

THE RELATIONSHIPS AMONG ALCOHOL USE, KNOWLEDGE RELATED TO
ALCOHOL, AND MAJOR BY COLLEGE

by

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ABSTRACT

This study explored the relationships among alcohol use, knowledge related to alcohol, and major (grouped by college). Participants consisted of 134 students recruited from a psychology research pool. The participants completed a measure about alcohol use (AUDIT-C) and a measure about knowledge related to alcohol (SAQ). This study found that gender was not significantly related to alcohol use; however, there was a significant difference between genders for alcohol-related knowledge in the overall sample. Men were found to have more knowledge related to alcohol than women. Additionally, this study found a statistically significant difference for alcohol use by college. The students in the College of Basic and Applied Sciences endorsed consuming more alcohol than the students in the College of Behavioral and Health Sciences. There was no difference found on knowledge related to alcohol by college. Lastly, there were positive correlations found between alcohol use and knowledge related to alcohol.

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CHAPTER 1

INTRODUCTION

Overview

Alcohol use among individuals attending college is a common part of the college experience (Wechsler, Lee, Nelson, & Kuo, 2002). According to the Center for Behavioral Health Statistics and Quality (CBHSQ, 2016), 58% of full-time college students reported consuming alcohol during the past month. Due to the high prevalence of alcohol use among college students, it is important to study why college students drink alcohol. There are many different reasons why students choose to consume alcohol, but a common reason might be that students drink because they believe negligent drinking occurs during the college years (Crawford & Novak, 2010). Other motivations behind the engagement in alcohol use include being involved in a sorority/fraternity (Iwamoto, Cheng, Lee, Takamatsu & Gordon, 2011), reducing stress (C. M. Lee, Maggs, Neighbors, & Patrick, 2011), and controlling negative affect (Cooper, Frone, Russell, & Mudar, 1995).

Considering college students' involvement with alcohol use, it may be important to explore the association between alcohol use and college major to further understand alcohol use among college students. For example, if we know which majors are at greater risk for alcohol use, we could target individuals in those select majors. The relationship between alcohol use and college major, however, is a relatively unexplored area, which the current study explored.

Prevalence of Alcohol Use

In comparison to the findings of CBHSQ (2016), Velazquez et al. (2011) found that a larger percentage (approximately 70%) of 18 to 25-year-old students attending a four-year college engaged in alcohol use during the past month. This study further found that approximately 80% of the sample reported drinking alcohol in the past year (Velazquez et al., 2011). Likewise, Pilatti, Cupani, and Pautassi (2015) found that, out of their sample of 298 college women, 80% reported consuming alcohol in the last month, and 89% reported consuming alcohol in the past 3 months. Park and Grant (2005) found that, out of their sample of 181 college students, only a small percentage (12%) of college students reported not drinking any alcohol in the past month. These studies showed a variation between a national sample (CBHSQ, 2016) and non-national/regional samples (e.g., Park & Grant., 2005; Pilatti et al., 2015; Velazquez et al., 2011).

In regards to binge drinking, studies have found smaller rates of college students who engaged in binge drinking (e.g., Rankin & Maggs, 2006). In a sample that was restricted to those who reported that they drank during their senior year in high school, more than one heavy drinking episode per week was reported by over 18% of college students (Rankin & Maggs, 2006). According to CBHSQ (2016), of the 58% of college students who reported drinking alcohol in the past month, about 38% of those individuals reported binge drinking (4 or more drinks for women; 5 or more drinks for men) during that time. Rankin and Maggs (2006) found that almost 30% of college students drank an average of 10 or more alcoholic drinks per week, but that the alcohol consumption was distributed, on average, over 1.5 days. This study emphasized that when college students drank, it tended to be in a short period, but in excess. In order to further understand

alcohol-use patterns among college students, researchers have explored gender differences associated with alcohol use (e.g., Liguori & Lonbaken, 2015).

Gender Differences

Some studies found differences in the pattern of alcohol use based on gender (e.g., Liguori & Lonbaken, 2015). Among college students, men (64%) more often reported drinking alcohol during the semester compared to women (60%; Liguori & Lonbaken, 2015). Rankin and Maggs (2006) found that of those who drank alcohol, men, on average, reported drinking 10 drinks per week, whereas women reported drinking six drinks per week. This study further found that men drank on more days than women. Specifically, men were found to drink two more days per week than women (Rankin & Maggs, 2006). Researchers have found a majority of men and women participated in alcohol use, but that men tended to drink more frequently and heavier than women (e.g., Liguori & Lonbaken, 2015). Given these findings, consequences that are associated with alcohol use are important to study.

Consequences Associated With Alcohol Use

Drinking higher levels of alcohol was found to be associated with negative and positive consequences (e.g., C. M. Lee et al., 2011; Park, 2004). C. M. Lee et al. (2011) found that consequences do not occur alone; negative and positive consequences occurred concurrently. Negative consequences, according to many researchers, included negative physical consequences, driving-related consequences (C. M. Lee et al., 2011), suicide ideation (Gonzalez, Bradizza, & Collins, 2009), and academic issues (Conway & DiPlacido, 2015). C. M. Lee et al. (2011) found negative physical consequences and driving-related consequences to be highly associated with alcohol use and to the

frequency of alcohol use. Gonzalez et al. (2009) found suicide ideation to be associated with higher alcohol consumption among college students, even when controlling for depression.

Alcohol use among college students also is correlated with academic issues (e.g., Conway & DiPlacido, 2015). Some studies found that college students who participated in alcohol use were more likely to miss class (Conway & DiPlacido, 2015; Park & Grant, 2005) and spend less time doing schoolwork on days when alcohol was consumed (Conway & DiPlacido, 2015). Conway and DiPlacido (2015) found a positive correlation between alcohol use and skipping class; furthermore, alcohol use was not only predictive of a lower grade point average (GPA) for the fall semester, but also was an even stronger predictor for a lower GPA the following semester. Alcohol use among college students has been found to not only have immediate negative consequences, but future consequences as well (e.g., Conway & DiPlacido, 2015; Liguori & Lonbaken, 2015). Among these issues, college dropout rates were found to be statistically higher among those who drank alcohol compared to those who were nondrinkers (Liguori & Lonbaken, 2015). This study further found that first-year male drinkers were over 2 times more likely not to be enrolled in college the next year than nondrinkers. Additionally, some studies found gender differences when exploring consequences associated with alcohol use (e.g., Park & Grant, 2005).

Physically, women reported having significantly more hangovers than men, and men were found to have higher frequencies of injuries (Park & Grant, 2005). Wagoner et al. (2012) explored gender differences between moderate and severe consequences associated with alcohol use among college students. The authors found that men tended

to experience significantly more moderate and severe consequences compared to women. Wagoner et al. (2012) defined moderate consequences as later regretting actions, participating in unprotected sex, hindering a relationship, getting sick, damaging property, getting into a verbal argument, experiencing a hangover, missing class, and performing poorly on a test. Severe consequences included driving or riding with someone who was under the influence of alcohol, sexually assaulting or being sexually assaulted by someone, being injured, and in needing medical treatment due to alcohol use (Wagoner et al., 2012). Conversely, Read, Haas, Radomski, Wickham, and Borish (2016) found no statistically significant differences between genders when using the Young Adult Alcohol Consequences Questionnaire (YAACQ). The YAACQ is a measure normed on young adults (Read, Kahler, Strong, & Colder, 2006), and this measure was used by Read et al. (2016) to assess the consequences related to college students' alcohol use. Specifically, men reported an average of 10.11 consequences associated with alcohol use, and women reported an average of 9.94 consequences (Read et al., 2016).

Interestingly, Park (2004) found that alcohol use was associated with higher rates of negative consequences, but that college students did not perceive the negative consequences as harmful. College students reported experiencing more positive consequences than negative consequences when drinking alcohol, which may be why college students also were found to be more influenced by positive alcohol experiences than negative alcohol experiences (Park & Grant, 2005). Additionally, when reporting negative and positive consequences associated with alcohol use, C. M. Lee et al. (2011) found that negative consequences were reported significantly less often than positive consequences. Positive consequences reported by women included feeling relaxed,

forgetting problems, expressing oneself better, being more romantic, being creative, and being able to perform tasks better (Park & Grant, 2005). Other consequences reported by women included having fun and being sociable (C. M. Lee et al., 2011). Positive consequences reported by men in college included meeting new friends, socializing, having a romantic encounter, and experiencing stress relief (Park, 2004). Park (2004) found college students viewed positive experiences, as opposed to negative consequences, with alcohol use as more extreme and as occurring more frequently. Further, drinking more alcohol was found to be correlated with more positive encounters, but not more extremely negative encounters (Park, 2004).

Many consequences were found to be associated with alcohol use (e.g., Conway & DiPlacido, 2015; C. M. Lee et al., 2011). Some consequences included negative physical consequences, driving-related consequences (C. M. Lee et al., 2011), suicide ideation (Gonzalez et al., 2009), and academic issues (Conway & DiPlacido, 2015). Considering the number of consequences that have been found to be associated with alcohol use, exploring the motives behind alcohol consumption may be important for further understanding why college students participate in alcohol use.

