations

Some limitations during the study included not having a representative sample of the targeted population in terms of gender, so the results and conclusions derived from this study cannot be generalized to the overall population. Also, the targeted population was from one institution located in the Midwest, which may have also impacted the results.

Another limitation included the quantitative design of the study. Because the survey was taken online and left no room for open responses or comments, the participants had little opportunity to ask for clarity, especially if they did not understand what a question was asking. Therefore, some participants may have responded to questions differently because they had a different understanding of what the question was asking them. Also, because the survey did not have any space for comments, participants did not have the opportunity to explain why they responded a particular way.

As Greenbaum, Darkes, Brandon, and Del Boca (2011) discussed in their study, alcohol consumption varies throughout the year, significantly increasing during holidays like Christmas and Spring Break. The survey in this study was distributed 3 weeks after

Spring Break, which could have affected participants' answers to questions asking about

frequency of drinking, amount of alcohol consumed, and binge drinking behaviors. The

presence of Spring Break could have also impacted the data in the opposite direction.

Students at Eastern Illinois University also participate in Alternative Spring Break, a

community service opportunity, which could lower the amount of alcohol students report

drinking.

Another limitation involves the language used in the survey. Although the words

"atheist," "agnostic," "unsure," "spiritual," and "religious," were all defined for

participants in the survey, there is still a debate on what are the correct definitions for

these terms, or if correct definitions exist at all (Baier & Wright, 2001; Brown et al.,

2007; Carter, Brandon & Goldman, 2010; Goldman et al., 2011).

Recommendations for Future Research

The study focused on comparing alcohol usage among unsure, spiritual, and

religious students, but did not look at the behaviors of students identifying as atheist and

agnostic. It would be interesting to see if the results are still insignificant when taking

account for these 2 groups. It would also be interesting to see if the significant results

remained significant when including these 2 groups. Other studies could isolate the

extremes (atheist and religious students) and look at the possibility of significant

differences between these 2 groups and their alcohol usage. Future research could also

take only the religious and spiritual students and see if the absence of unsure students

affects the results of the data analyses.

It may also be beneficial to look at a regression analysis of religiosity and AUDIT

scores, since this study showed that the mean AUDIT scores of unsure, spiritual, and

religious students decreased between the groups. Other studies could include comparing the 5-item and 10-item AUDIT scores to see if using the 10-item AUDIT shows a different relationship between self-reported religiosity and alcohol usage.

For further research, it is also recommended that the survey invitation be sent to a greater number of males, which would increase the likelihood of the student body population representation in terms of gender. Having the majority of the participants be females may have influenced the data as well, because females tend to report being more religious and drinking less than males (Bryant, 2007). To address this, further research could isolate either gender to determine the influence that their self-reported religiosity has on their alcohol usage. It would also be interesting to look at institutions nearby and replicate the study to see if the results are consistent, as well as institutions located in different regions of the United States.

Since the majority of research done on this topic supports the idea that religious students use alcohol less than other students, further research should be done to find out why this is the case. Neighbors, Brown, Dibello, Rodriguez, and Foster (2012) discussed that some studies suggested that religious students drink less and less often because generally, their friends support the same values and beliefs about alcohol consumption, which is usually abstinence of alcohol. Neighbors et al. (2010) mention the Social Identity Theory that says the group of people an individual most identifies with influences that individual the most, which supports the idea that religious students do not drink because their religious friends do not drink. Future research should examine this further by asking students not just how much they drink, but why they drink, who they drink with, and what situations they drink in.

In addition to researching why students partake in activities surrounding alcohol usage, future studies should explore a longitudinal approach to see if students change in alcohol usage and religiosity from freshman year to their final year in college, or from the beginning of their freshman year to the end of their freshman year. Astin (2003) stated that if there is no longitudinal data on student involvement and behaviors, there is "no way to resolve such ambiguities" (p. 26). Finlay et al. (2012) also supports the suggestion for obtaining longitudinal data: "The opportunities or pressures to engage in heavy drinking may be very similar in the early years of college but may diverge as these students move into young adulthood and begin to adopt adult social roles" (p. 257).

