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BINGE DRINKING AND PROTECTIVE BEHAVIORAL STRATEGIES AMONG GREEK
AND NON-GREEK COLLEGE STUDENTS

A Dissertation

Presented to the Faculty of
Antioch University New England

In partial fulfillment for the degree of
DOCTOR OF PSYCHOLOGY

by

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April 2023

BINGE DRINKING AND PROTECTIVE BEHAVIORAL STRATEGIES AMONG GREEK
AND NON-GREEK COLLEGE STUDENTS

This dissertation, by Maria Niitepold, has
been approved by the committee members signed below
who recommend that it be accepted by the faculty of
Antioch University New England
in partial fulfillment of requirements for the degree of

DOCTOR OF PSYCHOLOGY

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ABSTRACT

BINGE DRINKING AND PROTECTIVE BEHAVIORAL STRATEGIES AMONG GREEK AND NON-GREEK COLLEGE STUDENTS

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One of the most problematic habits of college students, binge drinking, has been of particular interest among researchers as a result of the increased risk of harm experienced by students engaging in this high-risk behavior. Fraternity and sorority students have also come under scrutiny for habitually engaging in binge drinking and experiencing significant levels of negative consequences as a result. Little is currently understood about the differences between Protective Behavioral Strategy (PBS) use of Greek and non-Greek students. The aim of this study was to examine the differences in rates of binge drinking and PBS use among Greek and non-Greek students. This study also examined which PBS were used more frequently among fraternity, sorority, and non-Greek students. Results indicated that Greek students engaged in higher rates of binge drinking and utilized PBS at greater rates than their non-Greek peers. Male Greeks favored PBS such as drinking with friends, watching out for friends who have drank too much, using a designated driver, and eating a meal before drinking. Female Greeks favored similar PBS with the exclusion of eating a meal before consuming alcohol. These findings may help inform Greek-specific interventions to educate and help reduce risk of harm due to alcohol consumption on college campuses. This dissertation is available in open access at AURA (<https://aura.antioch.edu>) and OhioLINK ETD Center (<https://etd.ohiolink.edu>).

Keywords: college students, binge drinking, fraternity, sorority, PBS, protective behavioral strategies

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CHAPTER I: INTRODUCTION

Over recent years, extensive research has been carried out in an attempt to examine and better understand the risk factors associated with college student alcohol use as a result of its prevalence and role in social interactions on college campuses. According to the National Institute on Alcohol Use and Alcoholism (2020), approximately 55% of students between the ages of 18 and 22 engaged in alcohol consumption over the previous month with one-third of those students reporting binge drinking at some point during that period of time. The consequences of alcohol consumption on college campuses can be great: annually, approximately 1,825 college students in the United States die from unintentional injuries related to alcohol consumption while 696,000 are the victims of assault by a peer who had been drinking (National Institute on Alcohol Abuse and Alcoholism, 2020).

Additional research has sought to understand the alcohol consumption trends of students affiliated with various social groups, such as athletics, Greek organizations, and even religious groups (Baer, 2002; Ford, 2007; Neighbors et al., 2007; Presley et al., 2002). In fact, the literature suggests that the alcohol consumption tendencies characteristic of various social groups may be explained by the influence of the social norms of the specific group in question (Ford, 2007). For instance, findings from multiple studies suggest that students involved in college athletics are also more inclined to engage in alcohol consumption and report higher rates of binge-drinking than their non-athlete peers (Ford, 2007; Presley et al., 2002). Similarly, research shows that students who are involved in Greek life or who belong to a Greek organization are more likely to drink in greater quantities with greater frequency than their non-Greek peers (Neighbors et al., 2007; Presley et al., 2002).

Previous research has revealed that involvement with Greek organization and binge drinking are associated with campus party culture, which encourages drinking large amounts in social settings (Cashin et al., 1998). Given their increased likelihood of binge drinking and engaging in party culture, students involved in Greek life are also more susceptible to negative consequences associated with alcohol consumption. These may include victimizing others and exhibiting more favorable attitudes towards deviant behaviors (Peralta et al., 2010), damaging property, having sex without having given consent, rude behavior, blacking out, driving while under the influence, and more (Mallett et al., 2010). Other literature has suggested that heavy drinking can even increase one's desire to engage in criminal behavior, lessen condemnation of such behavior, and reduce estimation of the risk associated with criminal or deviant behavior (Lanza-Kaduce et al., 1997).

Given the risks associated with heavy drinking, other researchers have explored the link between alcohol consumption, negative alcohol-related consequences, and problematic drinking behaviors as well as protective behavioral strategies (PBS). In the literature, the term PBS refers to cognitive or behavioral strategies that people implement in order to reduce their alcohol consumption or to reduce harm resulting from alcohol consumption (Benton et al., 2004; Killos & Keller, 2012; Martens et al., 2005). These strategies may include abstaining from drinking, limiting drinks to a pre-determined quantity, using a designated driver, drinking only with friends, and other strategies (Walters et al., 2007).

Borden et al. (2011) found that, in general, college student PBS use is associated with fewer negative outcomes related to alcohol consumption. Similarly, Noble et al. (2013) posited that the use of PBS reduced the degree to which college athletes experience negative

alcohol-related consequences. Further, there appears to be an inverse relationship between the frequency of PBS use and the number of alcohol-related consequences experienced by college students (Martens et al., 2004). Although Greek life drinking culture has emerged as an area of interest in recent decades, and some research exists that suggests that fraternity members are less likely than other students to use PBS while also more likely to drink more (Barry et al., 2016), the literature in this area is still relatively scant. Therefore, this study will examine archival data with two aims: first, to add to the literature on the binge drinking rates and PBS use of Greek and non-Greek students, and to learn more about the PBS most frequently used by fraternity and sorority students. These results may later be used by college administrators who can then tailor annual risk-reduction trainings to students involved in Greek life, armed with the knowledge of the PBS favored by this collegiate subgroup as well as PBS that are under-utilized by this high-risk group.

CHAPTER II: LITERATURE REVIEW

Binge Drinking

Binge drinking is a common practice among young adults on college campuses across the country and is linked to a number of serious consequences (Wechsler et al., 1994). In Wechsler et al. (1994), the term *binge drinking* refers to the consumption of a large quantity of alcohol that is sufficient to put the drinker and others at risk of experiencing alcohol-related consequences, which may include doing something that the drinker later regretted, missing class, or requiring medical treatment as a result of alcohol consumption, among other possible consequences. Binge drinking is usually defined in the literature as an incident of alcohol consumption during which the drinker consumed five or more drinks in a row if male, or four or more drinks in a row if female (Wechsler et al., 1994; Wechsler & Nelson, 2001).