Motives behind Alcohol Consumption

Due to the prevalence of alcohol consumption (CBHSQ, 2016) and the number of consequences that are associated with alcohol use (e.g., Gonzalez et al., 2009; C. M. Lee et al., 2011), the motives behind alcohol use are important to understand. One study found alcohol frequency, quantity, and weekly consumption to be positively correlated with the expectancy to reduce tension (N. K. Lee, Greely, & Oei, 1999). Conversely, Butler, Spencer, and Dodge (2011) reported that increasing academic demands might

actually reduce alcohol use due to the lack of free time. Cooper et al. (1995) proposed the motivation model theory. The researchers found that consuming alcohol to reduce negative affect was positively correlated with drinking alone and predicted drinking problems. Additionally, socialized drinking was correlated with the effort to enhance positive affect (Cooper et al., 1995), and Rankin and Maggs (2006) found that affect positively correlated with alcohol use. When college students reported a higher positive affect, they also reported more alcohol use, more heavy drinking days, and drinking on more days (Rankin & Maggs, 2006). Additionally, other motivations that correlated with alcohol consumption included participating in a sorority or fraternity (e.g., Iwamoto et al., 2011).

College students also may participate in activities that encourage alcohol consumption. For example, Greek affiliation has been found to be positively related with alcohol use. Iwamoto et al. (2011) found that, compared to individuals not involved with the Greek system, those involved with the Greek system not only engaged in increased alcohol use, but also reported more alcohol-related problems. Similarly, Leppel (2006) found a higher percentage of individuals who lived in a sorority/fraternity house engaged in alcohol use compared to those not living in a sorority/fraternity house. Considering the findings by researchers about the many motivations behind college students' alcohol use (e.g., Butler et al., 2011; Iwamoto et al., 2011), it may be useful to explore the association between alcohol use and college major in order to target populations at risk for greater alcohol use.

Alcohol Use and College Major

Although much research has focused on college students' alcohol use (e.g., CBHSQ, 2016), there is limited research concerning the relationship between alcohol use and college major. Exploring this relationship may be beneficial to pinpoint certain groups of people for intervention and prevention services. The research related to alcohol use and college major is relatively limited, therefore, many college majors were not included in the literature review. The college majors researched included business major, nursing major, psychology major, and criminal justice major.

Baldwin, Bartek, Scott, Davis-Hall, and DeSimone (2009) researched the frequency of alcohol use among nursing students. This study included a midwestern sample of nursing students in different programs (i.e., practical nursing, diploma or associate degree in nursing, and Bachelor of Science in nursing). Of the 923 nursing students sampled, 84% reported consuming alcohol in the past year (Baldwin et al., 2009). Similarly, Watson, Whyte, Schartau, and Jamieson (2006) explored alcohol use among first-year nursing students at a large university in Scotland. The findings indicated that about 87% of nursing students engaged in alcohol use during the past week. Additionally, Hensel, Middleton, and Engs (2014) researched the quantity of alcohol use among college students. The researchers found that, in the overall sample of nursing students in the United States (U.S.), the weekly mean drinks per week was 8.5 drinks.

Because of the different regions, methods of collecting data, and time-frames, it is difficult to compare these results of nursing majors to studies with other majors. For example, when comparing a statewide sample of U.S. college students' alcohol use during the past year (80%; Velazquez et al., 2011) to nursing students' alcohol use during

the past year (84%; Baldwin et al., 2009), yearly alcohol use appears to be consistent among non-national samples. Conversely, when comparing a U.S. national study (CBHSQ, 2016) to individual college and regional samples of nursing students, nursing students appeared to participate in higher alcohol use (e.g., Baldwin et al., 2009; Watson et al., 2006). For example, CBHSQ found that among U.S. full-time college students aged 18 to 22 years old, 58% reported drinking alcohol in the past month (CBHSQ, 2016), whereas, Watson et al. (2006) found that about 87% of nursing students in Scotland reported consuming alcohol during the past week. When comparing the average number of drinks per week consumed by nursing students (8.5; Hensel et al., 2014) to the average number of drinks per week consumed by college students (7.5; Rankin & Maggs, 2006), there does not appear to be much difference. Statistical differences between the two studies, however, were not explored. It should be noted that some studies were conducted in various countries other than the United States, such as Scotland (Watson et al., 2006), and these findings may not be generalizable to the college student population in the U.S.

Dahlin, Nilsson, Stotzer, and Runeson (2011) compared alcohol use between Swedish business students and medical students. This study found that business students were more likely to participate in excessive alcohol use and drinking until intoxicated weekly. Webb, Ashton, Kelly, and Kamali (1997) explored various college majors and alcohol use among students in England and Scotland. Among the groups of students in the business category, 88% reported drinking alcohol during the past week. It needs to be noted that these findings were not clear because business majors were included in a group with students majoring in law, accounting, and economics (Webb et al., 1997). Although

students in this discipline category did not report the highest alcohol use during the past week compared to the other disciplines in the study, the percentage of students who drank during the past week is still higher than the U.S. national sample. For example, among the full-time U.S. national college population of 18 to 22 year olds, 58% of full-time college students reported drinking alcohol during the past month (CBHSQ, 2016). Compared to the full-time college student population of 18 to 22 year olds (CBHSQ, 2016), a higher percentage of individuals who were business majors reported drinking alcohol (Webb et al., 1997). Similar to the issues among the nursing student studies, due to the various countries explored, as well as the different time-frames explored, it is difficult to generalize and compare these results to the college student population in the U.S. Thus, although there were a few studies that demonstrated being a business major was associated with higher alcohol use (e.g., Dahlin et al., 2011), there appeared to be a relative lack of research on the relationship between alcohol use and being a business major.

Psychology students' alcohol use in a U.S. college student sample was explored by Webb et al. (1997). The findings were difficult to interpret because the researchers divided psychology students into two separate groups. Psychology students (health and biological) were grouped with medicine-related majors, but social and educational psychology students were placed in a group with social science majors. Webb et al. (1997) found that 82% of women and 81% of men in the medicine-related majors, including health and biological psychology students, reported consuming alcohol during the past week, and 91% of women and 94% of men in the social science majors reported drinking alcohol during the past week. The researchers did not perform statistical

comparisons among the various majors, but only reported the percentages of alcohol use within each participant group (Webb et al., 1997). Similarly, Wolaver (2002) reported that, among college students in the U.S., individuals who drank heavily were more likely to choose a social science major. Compared to the full-time population of college students (58%; 18 to 22 years old; CBHSQ, 2016), being a psychology major appeared to be associated with higher levels of alcohol consumption (i.e., Webb et al., 1997; Wolaver, 2002). Based on the difference in time-frame, however, it is difficult to compare psychology majors to the U.S. national sample of college students, and, therefore, the findings may not be generalizable to the U.S. college student population.

Gray and Brown (2009) researched alcohol use among U.S. criminal justice (CJ) majors compared to noncriminal justice majors. There were no statistically significant differences in the number of students (CJ versus non-CJ majors) who had consumed alcohol at some point. Gray and Brown (2009), however, did find a statistically significant difference regarding the frequency of alcohol use in the past 30 days. For example, CJ majors reported consuming alcohol on significantly more days than non-CJ majors (10.3 versus 8.3). This finding also was true for individuals under 21 years old (Gray & Brown, 2009). Because there was not a U.S. national sample pertaining to the amount of days college students consumed alcohol, it is hard to compare these findings to a larger population, which limits the generalizability of the results.

Although the research was relatively limited on the relationship of alcohol use and college major, each major explored included samples of individuals who participated in alcohol use (e.g., Gray & Brown, 2009; Sotos et al., 2015; Webb et al., 1997).

Considering these findings, it appeared that the relationship of alcohol use and college

major is an area that needs further exploring. Understanding the extent of individual's knowledge about alcohol also may be beneficial for gaining insight into college students' alcohol use.

Knowledge about Alcohol

Research has found that a majority of college students drink alcohol (e.g., CBHSQ, 2016); therefore, it may be helpful to explore college students' knowledge about alcohol. Engs (1975) created the Student Alcohol Questionnaire (SAQ), which was used to explore college students' knowledge about alcohol facts. The author found that out of 36 questions pertaining to alcohol facts, the mean questions answered correctly was 20.1 questions (Engs, 1978). Additionally, Black, Ausherman, Kandakai, Lam, and Jurjevic (2004) used the SAQ to explore college students' alcohol-related knowledge. The authors found that college students' overall knowledge about alcohol was relatively low, with only 16 questions having an accuracy rate of 51% and above (Black et al., 2004). Similarly, Sharmer (2001) found that roughly half of the 36 questions about alcohol facts were answered incorrectly. One study explored college students' knowledge concerning the volume of standard servings of alcohol (White et al., 2005). The researchers found that students defined drinks as having higher volume compared to the defined volume of standard servings of alcohol by the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2000). For example, college students defined a single serving of beer as 12.69 ounces (White et al., 2005), whereas the NIAAA defined a single serving of beer as 12 ounces (NIAAA, 2000).

Purpose and Hypotheses

Research has found that in a U.S. national sample, 58% of full-time college students engaged in alcohol use during the past month in 2015 (CBHSQ, 2016).

Wechsler et al. (2002) reported that alcohol use among this population tended to be a common trend. Specifically, Velazquez et al. (2011) found that 80% of college students reported drinking alcohol in the past year. Additionally, when exploring alcohol use during the past month, Park and Grant (2005) found that 88% of college students reported alcohol use.

When further exploring college students' alcohol use, gender differences were found. Researchers found that a majority of men and women participated in alcohol use, but that men tended to drink more frequently and heavier than women (e.g., Liguori & Lonbaken, 2015). For example, Liguori and Lonbaken (2015) found that men reported drinking alcohol more often when compared to women.

We may hypothesize that there are differences among certain college majors considering research has found relationships between alcohol use and personality (e.g., Zhang, Bray, Zhang, & Lanza, 2015) and found correlations between personality traits and college major (e.g., Kaufman, Pumacahua, & Holt, 2013). These findings may allow for the assumption that alcohol use is related to college major. Although the research was relatively limited, there were a few studies that assessed the relationship between alcohol use and college major.

