

**MAKING SENSE OF MODERATE:
STUDENT ATTITUDES ON DRINKING AND DRUG USE IN A COLLEGE ENVIRONMENT**

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ABSTRACT

College students have long been scrutinized for their excessive drinking and drug use behaviors, such as ‘binge drinking,’ or the consumption of four to five drinks in one occasion. What has been less researched, however, are student attitudes toward drinking and drug use on their campuses. Based on anonymous online surveys of 417 college students at the University of Michigan, this study seeks to understand how students define moderate and excessive drinking and drug use in a college environment. This study examined student use, the influence of peers and social norms on campus, and responses to vignettes about different drinking and drug use situations to measure students’ opinions toward certain behaviors. The results from this study suggest that perceived negative consequences for academics, safety, and social relationships may more strongly influence students’ perceptions and decisions about acceptable drinking and drug use than a focus on blood alcohol content (BAC) or health consequences as typically conveyed in public health messaging. Understanding how students define moderate and excessive drinking and drug use may assist in the development of more effective policies; current policies focus on the quantity consumed, which may not completely resonate with students’ concerns, especially those who drink heavily.

INTRODUCTION

Abundant research has been conducted on college students' alcohol and drug use, and the ways in which it can be reduced. Similarly, there is much research on adult alcohol abuse and drug addiction and how it can be stopped; however, few researchers have studied regular or normal consumption by adults or students. Instead, the focus is on problematic consumption. Christopher Freed's article, "In the Spirit of Selden Bacon: The Sociology of Drinking and Drug Problems," demonstrates that since the 1940s the literature on alcohol and drugs has been dominated by a problem and addiction focus (2010). This has persisted into the 21st century, especially in the realm of college student consumption of alcohol and other drugs. The problem-focus itself is problematic; it does not take into account student attitudes toward the drinking and drug use that occurs, which could include social norms.

One campaign against heavy drinking at the University of Michigan (UM) is a chart produced by the University Health Services (UHS) called "Stay in the Blue." The chart is designed to help students calculate their BAC based on their weight and number of drinks consumed. Each BAC level is assigned a different color: 0.00-0.06 is blue, 0.07-0.19 is maize, and everything 0.20 and higher is red; 'staying in the blue' means having a BAC of lower than 0.07. Unfortunately, this chart is not taken seriously by many students; it is often joked about, and some students even make a game out of the chart, to see if they can drink to a certain BAC and still function normally. It is apparent that this BAC-focused campaign is not effective in lowering rates of heavy drinking on campus; students that do drink heavily do not seem to care much about what their BAC is. Knowing about student attitudes toward this type of campaign is helpful in gauging its effectiveness, and demonstrates they are important to understand in order to actually decrease the high rates of heavy drinking on college campuses.

Literature on student attitudes toward alcohol and other drug use by their peers is sparse. There appears to be a consensus that the student peer group is the primary external influence in a college student's life (Durkin, Wolfe & Clarke 2005; Leppel 2006; Swanson, Zegers & Zwaska 2004). A small area of research studies social norms in relation to college students' use of alcohol and other drugs as a way to strengthen prevention programs and create new strategies (Rimal and Real 2003).

In order to better explain what student attitudes about drinking and drug use are in a college environment, I explore the following areas of research: the focus on student use as problematic, student attitudes, and social norms. Drawing on theory and findings from these different areas will help form a more comprehensive conceptual understanding of student consumption of alcohol and drugs that takes into account more than just student use patterns.

LITERATURE REVIEW

The Focus on Problematic Student Use

Most research on college students and alcohol and drugs is focused on quantifying how much students consume and detailing the negative consequences of consumption. The focus on quantification of alcohol consumption centers on the concept of 'binge' drinking, which was first defined by the United States Department of Health and Human Services (HHS) within the National Institute on Alcohol Abuse and Alcoholism (NIAAA) as "a pattern of drinking alcohol that brings blood alcohol concentration (BAC) to 0.08 gram-percent or above. For a typical adult, this pattern corresponds to consuming five or more drinks (male), or four or more drinks (female) in about 2 hours" (2006: 2). The definition of a drink (12 oz. beer, 4 oz. wine, 1.5 oz. hard liquor) is consistent across this literature. Multiple studies have found that approximately 40% of college students engage in binge drinking, and approximately 85% have consumed alcohol at some point (Johnston, O'Malley, Bachman, & Schulenberg 2009; Weschler & Nelson

2008). Additionally, the annual prevalence of college students using any illicit drug is found to be about 1 in 3 (Johnston et al. 2009).

Study after study documents the negative consequences of student alcohol and drug use. These include injury or accidents, poor academic performance, hangovers and sickness, encounters with law enforcement, and impulsive sexual behavior (Larimer, Kilmer & Lee 2005; Gillespie, Holt & Blackwell 2007), as well as the classification of these students as alcoholics or problem drinkers. According to the College Alcohol Survey, 1 in 3 college students qualify for an alcohol abuse diagnosis (Weschler & Nelson 2008).

It is true that students drink and use drugs, and that sometimes the consequences are serious. However, implicit in the scholarship above is the assumption that simply quantifying substance use and identifying consequences will contribute to a change in behavior. What this fails to acknowledge is that students may reject established definitions of their consumption as excessive and the consequences as always negative. For example, students may view drinking four or five drinks in a night as moderate rather than as a 'binge,' and consider it a good time.

To intervene effectively in student alcohol and drug use, it is important to understand more accurately student attitudes toward alcohol and drug use. This requires insight into student definitions of moderate and excessive alcohol and drug use. To do this we must set aside what researchers Brown and Horowitz (1993) refer to as the "deviance assumption" – that is, assuming all substance use is abuse. It is particularly important to question this assumption in regard to "binge drinking" by college students, as about 40% of students engage in the behavior (NIAAA), suggesting it is not exactly deviant from the college student population's behavior at large.

Sociologists famous for their insights into alternative subcultures provide a starting point for such an analysis. A renowned deviance theorist, Howard Becker, said of marijuana users that “use will ordinarily be begun...when some other way of viewing the practice is accepted by the individual” (1955: 42). By “some other way,” he was referring to a way other than the dominant view toward marijuana use which was, at the time, highly stigmatized and negative. Becker conducted a study of regular consumption of an illegal substance and found that users rationalized their use and did not think of it as harmful, but beneficial in some aspects. His research sheds light on the fact that subgroups may have attitudes which differ from those of the general population. In this case, college students may view drinking and drug use quite differently than University administration and public health officials. Studies show that college students who qualify as ‘binge’ or heavy drinkers according to public health measures often do not view their behavior as dangerous (Weschler & Nelson 2008; Shillington & Clapp 2006). If a student does not perceive their behavior as dangerous or excessive, they are not likely to change it when presented with messages about curbing use that do not resonate with their personal experience.

College students’ use of alcohol and other drugs is rarely studied as a regular part of college student culture, and instead as an epidemic or as deviant behavior. There is little to no literature regarding student attitudes toward drinking and drug use but a wealth of research on the negative consequences of heavy drinking. As a consequence, we know little about actual student definitions of moderate and excessive drinking and drug use, and social norms which could play a role in how students respond to campaigns against excessive drinking. I turn now to a review of this small literature.

Student Attitudes

Students form attitudes the way the rest of the population does – via socialization and experience. As they are in school with similarly-aged peers, their peers constitute the primary group defining social norms they follow (Durkin et al. 2005; Leppel 2006; Swanson et al. 2004). This next section discusses the literature detailing how peers and social norms influence attitudes about substance abuse, as well as how their own reactions and past experiences influence students' attitudes.

Peer influence and social norms

College is a unique atmosphere in which the most influential group in a student's life is likely their peers. When studying peer and parental influences on adolescent drinking, Robert Aseltine noted that the influence of parents is negligible when exposure to the peer group is controlled (1995). This suggests, given students in college are away from home, their attitudes will reflect those of their peers rather than those they have learned at home. Research on drinking and drug use has found that an individual's association with others who drink or use drugs is a reliable predictor of whether the individual does as well, and that these behaviors are learned in group settings (Durkin et al. 2005; Dunlap et al. 2005; Aseltine 1995). This is related to the popular theory of differential association, first described by Edwin Sutherland in 1947. He describes differential association as the process by which individuals forge relationships with others where they then learn a particular deviant or criminal behavior and how to regularly engage in it (1992). It is possible that differential association is at work when students interact on a college campus, especially with the younger students who have yet to learn about campus social life, including the drinking scene.