Future research should also target alcohol education programs that incorporate religion or spirituality and examine their effectiveness in reducing alcohol usage among college students. Studies should also examine alcohol education programs that take place prior to college that also incorporate religion or spiritualty. Moore (2013) suggested that it might be more effective to give alcohol education presentations to adolescents in high school prior to "their initiation of alcohol use and sexual behavior" (p. 41).

Recommendations for Student Affairs Professionals

Student affairs professionals work with students that range in alcohol and drug usage among other characteristics such as academic ability and extracurricular involvement. Recommendations from this study can benefit these professionals when working with alcohol prevention and intervention programs. Factors that deter students to use alcohol are just as valuable as factors that influence them to use alcohol. Therefore, considering protective buffers such as religiosity when developing alcohol

intervention and prevention programs can aid in effectively reducing college student

alcohol usage (Bodford & Hussong, 2013).

There are many forms of alcohol prevention and intervention programs, and many

student affairs departments play a role in these programs. To develop effective programs

that help reduce alcohol usage, student affairs professionals should support religious

student groups and consider late night programming that may attract populations of

students who tend to have lower alcohol consumption. Many late night programs are

developed to attract students who participate in heavy alcohol consumption, especially

social events that include loud music, movies, and dating (Wechsler & Nelson, 2008).

For students who do not partake in alcohol consumption, these events may not be as

appealing to them, so student affairs professionals should consider developing programs

that cater to their interests as well. Supporting programs such as nonalcoholic activities

hosted by church groups may also decrease alcohol usage among college students,

especially during their freshman year (Wells, 2010).

Bryant, Choi, and Yasuno (2003) suggested that student affairs professionals

support programs, organizations, and curriculum that "provide opportunities for students

to reflect on life's big questions" (p. 740). This could include incorporating reflection

pieces to the conclusion of alcohol education programs, as well as journaling for

academic courses and weekly reflections at places of student employment. Increasing the

availability of religious organizations on college campuses may also serve to increase

student individual reflection and reflection with their peers.

Student affairs professionals should also reach out to various religious

organizations and professionals for assistance in the effort to reduce alcohol

consumption. Wechsler and Nelson (2008) stated, "Efforts to reduce student alcohol misuse may benefit from the combined efforts of a range of people who represent various interests" (p. 488). Collaboration with individuals involved with religion and religious activities can offer insight and perspective into the behaviors of students involved in religious groups.

Student leaders should also take part in the effort to reduce student drinking. Hingson (1998) suggested that student leaders educate their peers about "the risks posed by alcohol, not just to the frequent binge drinkers but to the college community around them" (p. 54). By allowing religious student leaders to participate in this effort, they can discuss their leisure activities and behaviors, including abstaining from alcohol or drinking in moderation.

Conclusion

This study was developed to explore the relationship between the religiosity of college students and their alcohol usage. The results from this study support the trend that college students who are more religious tend to drink less and less often. Although there was only a sole significant result, this result was the most influential in terms of determining the alcohol usage of the sample. Because religious students reported drinking significantly fewer days in the past month than spiritual or unsure students, it showed that overall, religious students used alcohol less. This was possible because there was no significant difference in the amount of drinks consumed by each group, so when a group reports significantly fewer days per month than the other 2 groups, it determines that the group uses alcohol the least overall.

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Appendix A

Survey Instrument

1. What is your biological sex?
   (Male)   (Female)   (Prefer not to answer)

2. How old are you? _____

3. Please specify your ethnicity.
   _____White/Caucasian
   _____Hispanic or Latino
   _____Black or African American
   _____Native American or American Indian
   _____Asian/Pacific Islander
   _____Multicultural
   _____Other: _____

4. What is your overall academic GPA? _____

5. Including this semester, how many semesters have you been a student at EIU? _____

6. If you acquired course credits elsewhere, where did you acquire them? (Select all that apply)
   ____High school AP/dual-credit credits
   ____Community college/2-year institution credits
   ____Another 4-year institution

7. Which of the following best describes you at the present time? (Check one)
   _____Atheist   I do not believe in God.
   _____Agnostic   I believe we can't really know about God.
   _____Unsure   I don't know what to believe about God.
   _____Spiritual   I believe in God, but I'm not religious.
   _____Religious   I believe in God and practice religion.