One of the most prominent studies to examine binge drinking was conducted by Wechsler et al. (1994). The authors sought to determine the extent to which college students engaged in binge drinking. Furthermore, they aimed to identify alcohol-related consequences resulting from binge drinking, including health and behavioral-related problems. The sample involved college students from 140 American colleges and universities, which excluded allied health schools, military academies, and seminary schools. All full-time students were otherwise eligible to participate. Participants were selected via random sampling to produce a total of 17,592 college students. Students received a 20-page survey consisting of items pertaining to binge drinking episodes and 12 potential alcohol-related consequences in February of 1993. Binge drinking was defined by the consumption of five or more drinks in a row for men and four or more drinks in a row for women. The results indicated that less than half of the students (44%) were binge drinkers, with more men (50%) endorsing binge drinking over the previous 30 days

than women (39%). Comparable rates of binge drinking were found following the data collection conducted by the Harvard College Alcohol Study in 1993, 1997, 1991, and 2001. The study also defined binge drinking as the consumption of five or more drinks in a row for men and four or more drinks in a row for women (White & Hingson, 2013). Additionally, approximately 23% of men and 17% of the women who completed the survey measures reported that they are frequent binge drinkers (i.e., they engaged in binge drinking three or more times in the previous two weeks.)

More recent research (Lipari & Jean-Francois, 2016) indicates that the rates of students engaging in binge drinking may have since decreased. Lipari and Jean-Francois (2016) examined the results from the 2014 National Survey on Drug Use and Health (NSDUH). The 2014 NSDUH collected data on mental health and substance use numbers and rates via a survey administered to the population of the United States on an annual basis to those 12 years of age or older. Data in the report are estimates of the annual averages from NSDUH data between the years of 2011 and 2014. In this study, binge drinking was defined as the consumption of five or more drinks in one sitting. Results from the report on young adults between the ages of 18 and 22 revealed that over a third—39.0%—of the 5.4 million full-time college students who completed the survey had engaged in binge drinking over the previous month for a total of 3.5 million students. The report indicated that part-time college students engaged in binge drinking to a lesser degree—707,000 or 35.5%. Overall, these rates are lower than those reported by Wechsler et al. (1994). One limitation of this study was that the results were not broken down by gender, therefore it is not possible to conclude whether male or female students decreased in binge drinking at similar rates over time.

Krieger et al. (2018) similarly found that the rates of binge drinking have decreased over time with approximately 30 to 40% of college students reporting that they had engaged in binge drinking over the previous month. Even more recently, Schulenberg et al. (2020), who collected data from a national sample, found that binge drinking (defined as five or more drinks consumed in a single sitting) rates had declined to 28% among college students in 2018, although they rose once again in 2019 to a rate of 33% of college students—34% of men and 32% of women—who reported that they engage in binge drinking over the previous 30 days.

More recently (Bonar et al., 2021), research has revealed a short-term decrease in binge drinking following the closure of one college campus due to COVID-19. Another study (Lechner et al., 2020) that examined a single college campus revealed that alcohol consumption increased by 1.5 drinks following campus closure compared to the week prior. A third study (Fruehwirth et al., 2021) revealed that binge drinking decreased from 35.5% to 24.6% within the previous 30 days, which was largely attributed to a reduction in students' ability to socialize. However, because campus closures and stay-at-home orders varied widely across the United States, results from these two studies are limited in generalizability and the long-term impact of the COVID-19 pandemic has had on binge drinking rates among college students as a whole is as yet unknown.

Binge Drinking in Greek Culture

Various studies conducted on college student drinking behaviors show that students involved in Greek life (i.e., fraternity and sorority members) drink greater quantities and drink more often than their non-Greek peers (Benton et al., 2004; Noble et al., 2013; Ragsdale et al., 2011; Walters et al., 2007). Wechsler et al. (2009) is one among those that highlights the great differences in alcohol consumption that are associated with one's affiliation with Greek life. Wechsler et al. (2009) aimed to examine the alcohol consumption and alcohol-related behaviors

of college students affiliated with Greek life and to compare these with students not involved in Greek life. This study was conducted on a national scale: 140 colleges participated in the study after adjusting for those who did not meet inclusion criteria. Eligible students received a 20-page questionnaire in February of 1993 similar to that used in Wechsler et al. (1994) that included items assessing Greek affiliation, alcohol-related consequences resulting from one's own drinking, and alcohol-related consequences resulting from another student's drinking. The authors found that approximately 86% of students residing in a fraternity house participated in binge drinking, as well as 71% of nonresident fraternity students and 45% of male students not affiliated with Greek life. Similarly, 80% of resident sorority members, 58% of nonresident sorority members, and 35% of non-Greek female students reported that they had engaged in binge drinking over the previous two weeks. Notably, 57% of resident fraternity members, 36% of nonresident fraternity members, and 18% of non-Greek male students participated in three or more binging episodes over the previous two weeks. Similarly, 43% of resident sorority members, 28% of nonresident sorority members, and 15% of non-Greek female students reported that they had engaged in three or more binging episodes over the same time period. It is clear based on this study that students involved in Greek life at this time were a subgroup that necessitated further attention from researchers with the aim of intervening in order to decrease their alcohol-related problems. However, given the age of this study, replication would be beneficial to reflect more modern drinking trends.

A more recent study conducted by Ragsdale et al. (2011) examined binge drinking among students affiliated with Greek life as compared to those who were not Greek-affiliated. Participants were recruited from the University of Virginia. A randomized sample of 823 undergraduate students received and completed the Health Behavior Survey in the mail, which

assessed drug and alcohol use, attitudes towards drugs and alcohol, and negative consequences resulting from the use of drugs or alcohol by oneself or others. Among the returned surveys, 79 students were fraternity members, 107 were sorority members, and 637 were non-Greek students. For men, binge drinking was defined as five or more drinks consumed in a single sitting and four or more drinks consumed in a single sitting for women. Respondents who endorsed binge drinking three or more times over the previous two weeks were categorized as frequent binge drinkers and those who endorsed binge drinking one or two times over the previous two weeks were categorized as intermittent binge drinkers. The results revealed that—within this sample— 69.1% ($n = 440$) were binge drinkers. Of the binge drinkers, 47.3% were male students and 52.8% were female students. Among the 440 students who endorsed binge drinking, 32.5% were fraternity and sorority members. These students comprised 76.9% of the total Greek student sample. Among the fraternity members, 51.9% were frequent binge drinkers while 26.6% qualified as intermittent binge drinkers. Overall, 78.5% of fraternity members endorsed binge drinking. Among sorority members, 40.2% were frequent binge drinkers while 26.2% were intermittent binge drinkers. Overall, 66.4% sorority members endorsed binge drinking. These results suggest that Greek students of the University of Virginia exhibited higher rates of binge drinking when compared to students unaffiliated with Greek life. Further, these results indicate that during the year of this study's publication, fraternity members engaged in binge drinking at higher rates than sorority members. Given that binge drinking is a high-risk activity that increases one's likelihood of experiencing negative alcohol-related consequences (Wechsler et al., 1994), strategies used by students involved in Greek life to decrease the risk of experiencing negative consequences warrants investigation.

Protective Behavioral Strategy Use

Previous research suggests that one's implementation of PBS while drinking has the potential to decrease risks associated with alcohol consumption and negative alcohol-related consequences (Benton et al., 2004; Martens et al., 2004). According to Martens et al. (2005), PBS are strategies that may be actively utilized while consuming alcohol in order to aid students to engage in safer and more responsible alcohol consumption rather than abstaining from drinking altogether. These are often strategies that may be useful in prevention and intervention programs and may therefore be modeled or taught in order to limit one's level of intoxication and alcohol-associated harm. Given that increased alcohol consumption is associated with greater likelihood of one experiencing alcohol-related consequences (Lanza-Kaduce et al., 1997), a review of the use of PBS among students who engage in alcohol consumption, especially those affiliated with Greek life, is warranted.