The concept of cultural relativism is also relevant to the discussion of peer influence and college students. Cultural relativism was first described by, but not formally defined by, anthropologist Franz Boas in the late 1800s and later developed by his students. Although it has been applied to many different subjects, including human rights, cultural relativism is defined as a general view that all beliefs are relative to an individual in a societal context; that behaviors and actions cannot be measured with a universal measuring stick (Boas 1948; Brown 2008). In the context of student alcohol and other drug use, cultural relativism tells us that students, especially those who drink heavily, may define ‘excessive’ drinking and drug use differently than the general population and academia would.

While perceptions of their peers’ behavior influence their own, these perceptions may not actually be very accurate. Students have a tendency to overestimate the amount that their peers drink and use drugs (Durkin, Wolfe & Clarke 2005; Leppel 2006; Aseltine 1995). This could be due to the false consensus effect, which is described as a type of social projection where people inaccurately assume others’ behavior is counter-normative like their own (Ross, Greene, & House 1977). This would mean students believe a majority of their peers, including themselves, engage in similar drinking and drug use patterns. They also seem to underestimate the amount of support their peers have for alcohol control policies (Lavigne, Francione, Wood, LaForge & DeJong 2008; DeJong, Towvim & Schneider 2007). These findings suggest that regardless of the accuracy with which students understand their peers’ behaviors, peers play an important role in student attitudes, particularly in the realm of alcohol and other drug use.

Social norms are strongly related to, and often feed back into, peer influence. Studies have shown that the most effective tool in lowering the rates of underage drinking and quantities drunk by students is by using social norms to change students’ perception of their peers’

behavior (Swanson et al. 2004; Kelley, Fukushima, Spivak & Payne 2009; Rimal & Real 2003). One study in particular looked at descriptive versus injunctive norms. Descriptive norms are an individual's perception about the prevalence of a behavior, and injunctive norms are the pressures on the individual to engage in that behavior (Rimal & Real 2003). Distinguishing between those two allowed the researchers to see that descriptive norms did not always align with individual behavior, and the injunctive norms on a campus may pressure students to drink. This supports the idea that students overestimate use by their peers, and also shows that students may feel pressure to drink and use drugs, highlighting the power of the peer group in a college student's life.

A 1962 study on the internalization of moral norms by David Shaw and Ernest Campbell found that internalization of norms is a reliable predictor of an individual's response to deviance although not a good predictor of deviant behavior itself. Although the study is older, they touch on a valuable aspect of norms and their operation in society: a person may react differently to deviance based on the norms they accept and follow. In this study, that means that students may have varying opinions about others' behavior depending on their own personal behaviors. This is why it is essential to know about student use patterns; in addition to identifying groups that drink heavily, they can help predict students' attitudes toward their own and others' use. Also, this study reinforces the notion that students who drink heavily may not view their use as problematic.

Clearly, social norms play a very important role in the lives of all human beings, and perhaps even more so in the realm of student alcohol and other drug use. In her study on college binge drinking, Karen Leppel says that when binge drinking is viewed as mainstream behavior, it is likely to increase across a college community (2006: 524). If what policy-makers consider to

be binge drinking – four to five drinks in one occasion – is considered to be an ‘average’ amount for a given night of partying amongst college students, campaigns against binge drinking using this definition are not likely to be effective and can become meaningless to students because their definition of heavy drinking is quite different. It is, therefore, necessary to approach student attitudes by understanding social norms and the role peers play on a campus.

Reaction formation on the basis of experience and consequences

The other contributor to student attitudes is the experiences they have had and how those experiences shape their perceptions of moderate alcohol and other drug use. This not only relates to the extent of student use, but to how students define their use and others’ as moderate or excessive. Students have opinions about the behavior of others’ alcohol and drug use, which probably vary given any situation and student; they probably also vary based on the perceived consequences of their actions, or consequences encountered in the past.

A qualitative study led by Jodi Dworkin in 1995 found that many students did not define behavior such as excessive drinking or drug use as dangerous or risky, and did not regret many of their experiences because they learned from them, even when they were negative. She also found that students often overlooked negative consequences in favor of the possible benefits to a particular behavior. This is particularly relevant in the area of alcohol and drug use amongst students, as they seek out fun and also to learn from experiences they had made. Students’ past experiences or the experiences of their friends can play a role in how students make decisions about what is acceptable alcohol and other drug use.

RESEARCH QUESTION

I am interested in understanding what college students’ attitudes are regarding ‘moderate’ and ‘excessive’ drinking and drug use in a college environment: do they have structured

definitions and boundaries? I define a college environment as one where a student is living near campus and not with their parents, but not necessarily in a residence hall. I want to know students' definitions of acceptable behavior, and if these vary amongst students or if they are agreed upon by all. And, if they do differ, which students are holding themselves to different standards than the rest of their peers? This can help define the norms that govern the student population and see if they are contested by different groups of students.

HYPOTHESIS

I hypothesized that students' attitudes are complex and draw on both their personal experiences and their peers' behavior, perceived or actual. Understanding student attitudes is essential to identifying norms about what is moderate and excessive, which in turn can structure better campaigns against heavy drinking. I assume that students are generally unaffected by campaigns that target the amounts consumed, and that the supposed benefits of drinking and going out often outweigh perceived or actual health consequences. These attitudes toward drinking and drug use may be more heavily influenced by consequences in other areas, such as social relationships, which may hold more weight in the life of a college student, where the peer group is the strongest influence (Durkin et al. 2005; Leppel 2006; Swanson et al. 2004).

DATA AND METHODS

In order to understand student definitions of moderate and excessive drinking and drug use in a college setting, I explored factors that surround student decision making and attitudes in college. Personal use of alcohol and other drugs is one of the factors shaping how students perceive use of these substances, but other factors, such as social norms, influence of peers, and personal experiences contribute to their understanding of what moderation or excess is in the context of drinking and drug use.

The population of interest in this study is all undergraduate college students at the University of Michigan. Obtaining a representative sample of this population was not possible given the resources at my disposal. Nevertheless, I sought out a large sample size in order to compensate, and used an anonymous survey for this study. However, because this study used an anonymous, online survey, students may have been less willing to take the time to complete the survey, particularly as I could not offer compensation. Interviews were considered, but given the sensitivity of the topic and my interest in broad patterns, a survey was the best method to capture the most information from as many respondents as possible. Interviews would have allowed for more in-depth data collection, but I would have been limited to a small selection of the student body that would probably not be as representative as the sample collected for the survey.

The sample for this study was 417 undergraduate students at the University of Michigan (UM), collected between October 3 and November 20, 2011. The survey was sent to a sample of 5000 students, of which 8.36% responded to the survey. I did not directly contact students; rather, they were randomly selected and sent an email from the Office of the Registrar. Respondents were sent another email one week after the initial email to remind them to participate in the survey (Recruitment Emails: Appendix A).

Survey Instrument

This study used an anonymous survey (Appendix B) which took respondents about 15-20 minutes to complete on average. The survey was organized into three different sections: questions on the extent of the respondent's own alcohol and other drug use, a section that asked about peer influence and social norms, and a series of short vignettes coupled with multiple choice and optional open-ended questions that could be used to assess student opinions of various fictitious students' behavior.

I made the survey using Qualtrics survey software made available free of charge by the University of Michigan. In order to take the survey, the respondent had to have a University of Michigan unickname (username) and Kerberos password. By placing the link to the survey on a website that required a valid log-in and password, respondents did not have to actually place their e-mail address in the survey, but were required to have one to access it. In order to take the survey, the respondent was screened with two questions; one that asked for age and another that asked if they are an undergraduate at the University of Michigan. Any respondents that gave an age below 18 years or answered that they were not an undergraduate student were taken to the end of the survey immediately. This minimized the possibility that minors and students from other schools or graduate students could take the survey.

Extent of Use

The first substantive section of the survey focuses on student use of alcohol and other drugs. Questions about use were similar to those used in the Monitoring the Future study (Johnston et al. 2009) – use at college overall, use in the past year, and use in the past thirty days. For this section, I divided drugs into three categories –marijuana only, other drugs only, and marijuana and other drugs. Studies have shown (Mustaine & Tewksbury 2004; Shillington & Clapp 2006) that there are differences in behaviors and attitudes for people that use marijuana only as opposed to those using other drugs as well.