Baldwin et al. (2009) found that 84% of nursing students in Minnesota reported drinking alcohol in the past year, and alcohol use during the past week was reported by 87% of Scottish nursing students (Watson et al., 2006). It appeared difficult to compare

nursing students to other college students. In general, studies that conducted research among college students in specific universities or regions (e.g., midwestern U.S. state; Baldwin et al., 2009) appear to be more consistent with nursing students' alcohol use (e.g., Baldwin et al., 2009) than a U.S. national survey of alcohol use (CBHSQ, 2016).

Being a business major was found to be associated with statistically higher alcohol consumption (in units) during the week, when compared to medicine-related fields (Dahlin et al., 2011). Moreover, Webb et al. (1997) found that about 88% of the sample of business majors reported drinking alcohol during the past week. Gray and Brown (2009) researched alcohol use among criminal justice majors. The researchers found that criminal justice majors drank on significantly more days than noncriminal justice majors in the past 30 days.

Additionally, exploring college students' knowledge about alcohol may be beneficial in order to further understand college students' alcohol use. Research has found that college students do not display adequate knowledge about alcohol facts (e.g., Engs, 1978; Sharmer, 2001). Engs (1978) found that college students correctly answered an average of about 56% questions about alcohol. Similarly, Sharmer (2001) found that college students answered roughly 50% of questions concerning alcohol facts incorrectly. Due to the findings of the research reviewed, it is important to explore the relationship between alcohol use and college majors, as well as college students' knowledge about alcohol. With this knowledge, we could target those college majors who report higher alcohol use for alcohol intervention and prevention programs.

The purpose of the present study was to explore the relationship between alcohol use and college major. Considering the wide variety of college majors that are offered at

Middle Tennessee State University (MTSU, 2017), for this study, college majors were grouped by college. At MTSU there are six major colleges (MTSU, 2017). Given that it was expected that much of the sample would consist of freshman students, a seventh (Undecided/Undeclared) and eighth (Other) category were added to the existing six colleges. It was expected that a small percentage of majors would be represented in the sample, therefore, grouping majors by college appeared to be the most practical option for this study. In addition, the study explored college students' knowledge related to alcohol. As previously stated, with this knowledge, college campuses could target individuals in specific colleges who report higher alcohol use for intervention and prevention.

Hypothesis 1: Alcohol use would vary among college students in the eight different college categories, when controlling for gender.

Hypothesis 2: Students who have majors within the College of Business would consume significantly more alcohol than students in each of the other college categories explored, when controlling for gender.

Hypothesis 3: Students who have majors within the College of Education would consume the least amount of alcohol compared to students in each of the other college categories explored, when controlling for gender.

Hypothesis 4: Alcohol knowledge among students within the eight different college categories would be significantly different. Specifically, it was predicted that students who have majors within the College of Behavioral and Health Sciences would have the most

knowledge related to alcohol compared to students in each of the other college categories explored, when controlling for gender.

Hypothesis 5: Students who consumed more alcohol would have more alcohol-related knowledge.

CHAPTER II

METHOD

Participants

Participants were 134 undergraduate students recruited from a psychology research pool at a large southeastern university (MTSU). The participants were at least 18 years old and not older than 26 years old. For their participation, students received research credit or extra credit for a psychology class. Approval from the Middle Tennessee State University's Institutional Review Board was obtained prior to conducting any research (see Appendices A and B).

Participants ranged in age from 18 to 26 years old. See Table 1. The majority of the students from the overall sample were between the ages of 18 to 20 years old (79%). Freshmen consisted of 59% of the participants, sophomores consisted of 23% of the participants, juniors consisted of 14%, and 4% of participants were seniors. The majority of participants reported having a GPA between 3.0 to 3.9 (65%). The race of participants included White or Caucasian (58%), Black or African American (28%), and Other (14%).

As can be seen in Table 2, there were few students in all other colleges except for the College of Basic and Applied Sciences and the College of Behavioral and Health Sciences. For the overall sample, the largest percentage of participants were enrolled in the College of Basic and Applied Sciences (37%) and the College of Behavioral and Health Sciences (38%). Because of the low frequency of participants in all of the other college categories in this study, most analyses were only performed on the two colleges with the highest frequencies. For the restricted sample (i.e., College of Basic and

Table 1

Demographics for Entire Sample

Variable	<i>n</i>	%
Gender		
Men	37	28
Women	97	72
Age (Years)		
18-20	106	79
21-23	24	18
24-26	4	3
Race		
White or Caucasian	76	58
Black or African American	36	28
Other	18	14
Year		
Freshman	79	59
Sophomore	31	23
Junior	19	14
Senior	5	4
GPA		
4.0	16	12
3.0-3.9	84	65
2.0-2.9	27	21
Under 2.0	3	2

Note. $N = 134$ for Sex, Age, and Year. $N = 130$ for GPA and Race.

Table 2

Frequency and Percentage of Students in the Different College Categories

College	<i>n</i>	%
College of Basic and Applied Sciences	50	37
College of Behavioral and Health Sciences	51	38
College of Business	9	7
College of Education	1	1
College of Liberal Arts	9	7
College of Media and Entertainment	7	5
Undecided/Undeclared	6	4
Other	1	1

Note. $N = 134$.

Applied Sciences and College of Behavioral and Health Sciences), the demographic frequencies can be seen in Table 3. Under the Race variable in the demographics section, “Black or African American” and “Other” were collapsed together to create one variable due to limited data in the “Other” category. Similarly, for the “Age” variable, 21 to 26 years were collapsed together to make one variable due to the limited data in the 21 to 23 years category and the 24 to 26 years category (see Table 3).

The demographic variables for the restricted sample also are presented in Table 3. In both colleges, there was a higher percentage of women than men. For example, in the College of Basic and Applied Sciences, 56% of participants were women and 44% of participants were men. In the College of Behavioral and Health Sciences, 88% of participants were women, and only 12% of participants were men. For both colleges, the majority of participants were between the ages of 18 to 20 years old. Seventy percent of participants in the College of Basic and Applied Sciences and 84% of participants in the College of Behavioral and Health Sciences were between the ages of 18 to 20 years old. Participants in the College of Basic and Applied Sciences included White or Caucasian (74%) and Minority (26%). Similarly, 62% of participants in the College of Behavioral and Health Sciences were White or Caucasian, and 38% of participants were in the Minority category. As expected, freshmen had the highest percentage of participants. Fifty percent of the participants in the College of Basic and Applied Sciences, and 69% of participants in the College of Behavioral and Health Sciences were freshmen. Lastly, the majority of students reported having a GPA between 3.0 to 3.9. Sixty-four percent of participants in the College of Basic and Applied Sciences and 68% of participants in the College of Behavioral and Health Sciences reported a GPA in this range.

Table 3

Demographics for Restricted Sample with Age and Race Collapsed

Variable	Basic and Applied		Behavioral and Health		χ^2 (df)
	<i>n</i>	%	<i>n</i>	%	
Gender					
Men	22	44	6	12	13.09 (1)*
Women	28	56	45	88	
Age (Years)					
18-20	35	70	43	84	2.94 (1)
21-26	15	30	8	16	
Race					
White or Caucasian	35	74	31	62	1.73 (1)
Minority	12	26	19	38	
Year					
Freshman	25	50	35	69	4.68 ^a (3)
Sophomore	14	28	8	16	
Junior	9	18	5	10	
Senior	2	4	3	6	
GPA					
4.0	6	13	6	12	0.21 ^a (3)
3.0-3.9	30	64	34	68	
2.0-2.9	10	21	9	18	
Under 2.0	1	2	1	2	

Note. $N = 101$ for Sex, Age, and Year. $N = 97$ for Race and GPA. Basic and Applied refers to the College of Basic and Applied Sciences. Behavioral and Health refers to the College of Behavioral and Health Sciences. For Age, 21-26 years was collapsed because of limited data. For Race, Black or African American and Other were collapsed because Other had limited data.

^aLikelihood Ratio Chi-Square. Due to low frequency, the Likelihood Ratio Chi-Square was used.

* $p < .001$.

Materials

Student Alcohol Questionnaire (SAQ). The Student Alcohol Questionnaire contained questions that explored college students' knowledge about alcohol facts (Engs, 1975). This questionnaire also included items addressing demographic information. According to Engs (1975), the original SAQ included eight demographic variables and 36 items assessing individuals' knowledge about alcohol. Two of the demographic questions included in the original SAQ pertained to religion. The current study did not explore religion, and for that reason, these questions were excluded from the demographic section of the revised SAQ used in this study.

The six demographic variables that were included in the revised SAQ were gender, age, college, year in school, grade point average (GPA), and race/ethnicity (See Appendix C). For this study, the gender item included three categories (male, female, and other/choose not to answer). The original SAQ did not include the variable other/choose not to answer, which was included in the revised SAQ. The second variable (age) included three categorical groups for the individuals to select their age group. For the current study, this item included age groups of 18 to 20, 21 to 23, and 24 to 26 years old. The original SAQ did not include age groups, but instead instructed the participants to write in their age. Unlike the original SAQ that used 14 specific college majors and one "Other" option for participants to write in a major (Engs, 1975), the revised SAQ that was used in the current study grouped major by college categories. The college variable was operationalized based on MTSU programs and included the following: College of Basic and Applied Sciences, College of Behavioral and Health Sciences, College of Business, College of Education, College of Liberal Arts, College of Media and

Entertainment, Undecided/Undeclared, and Other (MTSU, 2017). Because students may not have known which college included their major, a form was given to each student that indicated which majors were in each college category (MTSU, 2017). See Appendix D. Year in school was measured on a categorical scale that included freshman, sophomore, junior, and senior. For the current study, GPA included a four-response categorical scale with the following options: Under 2.0, 2.0 to 2.9, 3.0 to 3.9, and 4.0. The original SAQ included a six-response categorical scale that included the following options: 4.0, 3.5, 3.0, 2.5, 2.0, and Under 2.0 (Engs, 1975). Lastly, race/ethnicity on the revised SAQ included three categorical items including White or Caucasian, Black or African American, and Other, whereas the original SAQ included six race categories and one “Other” category for the participants to write in their race (Engs, 1975).