Benton et al. (2004) aimed to explore the relationships among alcohol use, college student gender, PBS, and alcohol-related consequences. Participants were 3,851 and 4,151 undergraduate students for the derivation and replication samples, respectively. Students were enrolled at four midwestern universities in the years 2001 and 2002, and were selected from those who completed the Campus Alcohol Survey (CAS), which assessed participants' demographics, alcohol consumption and negative alcohol-related consequences. The CAS also assessed the use of PBS, which included behaviors such as limiting the amount of drinks one would consume, assigning a designated driver, only consuming alcohol in safe settings, pacing one's alcohol consumption, only drinking with trusted friends, alternative alcohol with nonalcoholic beverages, and others. The findings of this study indicated that both male and female college students who used PBS were less likely to experience alcohol-related

consequences. Moreover, the authors concluded that although the effect of PBS was stronger for male students than female students, female students were more likely to implement PBS and to consume less alcohol than male students. However, the authors did not examine if there were differences in PBS utilization between male and female students who were affiliated with Greek organization. These results highlight gendered differences in PBS use among college students that necessitate further investigation. Given that these results do not include Greek status as a variable, they may vary from those of the current study which will examine Greek status, alcohol consumption, and PBS use among college students.

One of few studies that investigated PBS use among high-risk, heavy-drinking college students was conducted by Walters et al. (2007). The authors aimed to understand the correlates of PBS use among heavy-drinking college students. Participants were 281 college students enrolled at a southern university in the United States in the Fall of 2006 and the Spring of 2007 who were at least 18 years of age and reported at least one binge-drinking episode over the previous two weeks. Participants completed survey measures on demographic data, alcohol consumption, and PBS use. The final sample comprised 187 female students and 101 male students. Approximately 37% ($n = 68$) of the female students endorsed sorority affiliation while 31% ($n = 21$) of the male students endorsed fraternity affiliation. The results revealed that students who reported more episodes of heavy drinking also reported the least use of PBS. Additionally, the findings indicated that female students used PBS more than their male counterparts. Of the PBS named in this study, the ones most commonly endorsed by female students were, “Knew where your drink had been at all times,” endorsed by 94%; “Made sure that you went home with a friend,” endorsed by 84%; “Use a designated driver,” endorsed by 75%; and “Not drinking shots of liquor,” endorsed by 65%. Among male students, the most

common PBS endorsed included, “Knew where your drink had been at all times,” endorsed by 77%; “Use a designated driver,” endorsed by 70%; “Made sure that you went home with a friend,” endorsed by 57%; and “Not drinking shots of liquor,” endorsed by 46%. Notably, female students appeared to use more social strategies to reduce risk of harm related to alcohol-consumption. Although this study provided insight into the differences in PBS utilization between male and female college students who endorsed heavy drinking, the authors did not examine the influence of Greek membership. It is therefore unknown how the results may have been impacted by this variable given that a third of participants endorsed Greek affiliation. This study will aim to fill the gap in the literature on the differences among PBS use by fraternity, sorority, and non-Greek students.

Protective Behavioral Strategies in Greek Culture

Little literature exists on the use of PBS among fraternity and sorority members specifically. However, Barry et al. (2016) provided some valuable insight into this high-risk drinking group. The authors elected to conduct a secondary analysis of the 2011 National College Health Assessment (NCHA) from the American College Health Association (ACHA). The study’s sample involved 18,483 students from 44 campuses across the United States. Participants completed the survey measure online and on paper assessing demographic information, alcohol consumption, alcohol-related consequences, and one’s affiliation with Greek organization. The response scale for PBS items allowed for students to answer never (0), rarely (1), sometimes (2), most of the time (3), or always (4). The results revealed that students who endorsed fraternity or sorority membership reported significantly less use of PBS than their non-Greek peers. Of note, the most common response among Greek students to the item “Avoid drinking games” was “rarely” while non-Greek students most often endorsed “always” in

response to the same item. The PBS with highest endorsements from Greek students included “Use a designated driver,” “Eat before and/or during drinking,” and “Stay with the same group of friends the entire time you were drinking.” Non-Greek students’ highest endorsed PBS were the same as the Greek students, although they showed clear trends to be more conservative in their alcohol consumption and more liberal in their PBS use.

Killos and Keller (2012) took steps to expand upon the existing literature on Greek PBS use by examining Greek students who engaged in high and low quantities of alcohol consumption. They also investigated alcohol-related consequences, protective behavioral strategies, alcohol use, and perceptions of peer alcohol use. Measures of Greek membership, levels of alcohol consumption, perceived norms, negative alcohol-related consequences, and use of PBS were completed by 276 Greek-affiliated students from three institutions of higher education. Students who reported drinking amounts below the median for their school were categorized as low quantity drinkers (LQD) and comprised 33% of the sample, while students who consumed above the median amounts were categorized as high quantity drinkers (HQD). The HQD students also reported use of significantly fewer protective behavioral strategies ($M = 2.96$, $SD = 1.44$) than their LQD counterparts ($M = 3.40$, $SD = 2.30$) who also tended to use different protective behavioral strategies. Similarly, LQD students experienced significantly fewer negative consequences ($M = 0.68$, $SD = 1.10$) than the HQD students ($M = 2.03$, $SD = 1.54$). Notably, LQD employed PBS that aimed to minimize alcohol consumption. Their HQD peers, on the other hand, utilized PBS that aimed to minimize harm. These results provide valuable insight on the differences that exist between Greek students who drink greater and lesser quantities. Further investigation into the PBS implemented by those in this high-risk group is warranted.

The Present Study

Previous research (Wechsler et al., 2009) has illustrated that fraternity and sorority members are at greater risk of experiencing negative consequences as a result of their high levels of alcohol consumption. Additionally, research has shown a protective effect associated with the use of PBS. An aim of this study is to contribute to the existing literature that examines the rates of PBS use by fraternity and sorority members in comparison to the larger student body and how the use of PBS relates to levels of consumption. An additional goal of this study is to examine the PBS most frequently used by fraternity members, the PBS most frequently used by sorority members, and the PBS most frequently used by non-Greek students. Thus, the following study will address the following research questions:

1. *Are there differences in the rates of binge drinking among fraternity members, sorority members, and non-Greek students?* The study predicted that binge drinking will be highest among fraternity members and lowest among the general student body.
2. *Are there differences in the rates of PBS utilization among fraternity members, sorority members, and non-Greek students?* Based on previous research, the study predicted that PBS utilization will be lowest among fraternity members and highest among the general student body.
3. *Which types of PBS are used more frequently by fraternity members, sorority members, and non-Greek students?* Due to the lack of prior literature on this topic, this research question was exploratory.