If a respondent answered that they have never used alcohol or other drugs at the University of Michigan, they were skipped past the rest of the questions that asked about use. Students that have used any of these substances were asked if their consumption of alcohol or other drugs at U of M was the first instance ever. They then answered the questions regarding use in the past year and 30 days, in addition to a few regarding weekly use. These questions

asked about use of alcohol and use of marijuana or drugs other than marijuana in the previous week.

The weekly use alcohol questions asked both about the actual number of drinks consumed at last use and the number of days a student drank the previous week. I have, in the past, heard negative feedback from students on using the average number of drinks consumed as a measure of how much one drinks. Studies define “binge drinking” as four or more drinks in a row (Johnston et al. 2009), but many students drink this much on average in one occasion, if not more. They may have resentful attitudes toward the established definitions of excessive drinking because they perceive their drinking patterns as normal. Due to this, they may understate the number of drinks consumed on average, but not how many they consumed at last use. Asking about their consumption at last use does not provide a good average for the individual, but a reliable aggregate for the sample population as a whole, which were the broader trends I was interested in. Also, students are more likely to remember how many drinks they had on the last occasion than an average that would not necessarily match up with their actual behavior. There was also a question asking the student for how many hours they drank on the last occasion they drank. Along with their height and weight, which was collected at the end of the survey, this information about how long their drinking spell lasted can be used to assess actual intoxication levels for students. An additional question about how the student perceives themselves as a drinker followed this section, allowing them to classify themselves as light, moderate, or heavy drinkers. This allowed me to compare students’ actual use the last time they drank to what they consider to be moderate or heavy.

For measuring frequency of weekly drug use, I merely used ‘times,’ or instances. For example, in the question about how many times one used marijuana the previous week, the

options were zero, one to two times, three to four times, five to six times, seven to eight times, and nine or more times. A zero option is helpful because some students may use marijuana or other drugs less frequently than once in any week. These intervals were sufficient in detecting differences in drug using behavior by students. In addition, there was a question that allowed the student to define themselves as infrequent, occasional, or regular users of marijuana.

The last section studying student use was the “Stay in the Blue” chart adapted from University of Michigan’s Health Services (UHS) website (Figure 1: Appendix C). The chart describes different levels of blood alcohol concentration (BAC) given student weight and amount of alcohol consumed and the physical effects at each BAC level. Respondents were asked to indicate if they agreed with the chart’s description of their personal experience on the last occasion they drank. This question measured whether students agree or disagree with the University’s index of student consumption levels and expected physical correlates (sensations and symptoms, cognitive or movement problems, potential health consequences). These opinions could then be tabled with their actual, calculated BAC based on the number of drinks and time spent drinking on their last occasion.

Peer Influence and Social Norms

Peer influence and social norms are much less straightforward to study than asking how much alcohol and other drugs students have used over a given period. One way to do so is by asking about a certain behavior – such as going out to drink on a Thursday night, for example – and then asking the respondent if this behavior is acceptable for them to do, for their close friends to do, and for their peers at large to do. ‘Peers at large’ refers to students they may not necessarily be acquainted with: the general student population. Students were given that definition in each question (see Survey: Appendix B). I posed these questions with a scale of

possible responses: strongly disagree, disagree, somewhat disagree, somewhat agree, agree, and strongly agree. I removed 'neither agree nor disagree' from the typical Likert scale options, but I did not want to discourage students from answering the question altogether or goad them into skipping it; so I added 'somewhat agree' and 'somewhat disagree' to the list of typical options. I attempted to replicate some findings of DeJong and his colleagues in their study about college students' attitudes toward new alcohol policies on campus (2007). They asked students if they and their peers supported specific policy recommendations and found that students underestimated the percentage of their peers that would support the policies (given their own numbers of support). By asking students about whether or not their peers should engage in certain behaviors, I hoped to see the same type of effect, where students find behaviors acceptable for their peers although they do not personally engage in them.

Another way that I tested social norms is by varying the location in which the focal behaviors I was asking respondents about were to be performed. A study of drug use in different social settings found that the setting in which drug use occurred changed the norms regarding the behavior (Dunlap et al. 2006). That is to say, the range of acceptable behaviors varied by the actual setting in which the drug use was taking place. Similarly, students could have different opinions about moderation given the setting in which drinking or drug use is occurring. So, with each of the statements given to the students – such as the example given previously, “going out to drink on a Thursday night is acceptable,” – there was another set of answers they could give in addition to whether it is acceptable for their close friends or peers. I used a set of common locations for drinking below the statement where the respondents could check off multiple locations. These locations include: bar, house, apartment, fraternity, casual dinner, and other – write in. When students denote that a certain setting is acceptable for a type of behavior, they are

giving insight to how social norms about acceptable substance use vary depending on the location in which they are performed, which in turn helps clarify how they define what is moderate drinking in a college setting.

Vignettes

I used a series of vignettes to gauge student opinions about acceptable behavior for fictitious students. These vignettes bring more depth to the statements in the previous section by giving character to the persons involved and allowing students to make judgments of the situations given based on their specific behavior and actions. Vignettes were followed by multiple choice questions that asked if the student thought that the behavior was problematic. There was also an open-ended essay box following each question so students could comment on the vignette if they wanted to expand or justify their answer. In this case, I looked for language that intimated whether or not the student approved or disapproved of the actions taken by the character in the vignette and why.

The vignettes were structured as stories in which fictitious students were involved in a situation where drinking and/or drug use occurs and consequences follow. The respondent was asked for their opinions about the behavior of the fictional student. The use of vignettes does run the risk of nonresponse from students due to their nature – students had to take the time to read each vignette and answer the questions. I hoped to minimize this risk by using simple Yes/No questions in the follow-up, and making the open-ended response optional.

Demographics

The last section in the survey collected demographic information. Students were asked about their gender and race/ethnicity, height, weight, academic class standing, current cumulative GPA, Greek life status, parents' level of education, intended highest level of

education, the religion in which they were raised, and their parents' or guardians' yearly income. These questions highlight some key differences among students, specifically their Greek life status; research has shown students in fraternities and sororities have significantly higher alcohol use rates than other students (Fairlie, Dejong, Stevenson, Lavigne & Wood). In knowing their height, weight, and how much they drank and for how long at their last use, I can calculate their actual intoxication levels, which can be used to compare to the BAC chart from the University Health Services. This helps compare how students view their intoxication to how the University views it.

Resources

Due to the sensitive nature of the survey, I supplied various links to on-campus resources at the University of Michigan for students seeking assistance with drinking or drug problems or other psychological trauma incurred by taking the survey. The chances of this happening were very low, but it was still important to give the students access to this information. There was also a link to the U of M Alcohol and Other Drugs policy, so students could educate themselves on the policies of the university if they wished.

Analytic Strategy

The data from this study was analyzed primarily in Microsoft Excel with the use of PivotTables to create cross tabulations. The cross tabulations were useful for comparing responses across the different sections in the survey. While a multivariate analysis using statistical software was considered, the data are very descriptive and broad, and an analysis of that nature would not have added substantially to the descriptive patterns reported here.

RESULTS

The respondents were 88% white and 65% female. The average age of the respondents was 19.8 years old and 72.3% of students reported a grade point average higher than 3.3 (see descriptive statistics, Table 1: Appendix C). Nearly 14% of students were in a fraternity or sorority, which is lower than the University's reported 17.1% of the undergraduate population (UM Office of Greek Life 2011).

Extent of Use

When asked about their drinking and drug use habits, 85% of students reported drinking alcohol since they have been at UM, and 15% of those students reported their alcohol use at UM as their first time drinking alcohol. As for drug use, 43% reported having tried marijuana or other drugs since having been at UM, of which 38% said it was their first time using. The prevalence rates are somewhat consistent or higher than the longitudinal Monitoring the Future (MTF) study (Johnston, O'Malley, Bachman, & Schulenberg 2011). Nearly 90% of students that drank reported using alcohol in the last year, whereas only 78.6% reported this in MTF. However, marijuana use rates were similar: my study found 27.5% of students reporting marijuana use in the last year, whereas MTF found 32.7%. As for the 30-day prevalence rates, 65% of their sample reported having consumed alcohol and 83.3% of mine did. On drugs and 30-day prevalence, 23.4% used marijuana in the last month in my study, but MTF found only 17.5% (see comparison in Table 2: Appendix C).