The Knowledge about Alcohol scale included 36 true/false items pertaining to alcohol facts (Engs, 1977). The participants were asked to not guess on these questions, but to circle the “Unsure” option if they did not know the answer. Reliability coefficients for the Knowledge of Alcohol scale included Spearman-Brown (.85) and Cronbach alpha (.86; Engs & Hanson, 1994). Sharmer (2001) scored the knowledge section by calculating the number of correct responses. This was the method that the current study used. Considering the SAQ was created during the 1970s (Engs, 1975), it should be noted that some of the questions on the SAQ were revised to be consistent with current laws and facts about alcohol.

The original SAQ stated that, in regards to driving, the legal definition of alcohol intoxication was a blood alcohol content of 0.10% (Engs, 1975). The current law regarding driving is that the legal definition of alcohol intoxication is a blood alcohol

content of 0.08% (National Center for Statistics and Analysis, 2016). A question pertaining to fatal highway accidents that are alcohol related was changed from 10% (Engs, 1975) to 30% (National Center for Statistics and Analysis, 2016). The original SAQ included a question about table wines containing 2% to 12% of alcohol by volume. The revised SAQ changed that percentage to 2% to 14% alcohol by volume for table wines (Fixell, 2016). Another question on the original SAQ that was revised to be more current was that distilled liquors usually now contain 40% alcohol by volume (NIAAA, 2000, p. 4), instead of 10% (Engs, 1975). The original SAQ included a question stating that “The United States lacks a national consensus on what constitutes the responsible use of alcoholic beverages.” The revised SAQ changed the answer to that question in order to emphasize that the United States does have a national consensus on the responsible use of alcoholic beverages (NIAAA, 2000). Lastly, the alcohol content in beer was changed from 2% to 12% in the original SAQ (Engs, 1975) to 5% in the revised SAQ (NIAAA, 2000, p. 4).

Alcohol Use Disorders Identification Test-Consumption (AUDIT-C). The AUDIT-C was a screening tool for alcohol consumption that was used to identify possible hazardous drinking (Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998). This scale was a three-item questionnaire that assessed typical frequency, typical quantity, and heavy episodic drinking frequency during the past year. It consisted of the first three questions derived from the AUDIT instrument (Bush et al., 1998).

The first question included in the AUDIT-C regarded the frequency of alcohol use (Bush et al., 1998). The question stated, "How often do you have a drink containing

alcohol?" The answer options were on a 5-point scale. These included the following options: *Never, Monthly or less, 2-4 times a month, 2-3 times a week, and 4 or more times a week*. The second question concerned the quantity of alcohol use. The question read, "How many standard drinks containing alcohol do you have on a typical day?" (Bush et al., 1998). For the current study, the response options included the following: *0 to 2, 3 or 4, 5 or 6, 7 to 9, and 10 or more*. Although the original AUDIT-C presented the first response option as 1 to 2 (Bush et al., 1998), Bradley et al. (2007) reported that using 0 to 2 will not change the scoring of this item. The last question assessed hazardous drinking. This question read, "How often do you have six or more drinks on one occasion?" The response options included the following: *Never, Less than monthly, Monthly, Weekly, and Daily or almost daily* (Bush et al., 1998).

The AUDIT-C included a scale from zero to 12 (Bradley et al., 2007). Each of the three items contained five answer choices that ranged from 0 points to 4 points. Specifically, answer "A" was equal to 0 points, "B" was equal to 1 point, "C" was equal to 2 points, "D" equaled 3 points, and "E" equaled 4 points. The points from each question were summed together to provide an AUDIT-C score (Bush et al., 1998). Bush et al. (1998) recommended that a cut-off score of 4 to 6 for men be used to identify hazardous drinking. A score of 3 to 5 is recommended to identify hazardous drinking in women (Bush et al., 1998). DeMartini and Carey (2012) found that the college student population yielded a better balance between specificity and sensitivity scores when the cut-off score was increased. DeMartini and Carey (2012) suggested a score of 7 for men and 5 for women best detects hazardous drinking in college students. Rubinsky, Dawson,

Williams, Kivlahan, and Bradley (2013) found that as AUDIT-C scores increased, the probability of alcohol dependence increased as well.

Using a sample consisting of college students walking near a bar, Barry, Chaney, Stelfox, and Dodd (2015) explored the psychometric properties of the AUDIT-C. The concurrent validity was assessed using Pearson's product-moment correlation coefficients and the participants' breath alcohol concentration (BrAC). The results were statistically significant. That study further found that when the authors dichotomized the scores using a hazardous drinking cutoff of 4 for women and 5 for men, the bivariate correlations still were statistically significant (Barry et al., 2015). Meneses-Gaya et al. (2010) also explored the concurrent validity of the AUDIT-C. This study revealed a high correlation between the AUDIT-C and the AUDIT (.97). The concurrent validity of the AUDIT-C among different racial populations (Caucasian, Hispanic, and African-American) was validated against the CAGE and an interview process (Frank et al., 2008). The authors found the AUDIT-C to be as effective as the two other measures.

Barry et al. (2015) found the internal consistency of the AUDIT-C to be .76, which was satisfactory. The authors also explored using higher cutoff scores for college students (5 for women; 7 for men) than the general population (4 for women; 5 for men). The kappa measure of agreement for the cut-off scores were statistically significant for the higher cutoffs suggested for college students (Barry et al., 2015).

The AUDIT-C appeared to have good psychometric properties for a brief screening measure (e.g., Barry et al., 2015; Frank et al., 2008). The three-item questionnaire has been found to display good validity, as well as good reliability (e.g., Barry et al., 2015). It also has been researched and shown to be effective for identifying

hazardous drinking among different racial populations (Frank et al., 2008) and among college students (DeMartini & Carey, 2012).

Procedure

Once the research was approved by the Institutional Review Board, participants were recruited from the psychology research pool for this on-ground study. Prior to signing up for the research, the participants reviewed the exclusionary criteria, which stated that the participants must be at least 18 years old and not older than 26 years old. When participants presented for the research study, they were asked to sign an informed consent (see Appendix E), which detailed the procedure, risks, and benefits. Once the participants consented to engage in the study and their self-reported age was shown to be 18 years old to 26 years old, they were provided with a packet of surveys along with verbal instructions on how to complete the packet. The packet included the SAQ, which included the demographic and Knowledge about Alcohol form (Engs, 1975) and the AUDIT-C (Bush et al., 1998). Additionally, the packet included a form detailing the college majors that were included in each of the eight College categories (See Appendix D). The surveys were presented in the same order, as order was not expected to modify the results. The demographic form was presented first, then the Knowledge about Alcohol form that was included in the SAQ, and lastly the participants completed the AUDIT-C. Once the study was completed, the participants were provided with a debriefing information sheet (see Appendix F).

CHAPTER III

RESULTS

Descriptive Statistics and Analytical Plan

The means, standard deviations, and internal consistencies for alcohol use and alcohol-related knowledge were analyzed. See Table 4. Gender differences were anticipated. For this reason, specific analyses were performed for each variable to explore for possible gender differences.

Chi-square analyses were used for the restricted sample (College of Basic and Applied Sciences and College of Behavioral and Health Sciences) to explore the relationship between gender and College. See Table 3. Although both colleges had a higher percentage of women compared to men, the chi-square analysis revealed that there was a greater discrepancy between women and men in the College of Behavioral and Health Sciences (88% versus 12%) than in the College of Basic and Applied Sciences (56% versus 44%). To test for differences in alcohol use between genders, an independent sample *t*-test was performed on the overall sample (see Table 5). There was no statistically significant difference between genders on alcohol use for the overall sample, $t(48.9) = 1.14, p = .26$. Similarly, when analyzing the restricted sample (College of Basic and Applied Sciences, and College of Behavioral and Health Sciences), there was no significant difference between genders on alcohol use, $t(36.4) = 1.35, p = .19$. Because no statistically significant difference was found, gender was not used as a covariate regarding alcohol use.

Table 4

Psychometric Properties of the Alcohol Use and Alcohol-Related Knowledge Measures

Sample	<i>N</i>	<i>M</i>	<i>SD</i>	<i>α</i>
Overall				
Alcohol Use	131	4.48	1.71	.74
Knowledge	134	18.02	5.16	.76
Restricted				
Alcohol Use	99	4.52	1.75	.76
Knowledge	101	18.09	4.93	.73

Note. Overall sample refers to all eight college categories used in the study. Restricted sample refers to only the College of Basic and Applied Sciences and the College of Behavioral and Health Sciences. Knowledge refers to the participants' alcohol-related knowledge.