CHAPTER III: METHOD

Procedure and Participants

This study will examine archival data collected by the New Hampshire Higher Education Alcohol, Tobacco, and Other Drug (NHHEATOD) survey created by the New Hampshire Higher Education Alcohol, Tobacco, and Other Drug Committee. Data was originally collected by the NHHEATOD survey by means of cluster sampling from seven New Hampshire Colleges: Colby-Sawyer College, New England College, Plymouth State University, Rivier University, University of New Hampshire, Saint Anselm College, and Southern New Hampshire University. These institutions varied in affiliation (e.g., private/public, religious/secular, two/four year), mission, and size. The overall purpose of the biannual survey is to assess students' attitudes, behaviors, and perceptions of use regarding alcohol, tobacco, and other drug use.

Prior to administration of the survey, each institution received approval from their Institutional Research Board. All schools implemented an administration method to ensure anonymity and confidentiality of participants. Eligible participants for this study were 14,422 students who received the NHHEATOD survey in the Spring of 2017. Of those who received the survey, 2,847 completed it. A reliability analysis revealed that the Cronbach's alpha for the NHHEATOD survey was .88 ($\alpha = .879$). The number of valid surveys was decreased to 1,907 after adjusting for validity items and excluding cases with missing responses, resulting in a 13.22% response rate to the survey. The sample was representative of colleges and universities in the state of New Hampshire. Since the population of interest is college students who use alcohol, and PBS, as defined in this study, applied only to individuals who consumed alcohol; participants who report that they "never had a drink" were excluded from analyses.

Of the students who completed the NHHEATOD survey, 62.7% ($n = 1,195$) were female and 37.3% ($n = 712$) were male (see Table 1). Further, 13.8% ($n = 263$) endorsed Greek membership while 86.2% ($n = 1,644$) denied Greek membership. Among the Greek students, 47.5% ($n = 125$) were male fraternity students while 52.5% ($n = 138$) were female sorority members.

A total of 1903 students reported on race and ethnicity. Of the total sample, 91.8% ($n = 1751$) self-identified as White/Non-Hispanic, 1.3% ($n = 25$) self-identified as Black/Non-Hispanic, 0.31% ($n = 6$) self-identified as American Indian/Alaskan, 2.83% ($n = 54$) self-identified as Asian, 3.36% ($n = 64$) self-identified as Hispanic, and 0.16% ($n = 3$) self-identified as Hawaiian/Pacific Islander. Of the Greek male students, 92.7% ($n = 115$) self-identified as White/Non-Hispanic, 2.42% ($n = 3$) self-identified as Hispanic, 2.42% ($n = 3$) self-identified as Black/Non-Hispanic, 1.61% ($n = 2$) self-identified as Asian, and 0.81% ($n = 1$) self-identified as American Indian/Alaskan (see Table 1). Of the Greek female students, 92.7% ($n = 127$) self-identified as White/Non-Hispanic, 1.46% ($n = 2$) self-identified as Hispanic, 2.19% ($n = 3$) self-identified as Black/Non-Hispanic, 2.92% ($n = 4$) self-identified as Asian, and 0.73% ($n = 1$) self-identified as American Indian/Alaskan (see Table 1).

Measures

Alcohol Use

Alcohol use was assessed using a combination of two items. Participants were asked, “When you “*party, socialize, go out*” how many alcoholic drinks do *you* usually have?” Responses were recorded on a Likert scale ranging from one (*none*) to seven (*11 or more*). Participants were also asked, “How many nights per week do you usually “*party, socialize, go out*?” Responses were also recorded on a Likert scale ranging from one (*none*) to six (*5 or more*).

Participants' responses to the two variables were multiplied and a continuous score was created resulting in scores ranging from zero to 30. Participants were also asked "How many alcoholic drinks do you typically consume in a week?" Responses were recorded in on a scale ranging from one (*none*) to seven (*16+*).

Binge Drinking

In order to better address measurement disparities in the previous literature, binge drinking was assessed using one continuous item and one dichotomous item. The continuous item included a traditional measure (i.e., five drinks in one-sitting) to indicate how often students engaged in binge drinking over the preceding two weeks. Participants were asked, "How many times in the last two weeks have you had five or more alcoholic drinks in one sitting? (A standard "drink" is considered to be a 12oz beer, a 4oz glass of wine, 1oz of 100 proof alcohol or 1.25oz of 80 proof alcohol.) Responses were recorded on a Likert scale ranging from one (*none*) to seven (*10+ times*) resulting in a variable termed *binge drinking episodes* (BDE). The measures were modified from the original NIAAA recommendations since they did not vary the number of drinks according to gender. Additionally, for the purposes of the current study a dichotomous variable (i.e., yes/no) was created to indicate whether the participant had a binge drinking episode during the previous two weeks (*binge drinking dichotomous*; BDD). Lastly, a *binge drinking frequency* (BDF) variable was also created to classify individuals based on the frequency of binge drinking episodes over the previous two weeks. Three groups were formed: 44.0% ($n = 840$) non-binge drinkers who reported no binge drinking episodes, 31.3% ($n = 596$) infrequent binge drinkers (1–2 binge drinking episodes in the past two weeks), and 24.6% ($n = 470$) frequent binge drinkers (three or more binge drinking episodes in the past two weeks).

Protective Behavioral Strategies

The use of PBS was assessed by 12 items that asked “During this school year, when you socialized/went out/partied how often did you...?” Items included, “choose not to drink,” “alternate non-alcoholic and alcoholic beverages,” “determine in advance not to exceed a set number of drinks,” “party’ with people you know,” “watch out for friends who may have had too much alcohol,” “use a designated driver,” “act as a designated driver,” “eat a full meal before drinking,” “keep track of how many drinks you are having,” “pace your drinks to one or fewer per hour,” “abstained due to warning for a prescribed medication,” and “avoided drinking games.” Responses were scored on a Likert scale ranging from one (*never*) to five (*always*). A PBS total score was created by adding the scores from the individual strategies. The total scores ranged from 12–60 and the internal consistency of the PBS items was excellent ($\alpha = .922$, $\bar{x} = 36.65$, $SD = 14.31$).

Data Analysis

Inferential statistics including correlations, *t*-tests and ANOVA were used to explore the association between protective behavioral strategies, alcohol consumption, and binge drinking among college students based on their participation (or not) in Greek life and gender.

CHAPTER IV: RESULTS

Binge Drinking Rates

It was hypothesized that binge drinking would be highest among fraternity members and lowest among the general student population. Consistent with the first hypothesis, binge drinking rates were higher among students affiliated with Greek membership ($\bar{x} = 3.08$, $SD = 1.58$) and lowest among the general student body ($\bar{x} = 2.22$, $SD = 1.43$), with $t(333.76) = -8.30$, $p < .001$ (see Tables 2-3). Further, fraternity students engaged in higher rates of binge drinking ($\bar{x} = 3.78$, $SD = 1.45$) than male students not affiliated with Greek organization ($\bar{x} = 2.68$, $SD = 1.60$), with $t(193.34) = 7.52$, $p < .001$ (see Table 5). Sorority students also endorsed binge drinking at greater rates ($\bar{x} = 2.46$, $SD = 1.43$) than their non-Greek female peers ($\bar{x} = 1.97$, $SD = 1.25$), with $t(165.67) = 3.819$, $p < .001$; see Table 4).