Use was broken down into weekly consumption after finding the long-term prevalence rates. These data provide more micro-level analysis, including students' own perception of how drunk they were their last occasion drinking. Fifty-six percent of students reported having had four or more drinks on the last occasion they drank. Broken out by sex, nearly two-thirds of

males reported having four or more drinks, whereas only 52.6% of females did, showing males drank greater amounts of alcohol than females. When I compared students in fraternities and sororities (Greek) to the other students, I found that 40.8% of Greek students reported having had six or more drinks on their last occasion drinking, whereas only 28.1% of non-Greek students reported this. Nearly 47% of the Greek respondents reported going out to drink three to four days a week, compared to 17.3% of non-Greek students. It is clear here that, as in other studies, Greek students tend to drink greater amounts of alcohol more frequently than their non-Greek counterparts.

Daily use rates in my study were comparable to the MTF study's rates. Less than 4% of students that drank reported drinking daily, and 4.4% reported smoking marijuana on a daily basis in the MTF study. In my study, I did not ask if students drank daily or not; rather, I asked them how many days they went out to drink the previous week, of which 51% reported going out one to two days. For drugs, I simply asked students how many times the last week they had used marijuana or other drugs. Over 77% reported not having used marijuana at all, and only 4.7% reported at least daily usage, which is consistent with the MTF study findings. Since the survey was active for over a month, I hoped to collect data that would provide a reliable pattern of student drinking and drug use behavior on campus. However, their drinking habits may have been overestimated because the survey was fielded during football season – when many students will often go out to drink at least once a week, likely the Saturday of a football game. Given that my rates are relatively close to the MTF study's rates, I feel that they were not influenced greatly by unusual circumstances.

After asking students about their personal rates of alcohol and drug use, I asked them what type of drinker and drug user they consider themselves. Giving them the option to assign

themselves to an unbounded and ambiguous category allows me to compare their actual drinking patterns to how they believe this relates to their consumption patterns. The options for the type of drinker were “light,” “moderate,” and “heavy.” Only 6.2% of drinkers defined themselves as ‘heavy’ drinkers and a nearly equal amount of students reported they were either ‘light’ or ‘moderate’ drinkers – 46.6% and 47% respectively (see Figure 2: Appendix C). The difference between the light and moderate drinkers is that light drinkers do not go out as frequently as moderate drinkers, even if they may drink as much as the moderate drinkers on occasion: 90% of light drinkers went out only one to two times the previous week, compared to 65% of moderate drinkers – of whom another 30% went out three to four days the previous week. Also, only 29.5% of the light drinkers had four or more drinks during their last drinking occasion, whereas 77.6% of the moderate drinkers had at least four drinks (Figures 3 and 6: Appendix C). This demonstrates that those who define themselves as light drinkers drink less frequently and have few drinks than their moderate-drinking peers. The definition of a moderate drinker according to students, then, is one who goes out at least once a week and typically has at least four drinks – which is also the amount considered a ‘binge,’ suggesting that students do not consider four drinks excessive in any way; rather, it is a normal, or moderate amount of alcohol.

Students were also asked to define what type of marijuana user they identified as. The options were ‘infrequent,’ ‘occasional,’ and ‘regular.’ 13% of students did not respond to the question, and I am left to assume that they do not consider themselves any type of marijuana user (see Figures 4 and 5: Appendix C). Sixty-five percent said they were infrequent users, 93% of whom had not used marijuana at all the previous week. Of the 12% of students identifying as ‘occasional’ users, 65% had used marijuana at least once the previous week. Only 10% of students identified as regular users. This tells us that although students have a monthly marijuana

use prevalence rate of 23.4%, the majority are not using marijuana on a regular basis. There were very clear boundaries for who was an infrequent, occasional, or regular user. As seen in figure 5 of Appendix C, the infrequent users never used marijuana more than twice in the previous week (most of them did not use at all) and the occasional users did not engage in daily use, whereas the regular users often did.

Student responses to the UHS Stay in the Blue chart were mixed. For the most part, students agreed with the chart's interpretations of their BAC (65.6%, including those who somewhat agreed, agreed, and strongly agreed). Students that identified themselves as 'light' drinkers had a tendency to agree with the chart more than their moderate- or heavy-drinking counterparts (78% compared to 54% and 42%, respectively). By calculating each student's BAC, we can see if their actual BAC had anything to do with how they interpreted the chart.

The calculation of students' blood alcohol concentration (BAC) was done using the Widmark equation (1981). This equation is as follows:

$$N = \frac{Wr * (BAC + \beta t)}{0.8z}$$

where:

N = number of drinks consumed

W = weight in oz.

r = volume of distribution of water in the body (.55 females, .68 males)

BAC = blood alcohol concentration

β = alcohol elimination rate (.00015 kg/100 ml/hr)

t = hours since first drink

0.8 = density of ethanol

z = ounces of alcohol per drink (varies for beer/wine, liquor)

The equation had to then be re-worked so that I could calculate for BAC instead of number of drinks:

$$BAC = \left(\frac{(Nz) * 0.8}{Wr} \right) - \beta t$$

After calculating the BAC for each of the students, I compared the formula's results to the BACs reported from the "Stay in the Blue" charts created by University Health Services (UHS) (Figure 1: Appendix C). Because students used the BAC chart as a reference for their last occasion drinking, it was necessary that the BACs I calculated matched with those on the chart. I had to calculate two different BACs per student, one for beer and wine and one for liquor. Due to the higher percent alcohol by volume in liquor, the calculation of BAC using liquor returns a higher value than that for beer or wine, both of which have less ounces of alcohol per drink than a shot (1.5 oz) of liquor. Interestingly, I found that the BACs calculated using the liquor measure were more consistent with the Stay in the Blue BACs than when BAC was calculated using values for beer or wine. This suggests that the UHS "Stay in the Blue" campaign uses the highest possible values for alcohol content in the calculation of BAC on the chart.

Students that disagreed with the chart's interpretation of their behavior on their last occasion of drinking tended to have higher BACs than the students that agreed with the chart, supporting my suspicions at the outset of the study. Over 47% of the students that strongly disagreed with the chart had BACs of 0.16 - 0.29, which, according to the Stay in the Blue chart, is dangerously high. Of the students that strongly agreed with the chart, *all* had a BAC that was "in the blue," or 0.06 or less (see Figures 7 and 8: Appendix C). In addition to being asked if they agreed or disagreed with the chart's interpretation, students were also asked to explain why. These responses about their agreement with the chart were coded for different reasons according to the scheme in Table 3 (Appendix C).

Given this information on the calculated BACs, we can see *why* students agree or disagree with the BAC chart. Of the students that cited 'not my experience' as a reason for their opinion of the chart, 87.5% of them disagreed with the chart's interpretation; on the other end,

95.1% of the students that said the chart represented their experience ('my experience') agreed with the chart's interpretation. At first this seemed obvious and straightforward, but in introducing student BAC as a variable, there is a very clear trend: students reporting higher BACs tend to disagree with the chart more than students reporting low BACs. Of the students that disagreed with the chart and cited that it did not represent their experience, nearly 60% had a BAC higher than 0.13. The same occurred with the 'exaggerated/extreme' reasoning: students tended to cite that reason more often if the BAC I calculated for their last occasion drinking was higher. Upon examining more closely the explanations students gave, I found many had taken issue with the 'maize' section of the Stay in the Blue chart, which is between 0.07 and 0.19. In particular, the description of behavior in the 0.13-0.15 range was criticized: "Blurred vision, anxiety, severely impaired coordination & judgment. Could blackout or pee your pants" (UHS). When I examined the responses of students that were in the 'red' area (0.20 - 0.35), I found that 40% of 'red' students cited 'not my experience' and 'exaggerated/extreme,' but 35% of the students in the 'red' also agreed with the chart's interpretation – however, none 'strongly agreed.'

The extent of use section yielded interesting results about student behavior. An item worth noting is the role of age in these data. I had assumed that the underclassmen and 18-19 year olds would drink more frequently and drink more at once than upperclassmen, but the data show that more seniors go out to drink 3-4 days a week than freshman students (24% vs. 14%). Even more interesting is that 30% of freshman did not report going out at all the previous week, compared to only 3% of senior undergraduates. This is most likely due to the fact that seniors are older and are therefore of legal drinking age, whereas most freshmen are not.

While these data have given a solid insight to student drinking and drug use patterns, they have yet to tell us everything about their attitudes. The analysis of the sections on statements and vignettes will prove more useful in that area.