Table 5

Alcohol Use by Gender for Overall and Restricted Sample

Sample	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Overall					
Men	35	4.80	2.06	1.14	48.9
Women	96	4.36	1.56		
Restricted					
Men	27	4.96	2.17	1.35	36.4
Women	72	4.35	1.55		

Note. *N* = 131 for the Overall sample. *N* = 99 for the Restricted sample. Overall refers to all eight college categories used in the study. Restricted refers to only the College of Basic and Applied Sciences and the College of Behavioral and Health Sciences. Due to unequal variances, the Satterthwaite method was used.

**p* < .05.

Likewise, an independent sample *t*-test was used to compare genders on alcohol-related knowledge (see Table 6). There was a statistically significant difference by gender for alcohol-related knowledge for the overall sample, $t(60.6) = 2.05, p = .04$, with men ($n = 37, M = 19.54, SD = 5.40$) having more alcohol-related knowledge than women ($n = 97, M = 17.44, SD = 4.97$). Contrastingly, when the analysis was run on the restricted sample, there was no significant difference found for gender on alcohol-related knowledge, $t(46.1) = 1.93, p = .06$.

Hypotheses Testing

Hypothesis 1 was analyzed using an independent sample *t*-test. The College of Basic and Applied Sciences and the College of Behavioral and Health Sciences were the two colleges that were analyzed due to the limited number of participants in the other college categories. The Satterthwaite method was used for this *t*-test. This analysis indicated that there was a statistically significant difference for alcohol use between the College of Basic and Applied Sciences and the College of Behavioral and Health Sciences, $t(90.1) = 2.12, p = .04$. Those in the College of Basic and Applied Sciences ($n = 48, M = 4.90, SD = 1.90$) endorsed consuming more alcohol than those in the College of Behavioral and Health Sciences ($n = 51, M = 4.16, SD = 1.53$). See Table 7.

There were predictions about the College of Business (Hypothesis 2) and the College of Education (Hypothesis 3); these hypotheses were not able to be analyzed due to the limited number of participants from those colleges who participated in the study. Hypothesis 4 was analyzed using an independent sample *t*-test to explore if there were differences for alcohol-related knowledge by specific colleges (see Table 7). Only the restricted sample was used for this analysis due to the limited number of participants in

Table 6

Alcohol Knowledge by Gender for Overall and Restricted Sample

	Overall					Restricted				
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Gender										
Men	37	19.54	5.40	2.05*	60.6	28	19.64	5.10	1.93	46.1
Women	97	17.44	4.97			73	17.49	4.76		

Note. $N = 134$ for the overall sample. $N = 101$ for the restricted sample. Restricted refers to the College of Basic and Applied Sciences and the College of Behavioral and Health Sciences only. Due to unequal variances, the Satterthwaite method was used. $*p < .05$.

Table 7

Comparisons for Students' Alcohol Use and Knowledge Related to Alcohol by College

Measure	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>
Alcohol Use					
CBAS	48	4.90	1.90	2.12*	90.1
CBHS	51	4.16	1.53		
Knowledge					
CBAS	50	18.56	5.05	0.95	98.5
CBHS	51	17.63	4.80		

Note. *N* = 99 for Alcohol Use. *N* = 101 for Knowledge. CBAS = College of Basic and Applied Sciences. CBHS = College of Behavioral and Health Sciences. Knowledge refers to the participants' alcohol-related knowledge. Due to unequal variances, the Satterthwaite method was used.

**p* < .05.

the other colleges. Because of unequal variances, the Satterthwaite method was used. There was not a statistically significant difference for alcohol-related knowledge between colleges, $t(98.5) = 0.95, p = .34$.

Hypothesis 5 (Students who consume more alcohol would have more alcohol-related knowledge) was analyzed using correlations. For the entire sample, there was a positive correlation between alcohol use and alcohol-related knowledge, $r(131) = .30, p < .001$. Similarly, in the restricted sample, there was a positive correlation between alcohol use and alcohol-related knowledge, $r(99) = .26, p < .01$.

CHAPTER IV

DISCUSSION

The current study explored the relationships among alcohol use, knowledge related to alcohol, and college major. Alcohol use has been found to be problematic among college students (e.g., Park & Grant, 2005; Velazquez et al., 2011). For example, research has found that in a U.S. national sample, 58% of full-time college students engaged in alcohol use during the past month (CBHSQ, 2016). Similarly, when exploring alcohol use during the past month, Park and Grant (2005) found that a high percentage (88%) of college students reported alcohol use. Additionally, Velazquez et al. (2011) found that 80% of college students reported drinking alcohol in the past year.

In previous research, Liguori and Lonbaken (2015) explored college students' alcohol use, and gender differences were found. The researchers found that a majority of men and women participated in alcohol use, but that men tended to drink more frequently and heavier than women (e.g., Liguori & Lonbaken, 2015). Similarly, Rankin and Maggs (2006) found that men tended to drink alcohol on more days and consume more alcoholic drinks than women. Although there were predictions made in the current study about gender and alcohol use among college students, no statistically significant relationships between alcohol use and gender were found for the overall or the restricted samples. This could be due to both the overall and restricted samples including more women than men.

There was, however, a gender difference for knowledge related to alcohol in the overall sample. Men were found to have more knowledge related to alcohol than women.

Although the current study did not find gender differences in alcohol use, previous research has found that men tend to drink more alcohol than women (Liguori & Lonbaken, 2015). Considering these findings by Liguori and Lonbaken (2015), men may be exposed to more peers who drink alcohol. This may be a reason why men had more alcohol-related knowledge.

A major focus of the current study was to explore the relationship between alcohol use and college major (grouped by college). In the restricted sample, the current study found a statistically significant difference in alcohol use by college major. Participants in the College of Basic and Applied Sciences endorsed consuming more alcohol than the participants in the College of Behavioral and Health Sciences. Because the current study grouped major by college, there was limited research with which to compare the current study. Although Gray and Brown (2009) found that criminal justice majors drink on more days than noncriminal justice majors, criminal justice is only one major in the College of Behavioral and Health Sciences. The College of Behavioral and Health Sciences also includes majors such as nursing and psychology. Although previous research found a high percentage of nursing majors (e.g., Baldwin et al., 2009) and psychology majors (Webb et al., 1997) consumed alcohol, these majors were not compared to other majors in those studies. As previously stated, the current study found the participants in the College of Behavioral and Health Sciences to consume less alcohol than the participants in the College of Basic and Applied Sciences. The nutritional/health-related focus included in many of these majors may be associated with students consuming less alcohol than other majors.

Another primary focus of this study was to explore the relationship between knowledge related to alcohol and college major. Exploring college students' knowledge about alcohol may be beneficial in order to further understand college students' alcohol use. In the current study, knowledge about alcohol was not found to have a statistically significant relationship with college. This could be due to both groups being associated with science classes and being exposed to information about alcohol. It may be assumed that certain courses in these science-related majors would incorporate education about alcohol. For example, criminal justice is included in the College of Behavioral and Health Sciences. Students in this major would have education about laws pertaining to alcohol use. Similarly, the College of Basic and Applied Sciences includes majors such as pre-medical, forensic science, and pre-health information management. These majors also would be assumed to incorporate information about alcohol in their curriculum.

Previous research has found that college students do not display adequate knowledge about alcohol facts (e.g., Engs, 1978; Sharmer, 2001). Engs (1978) found that college students correctly answered an average of about 56% of questions about alcohol. Similarly, Sharmer (2001) found that college students answered roughly 50% of questions concerning alcohol facts incorrectly. The current study found comparable results to previous research in that college students answered roughly half of the questions correctly.

It also was predicted that students who consume more alcohol would have more alcohol-related knowledge. This correlation between alcohol use and alcohol-related knowledge was found to be statistically significant for the overall sample, as well as the restricted sample. Drinking alcohol and being around those who drink alcohol may lead

to an increase in knowledge about alcohol. For instance, if individuals consume alcohol, it could be expected that they would be more concerned with the legal aspects surrounding alcohol, such as the legal alcohol blood content level for driving. Also, one may be exposed to facts surrounding the alcohol content of different beverages.

Although there were important findings in the current study, there were some limitations. The sample used may have caused the study to have limited generalizability. For example, the age range for this study was restricted to only 18 year olds to 26 year olds. The age range of college students exceeds the age range used in the current study. Furthermore, the majority of the participants were in the 18 to 20 year old range, which may not have allowed for much information about the other age ranges. Additionally, gender was not balanced in the current study. There was a higher percentage of women than men in the overall sample and in the restricted sample who participated in this study. Race/ethnicity also was a limitation to this study, as the majority of the participants were White or Caucasian. Further, using the restricted college sample may have limited this study; we were not able to include data from all of the colleges in the primary analyses.

Other limitations to the study involved the measures used. The AUDIT-C was only a three-item measure (Bush et al., 1998); this limits information obtained concerning students' alcohol use. In addition, the knowledge about alcohol use questionnaire was developed during the 1970s and appeared to be outdated on some of the questions (Engs, 1975). Due to outdated facts, a few of the items were changed to align with current facts and laws; there is no research that exists for the validity of these changes. Furthermore, this study was a self-report questionnaire and relied on students to answer the questions honestly.

A design limitation was that this study used colleges instead of specific major; thus, it was not possible to apply the findings to specific majors. Also, the College of Basic and Applied Knowledge included many more different majors than the College of Behavioral and Health Sciences. This also makes it difficult to interpret the results as we cannot determine which specific majors endorsed higher alcohol use and would benefit most from alcohol interventions.

Although there are limitations to this study, differences in alcohol use (for the restricted sample) were found. There were no differences, however, found for alcohol-related knowledge based on major (grouped by college). Given the findings of this study, future research should further explore the differences in alcohol use among college majors, as well as explore college students' knowledge related to alcohol. With this knowledge, college campuses may be able to target individuals in specific colleges who report higher alcohol use for intervention and prevention.