Protective Behavioral Strategy Utilization Rates

It was hypothesized that PBS utilization would be lowest among fraternity members and highest among the general student body. Contrary to this hypothesis, students who reported being part of a Greek organization utilized higher levels of PBS ($\bar{x} = 38.85$, $SD = 9.52$) compared to students who were not affiliated with a Greek organization ($\bar{x} = 36.31$, $SD = 14.89$), with $t(456.41) = -3.551$, $p < .001$ (see Tables 6-7). The results also indicated that sorority students utilize higher levels of PBS ($\bar{x} = 40.39$, $SD = 10.29$) compared to female students who are not affiliated with a Greek organization ($\bar{x} = 37.82$, $SD = 15.19$), with $t(208.751) = 2.52$, $p = .012$ (see Table 6 and Table 8). PBS utilization was also higher among fraternity students ($\bar{x} = 37.11$, $SD = 8.28$) compared to their male peers who were not Greek-affiliated ($\bar{x} = 33.60$, $SD = 13.95$), with $t(269.06) = 3.63$, $p < .001$ (see Table 6 and Table 9). Further, sorority students utilized PBS at higher rates than fraternity students.

Protective Behavior Strategy Individual Items

Finally, the study examined which types of PBS were used more frequently by fraternity members, sorority members, and non-Greek students. The study controlled for a family-wise error using a Bonferroni correction based on the 24 comparisons that were tested. Data analysis revealed that Greek male and female students used similar PBS in order to reduce harm and drinking quantities. Out of 12 individual PBS items, results suggested that four strategies were more likely to be used by fraternity students than their non-Greek peers: party with acquaintances and friends, watch out for friends who may have drank too much, use a designated driver, and eat a full meal before drinking (see Tables 10-12). For female Greeks, the PBS that they utilized at significantly higher rates than their non-Greek female counterparts included “party” with people you know, watch out for friends who may have drank too much alcohol, and use a designated driver (see Tables 13-15).

CHAPTER V: DISCUSSION

The aim of this study was to examine the binge-drinking rates and PBS use among male and female Greek and non-Greek students. The study also sought to learn which PBS were used more frequently by fraternity students, sorority students, and non-Greek students. It was predicted that binge-drinking rates would be highest among fraternity members and lowest among the general student body. Further, it was predicted that fraternity students would have the lowest PBS utilization rates while non-Greek students would have higher rates. In keeping with the first hypothesis, students who endorsed Greek affiliation reported significantly higher rates of binge drinking. Both male and female Greek students engaged in binge drinking at rates significantly higher than those of their non-Greek affiliated peers. Contrary to the second hypothesis, our findings indicated that students affiliated with Greek organization utilized PBS at significantly greater rates than their non-Greek peers. Of note, rates of PBS utilization were higher among sorority students than fraternity students. Finally, exploration of the dataset revealed that fraternity students tended to favor PBS such as drinking with people they knew, looking out for friends who have consumed too much alcohol, using a designated driver, and eating a meal before drinking. Sorority students favored all the same PBS as fraternity students with the exception of eating a full meal before drinking.

The results of this study also echo findings from previous research that suggested students involved in Greek life drink more often and in greater quantities than non-Greek students (Cashin et al., 1998; Lo & Globetti, 1995; Neighbors et al., 2007; Presley et al., 2002), perhaps due to Greek culture and perceived norms related to drinking (Larimer et al., 1997). This may be explained by multiple phenomena: the self-selection of students into heavy drinking environments that reflect their own drinking behaviors (Capone et al., 2007), the continuation of

drinking habits from high school to college (Lo & Globetti, 1995), misperceived drinking norms, the enabling and insulated fraternity culture, and the central role of alcohol consumption in fraternity socialization (Borsari & Carey, 1999). Students who have pre-established heavy drinking habits may join fraternities looking for the prospect of continuing these drinking behaviors. Students who are more extroverted or social, and already engage in heavy drinking, are more apt to join a fraternity or sorority (i.e., self-selection into an environment that endorses heavy drinking; Capone et al., 2007). After students have joined the Greek system, they are then subjected to social pressures and situations that further promote heavy alcohol use, as well as their own misperceptions of their peers' alcohol consumptions, leading to an increased pressure to drink. Given the enabling nature of the Greek system, its insulation from the external community and penalties that one would typically expect for intoxicated conduct, as well as the central role of alcohol in these organizations, the risk of alcohol abuse is greatly enhanced.

The high binge-drinking rates among fraternity and sorority students may also be explained by the drinking motivations of the group members. For instance, some studies suggest that students affiliated with Greek organization consider alcohol to be a means by which to facilitate social activities, friendship, and sexuality to a greater degree than their non-Greek peers (Baer, 2002). Students who join Greek organization may join in order to access these benefits and ultimately adopt this attitude as a result of being socialized into Greek culture.

The result indicating that students involved in Greek life utilize PBS at greater rates than their non-Greek peers is consistent with previous research that found that fraternity and sorority members were more likely to use PBS than non-Greek students (Soule et al., 2015). However, other literature found that fraternity members utilized fewer PBS than their sorority and

non-Greek peers (Barry et al., 2016). The difference between those findings and our results may be best explained by one's involvement in Greek culture, a system that is anchored by social interactions, social awareness, and being community-minded, yet also a community that experiences a great degree of negative alcohol-related consequences (Peralta et al., 2010). It may be awareness of the negative consequences experienced by their Greek peers that motivated Greek students in this study to utilize PBS at higher rates than non-Greeks. Students who observe their peers suffer medically, socially, legally, or academically (i.e., expulsion from school or repeating coursework due to poor grades or attendance) as a result of heavy episodic drinking may learn to take more precautions in order to protect themselves, their education, and maintain their privileges. However, it is also possible the social desirability bias may have had an influence on respondents, skewing students' self-report to be more aligned with socially desirable rather than truthful answers.

Another potential explanation for the contradiction between our findings and those of Barry et al. (2016) is that students' awareness of the risks of heavy alcohol consumption has increased since the publication of Barry et al. (2016) and programs implemented on college campuses to reduce the risk associated with drinking may have led students to act pre-emptively by using their own PBS before entering bars, clubs, or parties. This may be especially true for individuals who are attending college for the first time, as this group may lack a baseline understanding of the amount of impairment that can result from several drinks in a short period of time. Such students are also likely to have a lower alcohol tolerance and be inclined to take precautionary measures such as using PBS to protect themselves and others.

It is also possible that the contradiction between our findings and those of Barry et al. (2016) is due to regional or cultural differences. While the 2016 national per capita rate of

alcohol consumption for Americans was approximately 3.7 gallons per person annually, the per capita rate in New Hampshire was approximately 4.76 gallons per person (Haughwout & Slater, 2018). Further, New Hampshire was ranked second nationally for the incidence of binge drinking reported by underaged individuals (Haughwout & Slater, 2018). These statistics may point to cultural differences, although literature comparing the PBS use rates of New Hampshire and the nation at large are not available. Given the significant difference in alcohol consumption between New Hampshire and the rest of the nation, the extent to which our findings may be generalized to other student bodies is unclear. The data examined in the present study were collected solely from colleges across New Hampshire while Barry et al. (2016) examined data collected from 44 campuses across the United States. It is reasonable to assume that cultural factors that contribute to greater-than-average alcohol consumption rates among individuals residing in New Hampshire may also contribute to greater-than-average PBS use among the students who engage in the highest rates of episodic binge drinking (i.e., Greek students).