8. For the past year, how often have you done the following? (Circle one number for each line.)

	Never	Rarely	Once a month	Twice a month	Once a week	Twice a week	Almost daily	More than once a day
a. Thought about God	1	2	3	4	5	6	7	8
b. Prayed	1	2	3	4	5	6	7	8
c. Meditated	1	2	3	4	5	6	7	8
d. Attended worship service	1	2	3	4	5	6	7	8
e. Read-studied scriptures, holy writings	1	2	3	4	5	6	7	8
f. Had direct experiences of God	1	2	3	4	5	6	7	8

9. Have you <u>ever</u> in your life:

	Never	Yes, in the past but not now	Yes, and I still do
a. Believed in God?	1	2	3
b. Prayed?	1	2	3
c. Meditated?	1	2	3
d. Attended worship services regularly?	1	2	3
e. Read scriptures or holy writings regularly?	1	2	3
f. Had direct experiences with God?	1	2	3

An *alcoholic drink* is defined as 5 oz. of wine, 10 oz. of a wine cooler, 12 oz. of beer, 10 oz. of microbrew, 8-9 oz. of malt liquor, Canadian beer, or Ice beer, and 1.5 oz. of 80-proof liquor (mixed drink or shot).

Please circle the answer that is correct for you.

1. How often do you have a drink containing alcohol?

   (Never)   (Monthly or less)   (2-4 times a month)   (2-3 times a week)   (4 + times a month)

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

   (1 or 2)   (3 or 4)   (5 or 6)   (7 to 9)   (10 or more)

3. How often during the past year have you found that you were not able to stop drinking once you had started?

   (Never)   (Less than monthly)   (Monthly)   (Weekly)   (Daily or almost daily)

4. How often during the past year have you failed to do what was expected of you because of drinking?

   (Never)   (Less than monthly)   (Monthly)   (Weekly)   (Daily or almost daily)

5. Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested that you cut down?
   (No)   (Yes, but not in the past year)   (Yes, during the past year)

6. If you are female, how many times have you had 4 or more drinks in a 2-hour period within the last 2 weeks? _____

7. If you are male, how many times have you had 5 or more drinks in a 2-hour period within the last 2 weeks? _____

8. What is the estimated number of drinks you have consumed over the last 7 days? _____

9. During the past 30 days, how many days did you have alcohol (beer, wine, or liquor)?

   (0 days) (1-2 days) (3-5 days) (6-9 days) (10-19 days) (20-29 days) (All 30 days)

Appendix B

E-mail to Participants

Greetings!

You are invited to participate in a research study conducted by Angelica Bradley and Dr. Dan Nadler, from the department of Student Affairs at Eastern Illinois University. The study is designed to examine the relationship between students' alcohol consumption and their religiosity. **Participants that do not drink and/or are not religious or spiritual are still eligible to participate.**

Your participation in this study is entirely voluntary. Please feel free to ask questions about anything you do not understand before deciding whether or not to participate. If you do decide to participate, you will be asked to complete a short online survey that will take approximately 10 minutes to complete. The survey will ask questions pertaining to your gender, age, ethnicity, academic grade point average, religiosity and alcohol consumption. If you decide to participate in this study, you will be eligible to be in a drawing for a $50 VISA giftcard. In order to be entered in the drawing, you must send me your name and contact information after completing the survey. The winner will be drawn during the week of May 7, 2014.

Any information that is obtained in connection with this study and can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. If you volunteer to participate in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer. By participating in the study, you are acknowledging that you understand that you are free to withdraw your consent and discontinue your participation at any time.

If you have any questions or concerns about this research, please contact:

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If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

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