REFERENCES

- Baldwin, J. N., Bartek, J. K., Scott, D. M., Davis-Hall, R. E., & DeSimone, E. M., II. (2009). Survey of alcohol and other drug use attitudes and behaviors in nursing students. *Substance Abuse, 30*, 230-238. doi:10.1080/08897070903040964
- Barry, A. E., Chaney, B. H., Stollefson, M. L., & Dodd, V. (2015). Evaluating the psychometric properties of the AUDIT-C among college students. *Journal of Substance Use, 20*, 1-5. doi:10.3109/14659891.2013.856479
- Black, J. M., Ausherman, J. A., Kandakai, T. L., Lam, E. T. C., & Jurjevic, S. C. (2004). Urban university students' knowledge of alcohol and drinking. *American Journal of Health Studies, 19*, 91-99. Retrieved from <http://www.va-ajhs.com>
- Bradley, K. A., DeBenedetti, A. F., Volk, R. J., Williams, E. C., Frank, D., & Kivlahan, D. R. (2007). AUDIT-C as a brief screen for alcohol misuse in primary care. *Alcoholism: Clinical and Experimental Research, 31*, 1208-1217. doi:10.1111/j.1530-0277.2007.00403.x
- Bush, K., Kivlahan, D. R., McDonell, M. B., Fihn, S. D., & Bradley, K. A. (1998). The AUDIT alcohol consumption questions (AUDIT-C): An effective brief screening test for problem drinking. *Archives of Internal Medicine, 158*, 1789-1795. doi:10.1001/archinte.158.16.1789
- Butler, A. B., Spencer, D., & Dodge, K. (2011). Academic demands are associated with reduced alcohol consumption by college students: Evidence from a daily analysis. *Journal of Drug Education, 41*, 359-367. doi:10.2190/DE.41.4.b

- Center for Behavioral Health Statistics and Quality. (2016). *2015 National Survey on Drug Use and Health: Detailed tables*. Substance Abuse and Mental Health Services Administration, Rockville, MD. Retrieved from:
<https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.pdf>
- Conway, J. M., & DiPlacido, J. (2015). The indirect effect of alcohol use on GPA in first-semester college students: The mediating role of academic effort. *Journal of College Student Retention: Research, Theory & Practice*, *17*, 303-318.
doi:10.1177/1521025115575705
- Cooper, M. L., Frone, M. R., Russell, M., & Mudar, P. (1995). Drinking to regulate positive and negative emotions: A motivational model of alcohol use. *Journal of Personality and Social Psychology*, *69*, 990-1005. doi:10.1037/0022-3514.69.5.990
- Crawford, L. A., & Novak, K. B. (2010). Beliefs about alcohol and the college experience as moderators of the effects of perceived drinking norms on student alcohol use. *Journal of Alcohol and Drug Education*, *54*(3), 69-86. Retrieved from <http://www.jadejournal.com>
- Dahlin, M., Nilsson, C., Stotzer, E., & Runeson, B. (2011). Mental distress, alcohol use and help-seeking among medical and business students: A cross-sectional comparative study. *BMC Medical Education*, *11*. doi:10.1186/1472-6920-11-92
- DeMartini, K. S., & Carey, K. B. (2012). Optimizing the use of the AUDIT for alcohol screening in college students. *Psychological Assessment*, *24*, 954-963.
doi:10.1037/a0028519

- Engs, R. C. (1975). *SAQ: Student Alcohol Questionnaire [Data file and code book]*. Retrieved from <http://www.indiana.edu/~engs/quest/saq.html>
- Engs, R. C. (1977). Drinking patterns and drinking problems of college students. *Journal of Studies on Alcohol*, 38, 2144-2156. doi:10.15288/jsa.1977.38.2144
- Engs, R. C. (1978). College students' knowledge of alcohol and drinking. *Journal of the American College Health Association*, 26, 189-193. Retrieved from <http://www.acha.org>
- Engs, R. C., & Hanson, D. J. (1994). The Student Alcohol Questionnaire: An updated reliability of the drinking patterns, problems, knowledge, and attitude subscales. *Psychological Reports*, 74, 12-14. doi:10.2466/pr0.1994.74.1.12
- Fixell, E. (2016). *What's the difference between table wine and regular wine?* Retrieved from <http://www.foodrepublic.com/2016/10/05/whats-the-difference-between-table-wine-and-regular-wine/>
- Frank, D., DeBenedetti, A. F., Volk, R. J., Williams, E. C., Kivlahan, D. R., & Bradley, K. A. (2008). Effectiveness of the AUDIT-C as a screening test for alcohol misuse in three race/ethnic groups. *Journal of General Internal Medicine*, 23, 781-787. doi:10.1007/s11606-008-0594-0
- Gonzalez, V. M., Bradizza, C. M., & Collins, R. L. (2009). Drinking to cope as a statistical mediator in the relationship between suicidal ideation and alcohol outcomes among underage college drinkers. *Psychology of Addictive Behaviors*, 23, 443-451. doi:10.1037/a0015543

- Gray, M. K., & Brown, K. L. (2009). Drinking and drug use by college students: Comparing criminal justice majors and non-majors. *Journal of Criminal Justice*, 37, 234-240. doi:10.1016/j.jcrimjus.2009.04.003
- Hensel, D., Middleton, M. J., & Engs, R. C. (2014). A cross-sectional study of drinking patterns, prelicensure nursing education, and professional identity formation. *Nurse Education Today*, 34, 719-723. doi:10.1016/j.nedt.2013.08.018
- Iwamoto, D. K., Cheng, A., Lee, C. S., Takamatsu, S., & Gordon, D. (2011). 'Man-ing' up and getting drunk: The role of masculine norms, alcohol intoxication and alcohol-related problems among college men. *Addictive Behaviors*, 36, 906-911. doi:10.1016/j.addbeh.2011.04.005
- Kaufman, J. C., Pumacahua, T. T., & Holt, R. E. (2013). Personality and creativity in realistic, investigative, artistic, social, and enterprising college majors. *Personality and Individual Differences*, 54, 913-917. doi:10.1016/j.paid.2013 .01.013
- Lee, C. M., Maggs, J. L., Neighbors, C., & Patrick, M. E. (2011). Positive and negative alcohol-related consequences: Associations with past drinking. *Journal of Adolescence*, 34, 87-94. doi:10.1016/j.adolescence.2010.01.009
- Lee, N. K., Greely, J., & Oei, T. P. S. (1999). The relationship of positive and negative alcohol expectancies to patterns of consumption of alcohol in social drinkers. *Addictive Behaviors*, 24, 359-369. doi:10.1016/S0306-4603(98)00091-4
- Leppel, K. (2006). College binge drinking: Deviant versus mainstream behavior. *The American Journal of Drug and Alcohol Abuse*, 32, 519-525. doi:10.1080 /10623320600919144

- Liguori, G., & Lonbaken, B. (2015). Alcohol consumption and academic retention in first-year college students. *College Student Journal, 49*, 69-77. Retrieved from <http://www.projectinnovation.com/college-student-journal.html>
- Meneses-Gaya, C., Zuardi, A. W., Loureiro, S. R., Hallak, J. E. C., Trzesniak, C., de Azevedo Marques, J. M., . . . Crippa, J. A. S. (2010). Is the full version of the AUDIT really necessary? Study of the validity and internal construct of its abbreviated versions. *Alcoholism: Clinical and Experimental Research, 34*, 1417-1424. doi:10.1111/j.1530-0277.2010.01225.x
- Middle Tennessee State University (2017). *Programs of study*. Retrieved from <http://www.mtsu.edu>
- National Center for Statistics and Analysis (2016). *Alcohol impaired driving: 2015 data*. (Traffic Safety Facts. DOT HS 812 350). Washington, DC: National Highway Traffic Safety Administration. Retrieved from <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812350>
- National Institute on Alcohol Abuse and Alcoholism (2000). *Tenth special report to the U.S. Congress on alcohol and health*. National Institutes of Health, Washington, DC (NIH Publication No. 00-1583). Retrieved from <https://pubs.niaaa.nih.gov/publications/10report/10thspecialreport.pdf>
- Park, C. L. (2004). Positive and negative consequences of alcohol consumption in college students. *Addictive Behaviors, 29*, 311-321. doi:10.1016/j.addbeh.2003.08.006

- Park, C. L., & Grant, C. (2005). Determinants of positive and negative consequences of alcohol consumption in college students: Alcohol use, gender, and psychological characteristics. *Addictive Behaviors, 30*, 755-765.
doi:10.1016/j.addbeh.2004.08.021
- Pilatti, A., Cupani, M., & Pautassi, R. M. (2015). Personality and alcohol expectancies discriminate alcohol consumption patterns in female college students. *Alcohol and Alcoholism, 50*, 385-392. doi:10.1093/alcalc/agv025
- Rankin, L. A., & Maggs, J. L. (2006). First-year college student affect and alcohol use: Paradoxical within-and between-person associations. *Journal of Youth and Adolescence, 35*, 925-937. doi:10.1007/s10964-006-9073-2
- Read, J. P., Haas, A. L., Radomski, S., Wickham, R. E., & Borish, S. E. (2016). Identification of hazardous drinking with the Young Adult Alcohol Consequences Questionnaire: Relative operating characteristics as a function of gender. *Psychological Assessment, 28*, 1276-1289. doi:10.1037/pas0000251
- Read, J. P., Kahler, C. W., Strong, D. R., & Colder, C. R. (2006). Development and preliminary validation of the Young Adult Alcohol Consequences Questionnaire. *Journal of Studies on Alcohol, 67*, 169-177. doi:10.15288/jsa.2006.67.169
- Rubinsky, A. D., Dawson, D. A., Williams, E. C., Kivlahan, D. R., & Bradley, K. A. (2013). AUDIT-C scores as a scaled marker of mean daily drinking, alcohol use disorder severity, and probability of alcohol dependence in a U.S. general population sample of drinkers. *Alcoholism: Clinical and Experimental Research, 37*, 1380-1390. doi:10.1111/acer.12092