Lastly, it is notable that Greek male and Greek female students favored all of the same PBS with the exception of eating a full meal before drinking. This may be best explained by the pressure that society places on women as a result of weight bias. Research has shown that weight bias internalization is associated with disordered eating and a drive to control one's weight (Levy et al., 2022). These may include engaging in physical activity for weight loss, eating small amounts of food for men, and an increased likelihood of meal skipping for women. It is possible that the women who avoid eating a full meal before drinking may be attempting to counterbalance the caloric intake anticipated from a night of alcohol consumption.

Limitations

Before considering the implications of this study, it is important to acknowledge the limitations. As a secondary user of this dataset, the scope of information available for analysis on which to base the research question was limited. Additionally, as a cross-sectional study, the direction of the relationship between variables could not be interpreted, for instance, whether students had established their drinking habits prior to matriculation or developed these habits as a result of joining a fraternity or sorority. Further, the generalizability of the results was limited by the fact that the universities and colleges that provided data for this survey were all located in New Hampshire. The reliability of the results may also have been impacted given that the information was gathered through self-report measures, and thus students may have misrepresented their own drinking habits or provided inaccurate reports for other reasons.

There were numerous individual factors, including respondents' drinking habits prior to matriculation, that were not taken into account for this study and may have had an unanticipated influence on the data. In the original questionnaire, respondents were not able to specify the exact quantity of alcohol consumed for a given question. Instead, they were limited to endorsing a rank of drinks (e.g., 1-2, 3-4). This complicated the analysis and interpretation and also compromised the accuracy and precision of the data. There was also a significant difference between the sample sizes of Greek students ($n = 263$) when compared to non-Greek students ($n = 1644$), which may have impacted the findings. As a result, this can lead to unequal variances between samples, which ultimately affects the assumption of equal variances in some statistics. Having both unequal sample sizes and variances affects statistical power and Type I error rates. However, our analyses utilized Levene's test of unequal variances, which helps address this potential concern. Additionally, the survey defined binge drinking as the consumption of five

drinks or more per sitting, which is inconsistent with various other studies examining binge drinking defined as four or more drinks per sitting for women and five or more drinks per sitting for men, which may complicate comparisons with other studies. Further, the dataset used for this study lacked ethnic and racial diversity, which may have skewed the results and diminished their generalizability in comparison to studies with diversity rates that more closely mimic the general population.

Implications

Despite limitations, the results of the current study have significant implications for drinking and harm reduction in college populations. The prevalence of binge drinking among students involved in Greek life may suggest that administrators need to introduce regular mandatory information sessions on the dangers of alcohol use for these and other high-risk groups in the college population. Colleges may also benefit from having leaders of various student groups receive training on effective PBS, as well as negative consequences and risks associated with alcohol consumption. They may also find it valuable to provide annual trainings requiring the attendance of students who are involved in Greek life. Of note, given that Greek students are more likely to utilize strategies that reduce harm rather than reduce alcohol consumption, it may be of the greatest benefit for these trainings to educate Greek students on the importance of utilizing PBS that moderate and reduce alcohol consumption itself. Schools and students may also benefit from developing mentorship programs through which students on academic probation partly resulting from alcohol use may be able to restore their good standing in part by mentoring new students. By passing on knowledge and wisdom gained through their previous mishaps, such mentors may be able to help other students avoid committing the same mistakes.

An effective intervention must also take into account the factors associated with binge drinking within the population impacted. Young adults face many pressures in college including transitioning away from home, new financial responsibilities, and increased academic demands. Unfamiliar with the consequences of their decisions and actions, it is common for young adults to engage in unhealthy behaviors, which can include binge drinking. A combined program of increased information, including education on alcohol abstinence, and peer support during students' transition to college may provide greater benefits to both students and campuses than have been obtained by other types of campus programs. By providing both peer support and information to students during the transition to college life, college campuses can ensure that new students are well-informed to make sound decisions regarding a wide range of new opportunities that may include increased access to alcohol. Through continued research efforts, and the implementation of policies and programs designed to support and inform college students, it is possible to effectively address potential dangers that can accompany collegiate alcohol consumption.

Future Directions

The findings of this study may be used to inform harm reduction and educational interventions among college campuses, as well as add to the literature on PBS use on college campuses. However, more research should be done on Greek life in the United States, as well as PBS use associated with alcohol consumption. Future research should also seek to evaluate the specific number of drinks that students are consuming within a sitting and utilize data collected from a national sample in order to enhance generalizability of the research findings. Future research should also investigate factors associated with greater PBS use and fewer self-reported negative consequences resulting from alcohol consumption. Such data could inform and further

enhance the efficacy of harm reduction programs and policies implemented on college campuses across the nation. Additionally, future research should aim to examine the PBS rates of college students across the nation in order to understand trends between various states or regions of the country. These data could prove invaluable in understanding cultural or regional differences that may increase or decrease risk of negative alcohol-related consequences and help researchers tailor harm reduction strategies based off of these differences. Further, in order to more easily predict which students may be at risk of maintaining or developing patterns of heavy episodic drinking, future research would benefit from including survey items designed to assess a student's previous alcohol consumption rates (i.e., for earlier years of college and high school). Such data may help researchers better understand factors that can contribute to increased alcohol-related risks once students begin postsecondary education.

Conclusion

The current study examined the prevalence of binge drinking and PBS use among the general college population and an at-risk subgroup: fraternity and sorority members. The first aim of this study was to examine the differences in binge drinking rates among Greek male, Greek female, and non-Greeks students. It was hypothesized that binge drinking would be highest among Greek male students and lowest among the general student body. Analysis of the data supported this hypothesis. The study also sought to examine the differences in rates of PBS use among Greek male, Greek female, and non-Greek students. It was hypothesized that PBS use would be lowest among Greek male students and highest among the general student body, however, the data did not support this hypothesis; analysis of the data revealed that PBS utilization rates were significantly higher among Greek students and higher among Greek females than Greek males. Lastly, the study also aimed to determine which PBS were used more

frequently by Greek male, Greek female, and non-Greek students. Analyses revealed that fraternity students favored drinking with people they know, looking out for friends who have had too much to drink, using a designated driver, and eating a meal before drinking. Sorority students favored the same PBS as fraternity students with the exception of eating a full meal before drinking.