Peer Influence Statements

Respondents' judgments of statements about different behaviors were consistent with expectations from the literature. Students would deem some behaviors that were not acceptable for them as acceptable for their peers at large. For example, the first statement is "Having 4-5 drinks in one night is acceptable: for me, for my close friends, for my peers at large." Sixteen percent of the students that responded to this question strongly disagreed that 4-5 drinks was okay for them, but this percentage decreased to 4% for the peers at large group. The next statement increased the drink amount to six to ten. In this case, the percentage of students that strongly disagreed it was okay decreased from 35% "for me" to 20% for "peers at large" (Figure 9: Appendix C). In regards to marijuana use, 55% of students disagreed at all (strongly, disagree, somewhat) that it was acceptable for them, but only 35% disagreed for their peers at large (Figure 10: Appendix C). Even in regards to more severe behaviors this phenomenon continued, such as with blacking out: the percentage of students strongly disagreeing varied from 71% (for themselves) to 52% (for their peers). This indicates that students are either reluctant to pass judgment on their peers or assume that their peers engage in excessive behavior more frequently than they do.

Students' responses about where certain behaviors were acceptable were interesting but not terribly surprising. Students generally thought that having four to five drinks was acceptable at bars, house parties, apartment parties, and fraternity parties, but not at casual dinners. A majority also said consuming six to ten drinks was acceptable at house parties and fraternity

parties, but not at bars or apartment parties, and certainly not at casual dinners (Figure 11: Appendix C). As for behaviors such as blacking out, vomiting, urinating in public, and fighting, they were considered generally unacceptable in all locations by a majority of students. However, there seemed to be most acceptance in the house and fraternity party environments, suggesting that these more dangerous behaviors occur more frequently in those locations (Figure 12: Appendix C).

When the responses to the statements are compared with the data on student extent of use, some interesting trends appear. Of the students that agreed at all (i.e. they strongly agreed, agreed, or somewhat agreed) that four to five drinks was an acceptable amount for themselves in one night, 30.7% of them had four to five drinks during their last occasion of drinking; 68.9% had more than four. However, only 60.5% of the students that agreed it was acceptable for their peers consumed more than four drinks the last time they drank. This suggests that students that do not drink, or drink in smaller quantities, agreed that while the behavior was not acceptable for them, it was still acceptable for their peers. This is supported by the tabulation of the 'DrinkerType' variable with the statements. Students that self-identified as light drinkers experienced more shift in opinion than their moderate- and heavy-drinking counterparts (see Figures 13, 14, and 15: Appendix C). This means that light drinkers increase the amount they agree with the statements about a behavior being okay as they move from items asking in reference to 'me' to 'my peers at large.' This appeared in both the statements regarding the appropriateness of drinking both four to five drinks and six to ten drinks in a row. The difference in responses for 'me' versus 'my peers at large' were not as large for the moderate and heavy drinker categories. This suggests that moderate and heavy drinkers consider these behaviors acceptable for both themselves and their peers at large, whereas light drinkers do not; in this

study, that means that there are different norms for different groups of students, depending on their own personal use of alcohol and other drugs.

Vignettes

The situational vignettes yielded a great deal of information about student opinions. Students were given a short story involving one or more students who face some consequence as a result of their drinking or drug use. Students were asked if they thought the behavior was a problem, and then another one or two questions related to the vignette.

The first vignette was about two students, Joe and Sam:

“Joe is a junior in the college of LS&A, majoring in Psychology. He and his friend Sam decide to go out on Thursday night even though they have an exam in Psych 111 the next morning (Friday). At the house party they go to, Joe and Sam drink the same amount they usually do – about 8-9 beers throughout the night – but the next morning, Joe doesn’t wake up in time for the exam and misses it. Sam makes it to the exam and gets a B.”

Students were then asked to answer two questions: whether they thought either Joe and/or Sam has a problem with alcohol, and whether they think they should have stayed in instead of going out. Half of the students believed that both Joe and Sam had a problem with alcohol, and one-third said neither did. However, in each of these groups, nearly all respondents thought both Joe and Sam should have stayed in (96.2% vs. 90.2% respectively). Of *all* students that answered these questions, 90.7% said both Joe and Sam should have stayed in. Of the group of students that thought only Joe should have stayed in, two-thirds said only Joe had a problem with alcohol. This suggests that perhaps students view the consequences of a person’s actions a reason for a problem diagnosis.

Like the questions regarding the Stay in the Blue chart, students were encouraged to explain the reasoning behind their choices. These responses were coded in a manner similar to the responses regarding the chart (Table 4: Appendix C). Students were highly opinionated

regarding their views of the fictional Joe and Sam's behavior. In particular, there were very strong opinions about how students should not drink the night before an exam – this appeared to be a widely shared norm. The other most frequently appearing reasons were 'responsibility/commitment' and 'stupid,' suggesting that students, even if they do not believe Joe or Sam has a drinking problem, have defined boundaries for what type of behavior is appropriate or inappropriate.

The second vignette was about two girls, Brittany and Kim:

“Kim is a senior, majoring in Brain Behavior and Cognitive Sciences. For some reason, she can go out every Thursday, Friday, and Saturday (sometimes even more) and still gets straight As. One night, she goes out to the bars and takes a friend with her who has never been out dancing. Brittany tries to keep up with Kim, but cannot take five shots within an hour and ends up in the bathroom vomiting most of the night. Kim leaves the bar with other friends. Brittany gets kicked out of the bar, but can't find Kim anywhere. She calls a cab and goes home.”

Students were then asked if either Brittany and/or Kim had a problem with alcohol, and then if they thought Kim should drink less. Over 30% of students said neither girl had a problem with alcohol, and over half of those students cited 'function' as a reason (coding scheme in Table 5 of Appendix C). This suggests that students view heavy drinking as acceptable as long as commitments and responsibilities are fulfilled. Ninety-one percent of the students that thought neither girl had a problem also thought four to five drinks in one night was acceptable for their peers, compared to only 59.8% of students that thought both girls had a problem with alcohol (23.6%). Nearly 40% of students thought Kim had a problem with alcohol, but this was likely influenced by the nature of the vignette; nearly 60% of students that said Kim had a problem with alcohol also wrote in the qualitative section that she was a bad friend. This suggests that students attach importance to personal relationships and feel that drinking should not interfere with them.

In regards to the question of whether Kim should drink less, three-fourths of the sample said yes, citing that it was too much to drink and unhealthy. Of the students that specifically wrote in that Kim drank too much, over 60% agreed that 4-5 drinks was an acceptable amount for themselves to drink. A similar percentage (61.4%) that thought 4-5 drinks was acceptable for them also cited that Kim's drinking was unhealthy. This suggests that students make judgments based on more than just their personal use, and take other factors into consideration.

The third vignette focused on marijuana use of a student named Jason:

“Jason is a sophomore in the School of Engineering. Since high school, he's always been really smart and he's one of those guys that just doesn't study and manages to get by. His first year in college, he got mostly As and some Bs and since then has begun smoking marijuana on almost a daily basis. He says that it doesn't affect him and he can still do work when he's high, but he doesn't get as many As as he used to in his courses.”

Students were asked if they thought Jason had a problem with marijuana, and then if they thought Jason should stop smoking. Seventy-eight percent of students said Jason had a problem with marijuana; of these students, 63% had never tried marijuana or other drugs. Of the students that said Jason did not have a problem with marijuana (22%), 62% had tried both marijuana and other drugs. This tells us that student opinions differed depending on their personal use. The students that said Jason had a problem with marijuana cited the reasons ‘drugbad,’ ‘grades,’ ‘too much,’ and ‘unhealthy’ most frequently (coding scheme in Table 6 of Appendix C).

Interestingly, of the students that said drugs were bad, 85% had never tried any drugs since having been at UM. When compared against their self-identified marijuana user type, we can see that over 60% of the ‘regular’ users said Jason did not have a problem, as compared to less than one-quarter of their infrequent and occasionally using counterparts. The statements regarding marijuana use, when cross tabulated with the responses to this vignette question, show that students that said Jason did not have a problem agreed on a large scale that marijuana smoking

was acceptable for their peers to do, but not every day (95% vs. 48.8%). These data suggest that students that found the behavior acceptable for their peers were less likely to say Jason had a problem.

In regards to the question of whether Jason should stop smoking, 91.2% of students said yes. This was pretty straightforward; nearly all these students cited ‘grades’ and ‘too much’ as reasons, though some suggested he should merely smoke less, but not stop altogether.