- Sharmer, L. (2001). Evaluation of alcohol education programs on attitude, knowledge, and self-reported behavior of college students. *Evaluation & the Health Professions, 24*, 336-357. doi:10.1177/01632780122034957
- Sotos, J. R., Gonzalez, Á. L., Martínez, I. P., Rosa, M. C., Herraéz, M. J. S., & Hidalgo, J. L.-T. (2015). Prevalence of hazardous drinking among nursing students. *Journal of Advanced Nursing, 71*, 581-590. doi:10.1111/jan.12548
- Velazquez, C. E., Pasch, K. E., Laska, M. N., Lust, K., Story, M., & Ehlinger, E. P. (2011). Differential prevalence of alcohol use among 2-year and 4-year college students. *Addictive Behaviors, 36*, 1353-1356. doi:10.1016/j.addbeh.2011.07.037
- Wagoner, K. G., Blocker, J., McCoy, T. P., Sutfin, E. L., Champion, H., & Wolfson, M. (2012). Free alcohol use and consequences: Gender differences among undergraduates. *American Journal of Health Behavior, 36*, 446-458. doi:10.5993/AJHB.36.4.2
- Watson, H., Whyte, R., Schartau, E., & Jamieson, E. (2006). Survey of student nurses and midwives: Smoking and alcohol use. *British Journal of Nursing, 15*, 1212-1216. doi:10.12968/bjon.2006.15.22.22557
- Webb, E., Ashton, H., Kelly, P., & Kamali, F. (1997). Patterns of alcohol consumption, smoking and illicit drug use in British university students: Interfaculty comparisons. *Drug and Alcohol Dependence, 47*, 145-153. doi:10.1016/s0376-8716(97)00083-5

- Wechsler, H., Lee, J. E., Nelson, T. F., & Kuo, M. (2002). Underage college students' drinking behavior, access to alcohol, and the influence of deterrence policies: Findings from the Harvard School of Public Health College Alcohol Study. *Journal of American College Health, 50*, 223-236. doi:10.1080/07448480209595714
- White, A. M., Kraus, C. L., Flom, J. D., Kestenbaum, L. A., Mitchell, J. R., Shah, K., & Swartzwelder, H. S. (2005). College students lack knowledge of standard drink volumes: Implications for definitions of risky drinking based on survey data. *Alcoholism: Clinical and Experimental Research, 29*, 631–638. doi:10.1097/01.ALC.0000158836.77407.E6
- Wolaver, A. M. (2002). Effects of heavy drinking in college on study effort, grade point average, and major choice. *Contemporary Economic Policy, 20*, 415-428. doi:10.1093/cep/20.4.415
- Zhang, J., Bray, B. C., Zhang, M., & Lanza, S. T. (2015). Personality profiles and frequent heavy drinking in young adulthood. *Personality and Individual Differences, 80*, 18-21. doi:10.1016/j.paid.2015.01.054

Appendices

Appendix A

Middle Tennessee State University Institutional Review Board Approval Letter

IRB

INSTITUTIONAL REVIEW BOARD

Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129



IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Wednesday, September 06, 2017

Principal Investigator Hannah Grace Woods (Student)
 Faculty Advisor Mary Ellen Fromuth
 Co-Investigators NONE
 Investigator Email(s) hgw2f@mtmail.mtsu.edu; maryellen.fromuth@mtsu.edu
 Department Psychology

Protocol Title The relationships among alcohol use, knowledge related to alcohol, and major by college
 Protocol ID **18-2081**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category (7) *Research on individual or group characteristics or behavior*. A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

IRB Action	APPROVED for one year from the date of this notification
Date of expiration	11/30/2018
Participant Size	200 (Two Hundred)
Participant Pool	MTSU SONA System Participants

Exceptions	None
Restrictions	1. Participants must be age 18+ 2. Informed consent must be obtained
Comments	NONE

This protocol can be continued for up to THREE years (**11/30/2020**) by obtaining a continuation approval prior to **11/30/2018**. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

IRBN001 Version 1.3 Revision Date 03.06.2016 Institutional Review Board
Office of Compliance Middle Tennessee State University **Continuing Review Schedule:**

Reporting Period	Requisition Deadline	IRB Comments
First year report	11/30/2018	TO BE COMPLETED
Second year report	11/30/2019	TO BE COMPLETED
Final report	11/30/2020	TO BE COMPLETED

Post-approval Protocol Amendments:

Date	Amendment(s)	IRB Comments
NONE	NONE	NONE

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions imposed with this approval. [Refer to the post-approval guidelines posted in the MTSU IRB's website](#). Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Amendments to this protocol must be approved by the IRB. Inclusion of new researchers must also be approved by the Office of Compliance before they begin to work on the project.

All of the research-related records, which include signed consent forms, investigator information and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that

maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Appendix B

Middle Tennessee State University Institutional Review Board Addendum Letter

IRB

INSTITUTIONAL REVIEW BOARD

Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129



IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Wednesday, January 24, 2018

Principal Investigator	Hannah Grace Woods (Student)
Faculty Advisor	Mary Ellen Fromuth
Co-Investigators	NONE
Investigator Email(s)	hgw2f@mtmail.mtsu.edu; maryellen.fromuth@mtsu.edu
Department	Psychology
Protocol Title	The relationships among alcohol use, knowledge related to alcohol, and major by college
Protocol ID	18-2081

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category (7) *Research on individual or group characteristics or behavior*. A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

IRB Action	APPROVED for one year from the date of this notification
Date of expiration	11/30/2018
Participant Size	200 (Two Hundred)
Participant Pool	MTSU SONA System Participants

Exceptions	None
Restrictions	1. Participants must be age 18+ 2. Informed consent must be obtained
Comments	NONE

This protocol can be continued for up to THREE years (**11/30/2020**) by obtaining a continuation approval prior to **11/30/2018**. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

IRBN001 Version 1.3 Revision Date 03.06.2016 Institutional Review Board
Office of Compliance Middle Tennessee State University **Continuing Review Schedule:**

Reporting Period	Requisition Deadline	IRB Comments
First year report	11/30/2018	TO BE COMPLETED
Second year report	11/30/2019	TO BE COMPLETED
Final report	11/30/2020	TO BE COMPLETED

Post-approval Protocol Amendments:

Date	Amendment(s)	IRB Comments
1-24-18	Addition of the following researchers approved: Ryan Cornelius; Sarah Pope; Kok Ping Chung	CITI confirmed

The investigator(s) indicated in this notification should read and abide by all of the post-approval conditions imposed with this approval. [Refer to the post-approval guidelines posted in the MTSU IRB's website](#). Any unanticipated harms to participants or adverse events must be reported to the Office of Compliance at (615) 494-8918 within 48 hours of the incident. Amendments to this protocol must be approved by the IRB. Inclusion of new researchers must also be approved by the Office of Compliance before they begin to work on the project.

All of the research-related records, which include signed consent forms, investigator information and other documents related to the study, must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol

application. The data storage must be maintained for at least three (3) years after study completion. Subsequently, the researcher may destroy the data in a manner that maintains confidentiality and anonymity. IRB reserves the right to modify, change or cancel the terms of this letter without prior notice. Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Appendix C

Demographic Form

We are conducting a study of college students' behaviors and knowledge concerning alcohol. DO NOT write your name on this questionnaire as we wish to retain your anonymity.

CIRCLE WHICH ANSWER APPLIES TO YOU.

1. Your Sex:

- 1) Male
- 2) Female
- 3) Other/Choose not to Answer

2. Your age:

- 1) 18-20
- 2) 21-23
- 3) 24-26

3. In What College is Your Major:

- 1) College of Basic and Applied Sciences
- 2) College of Behavioral and Health Sciences
- 3) College of Business
- 4) College of Education
- 5) College of Liberal Arts
- 6) College of Media and Entertainment
- 7) Undecided/Undeclared
- 8) Other _____ (write in)

*Refer to the "College Major" sheet if you are unsure of your college

4. Year in School:

- 1) Freshman
- 2) Sophomore
- 3) Junior
- 4) Senior

5. **Grade Point Average** (4.0= "A", 3.0= "B", etc.):