The extant literature has primarily examined PBS use among college students as a whole; however, few studies have examined prevalence of PBS use within an at-risk subpopulation. This is problematic, considering heavy alcohol use continues to be a significant issue on college campuses and particularly within the Greek context. Additionally, the recent novel coronavirus (COVID-19) pandemic, which caused the sales of alcohol to surge during lockdown, has caused drinking rates to increase (Barbosa et al., 2021), had implications for the risks resulting from alcohol consumption (Clay & Parker, 2020; Ramalho, 2020), similarly to the 2003 SARS outbreak, which later contributed to an increase in alcohol abuse and dependence in some populations (Wu et al., 2008). In addition to the pandemic likely leading to an increase in the rates of alcohol consumption, it is likely that the pandemic also had an impact on which PBS are selected by students and the motives for their selection. Were this study to be replicated using a sample from the height of the pandemic, PBS may have involved, for instance, choosing to drink indoors at home while social distancing, only partying with people who have been vaccinated, or electing to sit outside away from crowds and wearing masks to decrease the risk of contracting the coronavirus. Other PBS, such as using a designated driver, may have been used less frequently as a result of social distancing and less need for transportation after consuming alcohol. With a younger population than the previous studies, it is important to investigate whether binge-drinking rates will continue to increase as a result of severe restrictions on public

drinking that occurred during lockdown or if new behaviors have occurred due to increased safety concerns and the social distancing that resulted from this pandemic. Additionally, future research should investigate whether the restrictions put in place as a result of the pandemic have had a lasting impact, whether beneficial or detrimental, on the binge-drinking rates and PBS use of college students.

The results of this study should encourage health professionals to continue emphasizing and prompting the use of PBS. They should also be more aware of the types of programs most effective in helping young people understand alcohol's risks and benefits, reduce their risk for alcohol related consequences, delay the onset of drinking through college students' late adolescence, and significantly improve their ability to resist peer pressure by using PBS during drinking situations. Finally, researchers should focus on discovering ways to engage college students in protective behaviors so that alcohol consumption will present them with less risk. Research should explore the unique factors associated with greater PBS use among those who engage in the highest rates of binge drinking (i.e., fraternity students), as well as a reduced incidence of negative consequences resulting from heavy drinking.

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APPENDIX: TABLES

Table 1*Demographic Characteristics*

Gender	Percent (%)	Count
Non-Greek Female	55.4%	1057
Greek Female	7.2%	138
Non-Greek Male	30.8%	587
Greek Male	13.8%	125
Total	100%	1907

Race/Ethnicity	Percent (%)	Count
White	92%	1751
Black/Non-Hispanic	1.3%	25
American Indian/Alaskan	0.3%	6
Asian	2.8%	54
Hispanic	3.4%	64
Hawaiian/Pacific Islander	0.2%	3
Total	100%	1903

Table 2*T-test Results Comparing Frequency of Binge Drinking in Previous Two Weeks*

	Fraternity			Non-Fraternity		
	<i>M</i>	<i>SD</i>	<i>Std. Error</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
Male	3.78*	1.45	.130	2.67	1.59	.66
Female	2.46*	1.43	.122	1.97	1.25	.039
All	3.08	1.58	.10	2.22	1.43	.035

Note. M = Mean. SD = Standard Deviation. Std. Error = Standard Error Mean.

*Indicates difference is significant at the $p < .001$.

Table 3

Independent Samples Test Comparing Frequency of Binge Drinking Among Greek and Non-Greek Groups in Previous Two Weeks

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Times in the last two weeks student has had 5 or more drinks per sitting	Equal variances assumed	6.156	.013	-8.942	1904	.000	-.861	.096	-1.050	-.672
	Equal variances not assumed			-8.298	333.755	.000	-.861	.104	-1.065	-.657

Table 4

Independent Samples Test Comparing Frequency of Binge Drinking Among Greek and Non-Greek Female Students in Previous Two Weeks

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Times in the last two weeks student has had 5 or more drinks per sitting	Equal variances assumed	10.506	.001	4.226	1192	.000	.488	.115	.261	.714
	Equal variances not assumed			3.819	165.674	.000	.488	.128	.236	.740

Table 5

Independent Samples Test Comparing Frequency of Binge Drinking Among Greek and Non-Greek Male Students in Previous Two Weeks

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Times in the last two weeks student has had 5 or more drinks per sitting	Equal variances assumed	9.099	.003	7.073	710	.000	1.096	.155	.792	1.401
	Equal variances not assumed			7.523	193.375	.000	1.096	.146	.809	1.384

Table 6*T-test Results Comparing PBS Use of Students*

	Fraternity			Non-Fraternity		
	<i>M</i>	<i>SD</i>	<i>Std. Error</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
Male	37.11***	8.28	.77	33.60	13.95	.59
Female	40.39*	10.29	.90	37.82	15.19	.48
All	38.85***	9.52	.61	36.31	14.89	.37

Note. M = Mean. SD = Standard Deviation. Std. Error = Standard Error Mean.

***Indicates difference is significant at the $p < .001$.

*Indicates difference is significant at the $p < .05$

Table 7*Independent Samples Test Comparing PBS Use of Greek and Non-Greek Students*

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SumPBS	Equal variances assumed	38.508	.000	-2.585	1829	.010	-2.53133	.97942	-4.45223	-.61044
	Equal variances not assumed			-3.551	456.406	.000	-2.53133	.71294	-3.93238	-1.13028

Table 8*Independent Samples Test Comparing PBS Use of Greek and Non-Greek Female Students*

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SumPBS	Equal variances assumed	19.018	.000	1.874	1147	.061	2.56993	1.37110	-.12021	5.26007
	Equal variances not assumed			2.520	208.751	.012	2.56993	1.01993	.55924	4.58063

Table 9*Independent Samples Test Comparing PBS Use of Greek and Non-Greek Male Students*

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
SumPBS	Equal variances assumed	18.194	.000	2.618	680	.009	3.51313	1.34183	.87850	6.14776
	Equal variances not assumed			3.632	269.064	.000	3.51313	.96720	1.60889	5.41737

Table 10*Individual PBS Use Among Male Greek and Non-Greek Students*

	Greek Male			Non-Greek Male		
	<i>M</i>	<i>SD</i>	<i>Std. Error</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
Abstain from drinking	2.18	1.07	.10	2.29	1.34	.06
Alternate alcoholic and non-alcoholic drinks	2.49	1.24	.11	2.30	1.55	.06
Have a drink limit set in advance	2.79	1.33	.12	2.42	1.64	.07
Drink with friends and acquaintances	4.47*	.91	.08	4.05	1.48	.06
Look out for friends who have drunk too much	4.22*	.96	.09	3.84	1.58	.07
Use the designated driver	4.02*	1.45	.13	3.47	1.94	.08
Be the designated driver	2.54	1.32	.12	2.27	1.51	.06
Eat before a night of drinking	3.94*	.97	.09	3.53	1.64	.07
Track drinks consumed	3.31	1.31	.12	3.23	1.74	.07
Have 1 or fewer drinks per hour	2.32	1.18	.11	2.15	1.46	.06
Abstain due to prescription medication warnings	2.76	1.86	.17	2.25	1.98	.08
Refrain from playing drinking games	1.84	1.14	.10	1.94	1.42	.06

Note. M = Mean. SD = Standard Deviation. Std. Error = Standard Error Mean.

*Indicates difference is significant at the $p < .002$.