The fourth vignette was about three freshman girls living in the Mary Markley residence hall:

“Katie, Mary, and Jessie are three freshman in their first semester of college. They met on their residence hall floor in Markley, and have made it a routine to go out together every Friday night. Typically, they go to fraternity parties, but sometimes they stay in their dorm rooms and drink. One Friday, they stay in and buy a fifth of vodka, finishing the entire bottle. At the end of the night, Jessie gets sick and on the way to the bathroom runs into the RA on duty. The RA calls the Department of Public Safety (DPS) officers and all three girls get Minor in Possession of alcohol charges (MIPs).”

Students were asked if one or all the girls had a problem with alcohol, and then if they think the girls should have stopped before finishing the bottle. Sixty-one percent of students said none of the girls had a problem with alcohol, overwhelmingly citing that they drank too much, and that it was a learning experience. Clearly the status of these girls as freshmen had an effect on how students judged their behavior. Also, of the students that said none of the girls had a problem, over 46% agreed on some level that six to ten drinks was an acceptable amount for their peers to drink in one night (there are 16.9 ‘drinks’ in a 750 ml bottle of spirits; 5.63 for each girl); this suggests that there is more going into their judgments than just their personal use or opinions regarding use, since only 35% of all students agreed that six to ten drinks was an acceptable amount for their peers to drink.

Interestingly, although it is a majority, only 85.6% of students said that the girls should have stopped before finishing the bottle. Most of these students cited ‘too much’ as the reason why, as well as the illegality of their actions, and that it was stupid (Table 7, Appendix C). They also, however, cite that the girls will learn from their mistakes, something that did not appear in any of the responses to the other vignettes. Again, as freshmen, I believe these girls were not scrutinized as much as their older, supposedly more experienced, vignette counterparts. This supports the findings of the 1995 study by Jodi Dworkin that suggested students did not regret experiences that they had learned from.

There was one last question for students, regarding whether students thought the actions of the RA on duty were appropriate. Nearly 63% of students thought so, citing the reasons that the RA was responsible for the girls, drinking in the dorms is bad, and that the girls were underage. Of the 36% that did not think the RA should have called DPS, most of them said the RA overreacted and should have dealt with it without the assistance of police. Interestingly, the fact that the girls were ticketed with Minor in Possession violations did not seem to generate a problem diagnosis by students, suggesting that legal implications did not play a significant role in this case.

The next vignette was about a girl named Ashley:

“Ashley is a sophomore in LS&A. She isn’t 21 yet, but she managed to purchase her older sister’s friend’s ID so she can go out to the bars and drink. The first night she goes to the bars, she gets older guys to pay for her drinks and begins getting intimate with them on the dance floor. Her friends don’t intervene, and she goes home with one of the guys. The next morning, she wakes up but doesn’t remember anything from the night before.”

Students were asked if they thought it was a problem that Ashley had purchased a fake ID and if it was a problem that she blacked out and did not remember anything. Responses were nearly split 50/50 over the ID question, but overwhelmingly, students thought it was a problem

that she blacked out (96.4%), citing that it was dangerous or risky and irresponsible (Table 8, Appendix C).

I had thought, with some bias, that older students would find the fact that Ashley got a fake ID problematic due to the fact that they are of legal drinking age and students purchasing fake IDs are not. However, I found something quite different: 63% of 18 year-olds said that it was a problem that she got a fake ID, as compared to only 51% of 21 year-olds. While this is not significant, it is worth noting. It is also interesting that 43% of 19 year-olds thought it was a problem, which is 20% less than the 18 year-old group. This suggests that perhaps student opinions change significantly from their first to second year in school.

The sixth vignette was about a student called John:

“John is a junior in LS&A. He wants to go out Saturday, but knows he has a lot of work to do on Sunday and must get up early. He decides to go out, but only drink a little and come back early. After 7 beers and three hours later, he is offered marijuana by some of his friends and decides to smoke with them. Shortly after, he goes home and manages to wake up at 1 in the afternoon the next day, which is much later than he would have liked to wake up.”

Students were asked whether or not they thought it was okay for John to smoke marijuana and if he should have stayed in. Forty-seven percent of students said it was okay for him to smoke; interestingly, seven of these students said alcohol was bad for you. Nearly 60% of respondents said John should have stayed in, and cited that he was irresponsible in staying out as late as he did, as well as a grades-related reason. Responses were generally mixed over this vignette, as there were no serious consequences: he did not fail anything, black out, or forget about a friend. Unlike the other vignettes, where there were clearer consequences, this one generated highly varied opinions.

The last vignette was about a student named Mike:

“Mike is a senior in the School of Kinesiology, graduating in a few months. One Saturday night, he is invited to a party being thrown by an acquaintance of his from a class. He goes with a few other friends and after having four or five beers needs to use the restroom. He opts to go to the backyard to relieve himself, and upon doing so is encountered by a drunk housemate of his acquaintance. Jake, the housemate, tells Mike that he’s disrespecting his property and he needs to leave, among other obscenities. Mike tells Jake to “take it easy”, and Jake punches him in the face. The ensuing fight draws a small crowd and Mike leaves with his friends.”

Students were asked whether they thought Mike should have used the restroom inside and if they thought it was okay that Jake punched him for not doing so. Over 80% of students said Mike should have used the restroom inside; of these, over 70% were female respondents. It is clear here that males have different opinions about urinating outside than females do. Over 94% of respondents did not think it was okay that Jake punched Mike, many citing the reason that fighting is bad in general and that the two men had had too much to drink (Table 10, Appendix C).

This vignette offered a look at two situations that were unexplored, but obviously generate a lot of student opinion. Students do not think fighting is acceptable in general, and according to the statement responses, the only place it is somewhat acceptable is at a fraternity house. This could be a means to discourage excessive drinking that leads to belligerent behavior; if most students are against fighting in general, perhaps a campaign that is against belligerency at parties would be more effective than an anti-binge drinking campaign.

Overall, the vignettes provided very detailed reasoning by students as to why certain behaviors and actions were appropriate or not. It was clear from the ones that dealt with academics that any actions that jeopardize grades or classes are generally unacceptable. Also, fighting and blacking out are generally viewed as unacceptable behaviors, particularly when they

occur as a result of consumption of alcohol. Across the vignettes that asked students to decide whether a behavior was a problem or not, respondents were varied – most students did not think the Markley girls had a problem, but most of them thought it was a problem that Ashley blacked out (Figure 16: Appendix C). There were also many respondents who thought Jason had a problem.

DISCUSSION

These data provided a unique insight to the student mind and the decision-making surrounding drinking and drug use on college campuses. The extent of use section of the survey helps to show how students' drinking and drug use behavior are associated with their attitudes. Specifically, it is important to note that there were clear cut-offs for what was or was not viewed as acceptable by students, generated by their responses in the extent of use section and the statements section. Also, the questions asking students to define themselves as a certain type of drinker or marijuana user provided a scale for what students consider to be 'moderate' drinking, and the reasoning that 'light' drinkers drink less frequently and less alcohol on a single occasion. Based on the undergraduate responses to this survey, a moderate drinker is one who goes out to drink at least once a week and usually has at least four drinks but no more than seven. Heavy drinkers, on the other hand, often go out more than twice a week and typically have no less than five drinks on any occasion. While they only made up six percent of the sample, these are clearly the 'excessive' drinkers on campus.

The reactions to the Stay in the Blue BAC chart provided the interesting observation that students with higher BACs tend to disagree with the chart more than students with low BACs. This is significant because, as the campaign against heavy drinking on campus, Stay in the Blue is supposed to be targeted to and for heavy drinkers – however, the heavy drinkers are the ones

that think the chart is wrong or inaccurate about their personal experiences. This makes that campaign ineffective for the heavy drinkers.

The statements regarding peer influence have demonstrated that students do lower their standards for appropriate or inappropriate behavior when it concerns their peers at large, and that this could be due to the false consensus effect. If students are deciding what is appropriate or not based on what they think their peers think is appropriate, they are going to overestimate how many of their peers engage in the behavior. When asked if four to five drinks was an acceptable amount for them to drink, only 16% of students strongly disagreed. This suggests that four to five drinks is, in general, okay for students to consume; however, the literature that exists in this field always highlights the dangers of consuming this amount of alcohol. In particular, it was the light drinkers that had a major shift in opinion when considering behaviors appropriate for themselves versus their peers – they were not subject to any false consensus effect because their behavior followed patterns that distinctly differed from the moderate and heavy drinkers, whose beliefs for what was acceptable for themselves were nearly identical to what they thought was acceptable for their peers.