- 1) 4.0
- 2) 3.0 - 3.9
- 3) 2.0 - 2.9
- 4) Under 2.0

6. **Race/Ethnicity**

- 1) White or Caucasian
- 2) Black or African American
- 3) Other

Appendix D

College Majors Form

College of Basic and Applied Sciences		
<ul style="list-style-type: none"> ▪ Actuarial Science ▪ Aerospace, Administration ▪ Aerospace, Flight Dispatch ▪ Aerospace, Maintenance Management ▪ Aerospace, Professional Pilot ▪ Aerospace, Technology ▪ Aerospace, Unmanned Aircraft Systems Operations ▪ Agribusiness ▪ Animal Science ▪ Astronomy ▪ Biochemistry ▪ Biology ▪ Chemistry ▪ Computer Science ▪ Concrete Industry Management ▪ Construction Management 	<ul style="list-style-type: none"> ▪ Engineering, Mechatronics ▪ Engineering Technology ▪ Environmental Sustainability and Technology ▪ Fermentation Science ▪ Forensic Science ▪ Geoscience ▪ Horse Science ▪ Mathematics ▪ Mathematics Education Concentration ▪ Mechatronics Engineering ▪ Physics ▪ Plant and Soil Science ▪ Pre-Chiropractic (Health Science) ▪ Pre-Dental (Health Science) ▪ (Pre-)Diagnostic Medical Sonography (Health Science) ▪ Pre-Engineering 	<ul style="list-style-type: none"> ▪ Pre-Health Information Management (Health Science) ▪ Pre-Medical (Health Science) ▪ Pre-Medical Technology (Health Science) ▪ Pre-Nuclear Medicine Technology (Health Science) ▪ Pre-Occupational Therapy (Health Science) ▪ Pre-Pharmacy (Health Science) ▪ Pre-Physical Therapy (Health Science) ▪ Pre-Radiation Therapy Technology (Health Science) ▪ Pre-Veterinary Medicine ▪ Road Construction Technology [Certificate]

College of Behavioral and Health Sciences		
<ul style="list-style-type: none"> ▪ Apparel Design (Textile, Merchandising, and Design major) ▪ Athletic Training ▪ Child and Family Studies (Family and Consumer Studies) ▪ Community and Public Health (includes Health Education and Lifetime Wellness and Public Health concentrations) ▪ Consumer Education (Family and Consumer Studies) 	<ul style="list-style-type: none"> ▪ Criminal Justice Administration (includes Homeland Security and Law Enforcement concentrations) ▪ Exercise Science ▪ Fashion Merchandising (Textile, Merchandising, and Design major) ▪ Industrial/Organizational Psychology ▪ Interior Design ▪ Leisure, Sport, and Tourism Studies ▪ Nursing 	<ul style="list-style-type: none"> ▪ Nutrition and Food Science (includes Dietetics concentration) ▪ Physical Education ▪ Psychology (includes Pre-Graduate Psychology concentration) ▪ Social Work ▪ Speech-Language Pathology and Audiology

Jennings A. Jones College of Business		
<ul style="list-style-type: none"> ▪ Accounting ▪ Business Administration ▪ Business Education ▪ (Computer) Information Systems ▪ Economics 	<ul style="list-style-type: none"> ▪ Entrepreneurship ▪ Finance ▪ Health Care Management [Certificate] ▪ Information Systems 	<ul style="list-style-type: none"> ▪ Insurance ▪ Management ▪ Marketing ▪ Real Estate

College of Education		
<ul style="list-style-type: none"> ▪ College and University Teaching [Certificate] ▪ Early Childhood Education 	<ul style="list-style-type: none"> ▪ Interdisciplinary Studies, K–6, 6–8 ▪ Special Education 	<ul style="list-style-type: none"> ▪ Teacher Preparation (Interdisciplinary Studies) ▪ United States Culture and Education [Certificate]

College of Liberal Arts		
<ul style="list-style-type: none"> ▪ Anthropology ▪ Art, Studio ▪ Art Education ▪ Art History ▪ Communication Studies ▪ Cultural Geography ▪ Dance ▪ English ▪ French ▪ German ▪ Global Studies ▪ Graphic Design (Art) ▪ Gerontology [Certificate] 	<ul style="list-style-type: none"> ▪ History ▪ International Relations ▪ Japanese ▪ Museum Management [Certificate] ▪ Music, Composition (Theory-Composition) ▪ Music, Instrumental Music Education ▪ Music, Instrumental Performance ▪ Music, Vocal/General Education ▪ Music, Voice Performance 	<ul style="list-style-type: none"> ▪ Music Industry ▪ Organizational Communication ▪ Philosophy ▪ Political Science ▪ Pre-Law ▪ Public Administration ▪ Religious Studies ▪ Sociology ▪ Spanish ▪ Theatre ▪ Women's and Gender Studies [Certificate]

College of Media and Entertainment		
<ul style="list-style-type: none"> ▪ Advertising (and Public Relations) ▪ Animation ▪ Journalism ▪ Media Management (Electronic Media Communication) ▪ Media Studies 	<ul style="list-style-type: none"> ▪ New Media Communication ▪ Photography ▪ Public Relations (and Advertising) ▪ Recording Industry, Audio Production ▪ Recording Industry, Commercial Songwriting 	<ul style="list-style-type: none"> ▪ Recording Industry, Music Business ▪ Video and Film Production (Electronic Media Communication) ▪ Visual Communication

University College/Other		
<ul style="list-style-type: none"> ▪ Healthcare Administration ▪ Information Technology ▪ Integrated Studies 	<ul style="list-style-type: none"> ▪ International Organizational Leadership ▪ Liberal Studies 	<ul style="list-style-type: none"> ▪ Organizational Leadership

Appendix E

Informed Consent Form

Principal Investigator: Hannah Grace Woods

Study Title: The Relationships among Alcohol Use, Knowledge Related to Alcohol, and Major by College

Institution: Middle Tennessee State University

Name of participant: _____ Age: _____

The following information is provided to inform you about the research project and your participation in it. Please read this form carefully and feel free to ask any questions you may have about this study and the information given below. You will be given an opportunity to ask questions, and your questions will be answered. Also, you will be given a copy of this consent form.

Your participation in this research study is voluntary. You are also free to withdraw from this study at any time. In the event new information becomes available that may affect the risks or benefits associated with this research study or your willingness to participate in it, you will be notified so that you can make an informed decision whether or not to continue your participation in this study.

For additional information about giving consent or your rights as a participant in this study, please feel free to contact the MTSU Office of Compliance at (615) 494-8918.

1. Purpose of the study:

You are being asked to participate in a research study because little is known about how alcohol use is associated with college major. The current study is exploring the relationship between alcohol use and college major, as well as college students' knowledge related to alcohol.

2. Description of procedures to be followed and approximate duration of the study:

The participants will complete an anonymous survey that will take less than 30 minutes to complete. The survey will consist of demographic questions (e.g., college major, GPA, sex, age, year in school, and race/ethnicity), questions pertaining to alcohol use, and questions about alcohol-related knowledge.

3. Expected costs:

There are no foreseeable expected costs other than your time.

4. Description of the discomforts, inconveniences, and/or risks that can be reasonably expected as a result of participation in this study:

The researcher does not foresee any risks as a result of participation in this study.

5. Compensation in case of study-related injury:

MTSU will not provide compensation in the case of study related injury.

6. Anticipated benefits from this study:

a) The potential benefit to science and humankind that may result from this research is the availability of more information regarding college students' alcohol use and their knowledge about alcohol. Society also may gain knowledge about college students' alcohol use and be able to identify majors by college that are at greater risk for alcohol use.

b) The potential benefit to you from this study is learning more about the research process by participating in the study.

7. **Alternative treatments available:**
N/A
8. **Compensation for participation:**
You will receive one credit either to fulfill your research requirement or as extra credit.
9. **Circumstances under which the Principal Investigator may withdraw you from study participation:**
The only foreseeable circumstance under which the Principal Investigator may withdraw you from study participation is if you are not in the required age range.
10. **What happens if you choose to withdraw from study participation:**
There are no foreseeable consequences for choosing to withdraw from study participation. You will still receive credit if you choose to withdraw from study participation.
11. **Contact Information.** If you should have any questions about this research study or possible injury, please feel free to contact Hannah Grace Woods at hgw2f@mtmail.mtsu.edu or my Faculty Advisor, Dr. Mary Ellen Fromuth at MaryEllen.Fromuth@mtsu.edu
12. **Confidentiality.** All efforts, within reason, will be made to keep the personal information in your research record private but total privacy cannot be promised. Your information may be shared with MTSU or the government, such as the Middle Tennessee State University Institutional Review Board, Federal Government Office for Human Research Protections, if you or someone else is in danger or if we are required to do so by law.
13. **STATEMENT BY PERSON AGREEING TO PARTICIPATE IN THIS STUDY**
I have read this informed consent document and the material contained in it has been explained to me verbally. I understand each part of the document, all my questions have been answered, and I freely and voluntarily choose to participate in this study.

Date

Signature of patient/volunteer

Consent obtained by:

Date

Signature

Hannah Grace Woods, Researcher
Printed Name and Title

Appendix F

Debriefing Information Form

Please keep for your own use.

Alcohol use among college students has been the center of much research. The purpose of this study was to investigate the correlation between alcohol use and college major. In addition, this research was designed to explore college students' knowledge about alcohol.

Sometimes alcohol use can cause problems or distress. If someone you know is experiencing problems related to alcohol use, below is a list of counseling services:

On Campus: **MTSU Counseling Services**, (615)-898-2670

Off Campus: **MTSU Center for Counseling and Psychological Services**

(615) 898-2271 (open Fall/Spring; free for students)

The Guidance Center-Murfreesboro (615) 898-0771 (fee based)

Recovery Consulting Service (615) 997-1292 (fee based)

Journey Pure At the River (615) 645-2347 (fee based)

If you would like more information about this study or your rights as a participant, please feel free to contact me at hgw2f@mtmail.mtsu.edu or my faculty advisor, Dr. Mary Ellen Fromuth, at MaryEllen.Fromuth@mtsu.edu. The results from this study will not be immediately available, but arrangements can be made for you to obtain the results of the study once they become available.

Thank you for your time in helping me with this project.

Hannah Grace Woods

Graduate Student, Clinical Psychology

hgw2f@mtmail.mtsu.edu