Table 11*Independent Samples Test of Individual PBS Use Among Male Greek and Non-Greek Students Pt. 1*

		Levene's Test for Equality of Variances				t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Abstain from drinking	Equal variances assumed	9.498	.002	-.346	710	.730	-.04428	.12807	-.29573	.20717
	Equal variances not assumed			-.399	215.500	.690	-.04428	.11084	-.26274	.17418
Alternate alcoholic and non-alcoholic drinks	Equal variances assumed	12.143	.001	1.240	708	.215	.18373	.14818	-.10720	.47465
	Equal variances not assumed			1.432	215.700	.154	.18373	.12831	-.06918	.43663
Have a drink limit set in advance	Equal variances assumed	19.520	.000	2.339	707	.020	.36734	.15704	.05902	.67567
	Equal variances not assumed			2.684	213.900	.008	.36734	.13687	.09755	.63713
Drink with friends and acquaintances	Equal variances assumed	12.720	.000	3.037	708	.002	.41825	.13773	.14785	.68865
	Equal variances not assumed			4.115	281.332	.000	.41825	.10163	.21820	.61831
Look out for friends who have drank too much	Equal variances assumed	27.644	.000	2.572	709	.010	.37812	.14702	.08948	.66676
	Equal variances not assumed			3.496	287.334	.001	.37812	.10816	.16522	.59101
Use a designated driver	Equal variances assumed	44.337	.000	2.960	706	.003	.54430	.18389	.18327	.90533
	Equal variances not assumed			3.570	230.906	.000	.54430	.15247	.24389	.84472

Table 12*Independent Samples Test of Individual PBS Use Among Male Greek and Non-Greek Students Pt. 2*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Be the designated driver	Equal variances assumed	5.756	.017	1.839	707	.066	.26716	.14525	-.01802	.55235
	Equal variances not assumed			2.005	199.701	.046	.26716	.13325	.00440	.52992
Eat before a night of drinking	Equal variances assumed	43.109	.000	2.662	704	.008	.41009	.15405	.10764	.71254
	Equal variances not assumed			3.686	286.616	.000	.41009	.11126	.19110	.62908
Track drinks consumed	Equal variances assumed	16.278	.000	.486	707	.627	.08033	.16526	-.24414	.40480
	Equal variances not assumed			.583	225.532	.560	.08033	.13778	-.19117	.35183
Have 1 or fewer drinks per hour	Equal variances assumed	7.520	.006	1.225	709	.221	.17096	.13951	-.10293	.44486
	Equal variances not assumed			1.404	210.309	.162	.17096	.12177	-.06908	.41100
Abstain due to prescription medication warnings	Equal variances assumed	1.688	.194	2.606	703	.009	.50844	.19513	.12533	.89155
	Equal variances not assumed			2.716	183.152	.007	.50844	.18722	.13906	.87781
	Equal variances assumed	8.066	.005	-.734	709	.463	-.09996	.13610	-.36718	.16725

Refrain from playing drinking games	Equal variances not assumed	-0.845	211.687	.399	-.09996	.11825	-.33306	.13313
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Table 13*Individual PBS Use Among Female Greek and Non-Greek Students*

	Greek Female			Non-Greek Female		
	<i>M</i>	<i>SD</i>	<i>Std. Error</i>	<i>M</i>	<i>SD</i>	<i>Std. Error</i>
Abstain from drinking	2.40	1.08	.09	2.54	1.39	.04
Alternate alcoholic and non-alcoholic drinks	2.79	1.40	.12	2.67	1.63	.05
Have a drink limit set in advance	3.27	1.37	.12	2.96	1.78	.05
Drink with friends and acquaintances	4.51*	1.05	.09	4.18	1.54	.05
Look out for friends who have drank too much	4.59*	.91	.08	4.22	1.50	.05
Use the designated driver	4.31*	1.30	.11	3.82	1.85	.06
Be the designated driver	2.77	1.44	.12	2.63	1.59	.05
Eat before a night of drinking	3.91	1.21	.10	3.59	1.70	.05
Track drinks consumed	3.72	1.29	.11	3.53	1.75	.05
Have 1 or fewer drinks per hour	2.96	1.30	.11	2.78	1.67	.05
Abstain due to prescription medication warnings	3.12	1.81	.15	2.77	2.07	.06
Refrain from playing drinking games	2.22	1.29	.1	2.30	1.57	.05

Note. M = Mean. SD = Standard Deviation. Std. Error = Standard Error Mean.

*Indicates difference is significant at the $p < .002$.

Table 14*Independent Samples Test of Individual PBS Use Among Female Greek and Non-Greek Students Pt. 1*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Abstain from drinking	Equal variances assumed	14.752	.000	-1.132	1193	.258	-.13882	.12269	-.37952	.10188
	Equal variances not assumed			-1.372	201.497	.172	-.13882	.10117	-.33831	.06067
Alternate alcoholic and non-alcoholic drinks	Equal variances assumed	9.655	.002	.779	1189	.436	.11378	.14599	-.17265	.40021
	Equal variances not assumed			.877	185.746	.382	.11378	.12971	-.14211	.36967
Have a drink limit set in advance	Equal variances assumed	25.163	.000	1.971	1187	.049	.31095	.15779	.00137	.62052
	Equal variances not assumed			2.406	201.122	.017	.31095	.12921	.05616	.56573
Drink with friends and acquaintances	Equal variances assumed	15.910	.000	2.404	1190	.016	.32648	.13581	.06003	.59293
	Equal variances not assumed			3.200	217.053	.002	.32648	.10202	.12540	.52756
Look out for friends who have drank too much	Equal variances assumed	26.765	.000	2.803	1192	.005	.36537	.13034	.10964	.62109
	Equal variances not assumed			4.055	246.702	.000	.36537	.09010	.18790	.54283
Use a designated driver	Equal variances assumed	39.565	.000	3.008	1191	.003	.48979	.16284	.17031	.80928
	Equal variances not assumed			3.933	217.555	.000	.48979	.12453	.24435	.73523

Table 15

Independent Samples Test of Individual PBS Use Among Female Greek and Non-Greek Students Pt. 2

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Be the designated driver	Equal variances assumed	4.424	.036	.972	1192	.331	.13891	.14297	-.14159	.41941
	Equal variances not assumed			1.049	181.858	.295	.13891	.13240	-.12233	.40014
Eat before a night of drinking	Equal variances assumed	25.333	.000	2.229	1179	.026	.33350	.14964	.03991	.62710
	Equal variances not assumed			2.882	213.714	.004	.33350	.11570	.10543	.56157
Track drinks consumed	Equal variances assumed	22.811	.000	1.219	1188	.223	.18891	.15503	-.11525	.49308
	Equal variances not assumed			1.536	207.292	.126	.18891	.12299	-.05356	.43139
Have 1 or fewer drinks per hour	Equal variances assumed	28.486	.000	1.253	1191	.210	.18557	.14808	-.10495	.47609
	Equal variances not assumed			1.522	201.914	.130	.18557	.12193	-.05485	.42599
Abstain due to prescription medication warnings	Equal variances assumed	17.743	.000	1.895	1186	.058	.34986	.18459	-.01231	.71202
	Equal variances not assumed			2.094	186.979	.038	.34986	.16708	.02025	.67946
Refrain from playing drinking games	Equal variances assumed	13.741	.000	-.595	1188	.552	-.08299	.13955	-.35679	.19081
	Equal variances not assumed			-.690	194.113	.491	-.08299	.12035	-.32034	.15436