The vignettes about Joe and Sam, Jason, and John received many responses regarding grades and academics. This suggests that students hold their academic performance to high standards, in addition to the GPAs reported and the fact that GPA was not necessarily correlated with student drinking patterns; that is to say, students with high GPAs still went out as much as the students with low GPAs, if not more. There were no students with GPAs lower than 2.0 that went out 3-4 days a week and of the students that do go out 3-4 days a week, 78.6% reported a GPA higher than 3.3.

Two other emphases that students had were on their safety and their relationships. In the vignettes about Kim and Brittany, Ashley, and Mike, it was noted by students that safety had been compromised because of the drinking of the students. This is of great importance, because it means that students *do* care about their personal safety: something that rarely comes up in any of the literature. Also, it was evident in the vignette about Brittany and Kim that many students blamed Kim for having a drinking problem on the basis that she was a bad friend; social relationships are a high priority for many college students.

The vignettes in particular allowed for a detailed explanation from students as to why they judged the fictitious student the way they did. Tabling those data with the responses from the statements allowed me to make insights that would not have been possible with different questions. Unlike other surveys administered to students regarding alcohol and other drug use, my survey took into account both student use and their opinions, which is unique in this field.

Limitations

This study was limited in a few ways. The first and most obvious is that it used an anonymous online survey. While this method was effective for getting a lot of data at once, it did not allow for a discussion between students, like in a focus group setting. Focus groups would have been a more engaging method of ascertaining student attitudes: through their dialogue and feedback of ideas. Unfortunately, this was not possible due to restrictions because of the sensitivity of the data being collected. On the other hand, students' responses to this survey were not directly influenced (as far as I know) by their peers, as they were not in the same room taking the survey together – which could have happened in a focus group.

Like many online surveys administered via email, this study had a very low response rate – only 8.3%. This makes these results un-generalizable to other colleges and not entirely

representative of the student body at UM. For instance, there was an underrepresentation of non-white students and an overrepresentation of females in this sample. Also, since the survey was advertised as about student attitudes toward alcohol and other drug use, students who do not use alcohol or other drugs may have been less inclined to take the survey.

Another aspect of this study that falls short is that I did not take into account any family history of alcohol or drug use. Due to its being an online survey, I felt it would be best to keep the survey as short as possible so students would not drop out because it was too long. The collection of a family history from each respondent would have added another ten minutes to survey completion time, but also would have created a more comprehensive profile of students that took into account their backgrounds, which could heavily influence their attitudes toward alcohol and other drug use.

CONCLUSIONS

The purpose of this study was to find out how students define ‘moderate’ and ‘excessive’ drinking and drug use. They do not define excessive drinking as four to five drinks in one night, as the NIAAA would have it; excessive drinking is over ten beers when you have an exam the next day, or staying out too late to smoke marijuana when you have to study, or getting so drunk you black out; excessive drinking for students involves consequences, not just simply the act of drinking or using drugs.

These data certainly help to define the line between what is and what is not acceptable drinking and drug use behavior for college students; however, it is clear that student opinions are not completely white and black. Circumstances and consequences matter when students make decisions about drinking or drug use – it is not just one big party all the time. Studies that assume it is will not know which students to target for anti-heavy drinking campaigns, because they are

targeting the entire student population for 'binge drinking' using a definition that students do not use.

The basic fact is college students drink and use drugs; it has been this way for many years. Rates of drinking and drug use are not decreasing, so current campaigns to lower student drinking and drug use rates have not been effective. Of course, these campaigns use research from other studies to make their evaluations, and these other studies focus on the quantification of student use. I propose that instead, we focus on the things that students care about: grades, safety, and friends. While some students acknowledge the health consequences of drinking and drug use, not all do – but nearly all the students here at Michigan acknowledge their grades and academics. They made that clear in the vignettes related to grades. Instead of campaigns like Stay in the Blue that focus on how *much* a student drinks, UM should implement campaigns that focus on the consequences of student drinking – like vomiting, blacking out, and failing an exam. These resonate with students much more than the term 'binge drinking,' which means virtually nothing on a campus like Michigan's.

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APPENDIX A: RECRUITMENT AND CONSENT

Recruitment Email

Hi there!

My name is Sahana Rajan and I am a senior in LS&A Sociology collecting data for my honors thesis.

I am interested in learning more about how students like us at Michigan define "moderate" and "excessive" drinking and drug use. So, while this survey will ask you about your personal use patterns, it will more importantly ask you questions about your personal opinions toward drinking and drug use by students at the University. Also, you cannot be identified by any of your responses, nor will they be shared with anybody.

It would be *incredibly *helpful if you took this survey as you would be contributing to research on students like us at the University. It is ***100% confidential and anonymous***, and takes about ***15 minutes***.

If you are interested in taking the survey, please follow this link:

<http://www.tinyurl.com/umstudentsurvey>

Please do not hesitate to contact me at sahanara@umich.edu if you have any questions, concerns, or comments.

Thanks so much for your time!

Sahana Rajan

Recruitment Reminder Email

Hello Again!

If you already took the survey on student attitudes toward moderate and excessive drinking and drug use, you may disregard this email.

If you haven't taken the survey, let me tell you more about it! My name is Sahana Rajan and I am a senior in LS&A doing my honors thesis in Sociology. I am interested in how college students like you and I define 'moderate' and 'excessive' drinking and drug use, and I need your opinions!

While the survey will ask you questions about your personal use patterns, it is ***more focused on your opinions***. You cannot be identified by any response you provide to any question. The survey is ***100% confidential and anonymous*** and all data recorded will be destroyed at the study's completion. It takes about ***15 minutes*** to complete.

To take the survey, please follow this link:

<http://www.tinyurl.com/umstudentsurvey>

If you have any questions or comments, please do not hesitate to contact me at sahanara@umich.edu

Thank you so much!

Sahana Rajan

Informed Consent Statement

Consent to Participate in a Research Study

Making Sense of Moderate: Student Attitudes on Drinking and Drug Use in a College Environment

Principal Investigator: Sahana Rajan, Sociology Department, University of Michigan
Faculty Advisor: Elizabeth A. Armstrong, Ph.D., Sociology Department, University of Michigan

Information

You are invited to participate in a 20-minute anonymous, online survey on student attitudes toward drinking and drug use. The purpose of this study is to evaluate how students form definitions of moderate and excessive drinking and drug use. You will be asked about your personal use of alcohol and drugs, as well as your personal opinions on certain behaviors, including those of your peers at large.

Confidentiality

This survey is 100% anonymous and confidential. There will be no personal identifying information attached or connected to your responses. All responses will be destroyed after the completion of the study.

Participation

Your participation in this survey is completely voluntary. Even if you decide to participate now, you may change your mind and stop taking the survey at any time.

Contact

If you have questions about this research, including questions about the survey, you may contact the researcher, Sahana Rajan, a student in the Department of Sociology at sahanara@umich.edu. You may also contact the advisor, Elizabeth A. Armstrong at elarmstr@umich.edu.

Consent

By checking the box below, you are agreeing to be in the study. Be sure that questions you have about the study have been answered and that you understand what you are being asked to do. You may contact the researcher if you have any questions later. You may not proceed without agreeing to participate.

I agree to participate in this study

APPENDIX B: SURVEY**Survey Instrument**

What is your age?

If What is your age? Is Less Than 18, Then Skip To End of Survey

Do you attend the University of Michigan as an undergraduate student?

- Yes
- No

If No Is Selected, Then Skip To End of Survey

Have you consumed alcohol since you have been at the University of Michigan (U of M)?
(Confidentiality All of your responses to this survey are 100% anonymous and confidential. You cannot and will not be personally identified with any of the information you provide. All responses will be destroyed after the study's completion.)

- Yes
- No

If No Is Selected, Then Skip To Have you used marijuana or other drug...

Was your first time consuming alcohol at U of M?

- Yes
- No

Have you used marijuana or other drugs since you have been at U of M? (other drugs include: hallucinogens, cocaine, heroin, methamphetamine) (Confidentiality All of your responses to this survey are 100% anonymous and confidential. You cannot and will not be personally identified with any of the information you provide. All responses will be destroyed after the study's completion.)

- Yes, marijuana only
- Yes, other drugs only
- Yes, marijuana and other drugs
- No

If No Is Selected, Then Skip To End of Block

Was your first time using marijuana or other drugs at U of M? (other drugs include: hallucinogens, cocaine, heroin, methamphetamine)

- Yes, marijuana only
- Yes, other drugs only
- Yes, marijuana and other drugs
- No

In the last year, have you consumed alcohol?

- Yes
- No

In the last year, have you consumed marijuana or other drugs? (at U of M only) (other drugs include: hallucinogens, cocaine, heroin, methamphetamine) (Confidentiality All of your responses to this survey are 100% anonymous and confidential. You cannot and will not be personally identified with any of the information you provide. All responses will be destroyed after the study's completion.)

- Yes, marijuana only
- Yes, other drugs only
- Yes, marijuana and other drugs
- No

In the past 30 days, have you consumed alcohol? (Confidentiality All of your responses to this survey are 100% anonymous and confidential. You cannot and will not be personally identified with any of the information you provide. All responses will be destroyed after the study's completion.)

- Yes
- No

How many days last week did you consume alcohol?

- 1-2 days
- 3-4 days
- 5+ days

How many drinks did you have the last time you drank? A drink is: 1.5 oz. hard liquor, 4 oz. wine, or 12 oz. beer

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18+

For how many hours were you drinking the last time you drank?

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16+

In the past 30 days, have you used marijuana or other drugs? (other drugs include: hallucinogens, cocaine, heroin, methamphetamine) (Confidentiality All of your responses to this survey are 100% anonymous and confidential. You cannot and will not be personally identified with any of the information you provide. All responses will be destroyed after the study's completion.)

- Yes, marijuana only
- Yes, other drugs only
- Yes, marijuana and other drugs
- No

How many times did you use marijuana last week? ((Confidentiality All of your responses to this survey are 100% anonymous and confidential. You cannot and will not be personally identified with any of the information you provide. All responses will be destroyed after the study's completion.))

- Zero
- 1-2 times
- 3-4 times
- 5-6 times
- 7-8 times
- 9+ times

How many times did you use drugs other than marijuana last week? (other drugs include: hallucinogens, cocaine, heroin, methamphetamine) (Confidentiality All of your responses to this survey are 100% anonymous and confidential. You cannot and will not be personally identified with any of the information you provide. All responses will be destroyed after the study's completion.)

- Zero
- 1-2 times
- 3-4 times
- 5-6 times
- 7-8 times
- 9+ times

Do you consider yourself a light, moderate, or heavy drinker?

- Light
- Moderate
- Heavy

Do you consider yourself an infrequent, occasional, or regular user of marijuana?

- Infrequent
- Occasional
- Regular

The following tables and interpretation are adapted from the University Health Services (UHS) website. "Stay in the Blue" is a campaign to make students aware of their alcohol consumption

and it means to keep your Blood Alcohol Concentration, or the percentage of alcohol in your blood, at or below .06. The following two tables are separated by gender and describe the BAC trajectory over a three (3) hour period, as well as the physical effects at the various BAC levels. Given your weight, gender, and amount consumed, please answer the following questions regarding the table.

		Men body weight (lbs.)							
		120	140	160	180	200	220	240	260
Total number of drinks	1	.00	.00	.00	.00	.00	.00	.00	.00
	2	.01	.01	.00	.00	.00	.00	.00	.00
	3	.05	.03	.02	.01	.01	.00	.00	.00
	4	.08	.06	.05	.04	.03	.02	.01	.01
	5	.11	.09	.07	.06	.05	.04	.03	.02
	6	.14	.11	.09	.08	.06	.05	.05	.04
	7	.17	.14	.12	.10	.08	.07	.06	.05
	8	.20	.17	.14	.12	.10	.09	.08	.07
	9	.23	.19	.16	.14	.12	.11	.09	.08
	10	.26	.22	.19	.16	.14	.12	.11	.10

Stay in the Blue	
.02 - .03	Slight euphoria, loss of shyness.
.04 - .06	Relaxed feeling, lower inhibition, minor impairment of reasoning & memory, less cautious.
Beware of the Maize	
.07 - .09	Impaired balance, speech, judgment, reasoning & reaction time. Illegal to drive @ .08 BAC.
.10 - .12	Significant impairment of coordination, judgment & reaction time; slurred speech.
.13 - .15	Blurred vision, anxiety, severely impaired coordination & judgment. Could blackout or pee your pants.
.16 - .19	Nausea, higher anxiety, "sloppy" drunk, could pass out.
.20 - .24	Disorientation, need help to stand/walk; vomiting and blackouts likely.
Keep out of the Red	
.25 - .29	Severe impairment of mental, physical, sensory functions; risk of serious injury; passing out likely.
.30 - .34	Stupor, little comprehension, hard to wake, death possible.
.35 +	Coma &/or death likely.

		Women body weight (lbs.)							
		100	120	140	160	180	200	220	240
Total number of drinks	1	.00	.00	.00	.00	.00	.00	.00	.00
	2	.05	.04	.03	.02	.01	.00	.00	.00
	3	.10	.09	.06	.05	.04	.03	.02	.01
	4	.15	.13	.10	.08	.06	.05	.04	.03
	5	.20	.18	.14	.11	.09	.08	.06	.05
	6	.25	.22	.18	.14	.12	.10	.09	.07
	7	.30	.27	.21	.18	.15	.13	.11	.10
	8	.35	.31	.25	.21	.18	.15	.13	.12
	9	.40	.36	.29	.24	.21	.18	.15	.14
	10	.45	.40	.33	.27	.23	.20	.18	.16

Consider the last occasion you drank. Given your sex, weight, and total number of drinks, find your BAC in the chart above. Do you agree or disagree with the chart's description of effects? In other words, do you believe they accurately represent your personal experience when drinking? (The charts are for over a 3-hour period of drinking)

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

Why do you agree or disagree with the chart's interpretation?

The following section is presented as a series of statements which are different behaviors or actions. Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with.

In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.

Having four or five drinks in one night is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
- House party
- Casual dinner
- Apartment
- Fraternity party
- Other _____

Having 6-10 drinks in one night is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Having 11-15 drinks in one night is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
- House party
- Casual dinner
- Apartment
- Fraternity party
- Other _____

Having 21 drinks to celebrate a 21st birthday is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
- House party
- Casual dinner
- Apartment
- Fraternity party
- Other _____

Smoking marijuana is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

Smoking marijuana once a week is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
 - Disagree
 - Somewhat Disagree
 - Somewhat Agree
 - Agree
 - Strongly Agree
-

Smoking marijuana every day is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
 - Disagree
 - Somewhat Disagree
 - Somewhat Agree
 - Agree
 - Strongly Agree
-

Going out to drink on a Thursday night is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Going out to drink on Friday and Saturday night in the same weekend is acceptable.
 (Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Going out to drink on Thursday, Friday, and Saturday night in the same weekend is acceptable. (Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Going out to drink on a weeknight is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Going out to drink more than one weeknight in a week is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Vomiting after or during drinking is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Blacking out as a result of drinking is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Urinating outside as a result of drinking is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

At a... (check all that apply for where you think this behavior is acceptable)

- Bar
 - House party
 - Casual dinner
 - Apartment
 - Fraternity party
 - Other _____
-

Having a hangover is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
 - Disagree
 - Somewhat Disagree
 - Somewhat Agree
 - Agree
 - Strongly Agree
-

Getting into a fight while drinking is acceptable.

(Directions Please read each statement and indicate your level of agreement whether the behavior is acceptable for you and for others. "Peers at large" refers to the general student body that you are not necessarily acquainted with. In cases where locations are provided, indicate whether you think the behavior is acceptable in those locations in general.)

For me

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my close friends

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

For my peers at large

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

In a... (check all that apply for where you think this behavior is acceptable)

- Bar
- House party
- Casual dinner
- Apartment
- Fraternity party
- Other _____

The following section will be presented as a series of seven (7) short vignettes. Please read each situation presented and answer the questions that follow. If you have any additional comments, you may enter them in the box below the multiple choice questions.

Joe is a junior in the college of LS&A, majoring in Psychology. He and his friend Sam decide to go out on Thursday night even though they have an exam in Psych 111 the next morning (Friday). At the house party they go to, Joe and Sam drink the same amount they usually do – about 8-9 beers throughout the night – but the next morning, Joe doesn't wake up in time for the exam and misses it. Sam makes it to the exam and gets a B.

Do you think Joe or Sam has a problem with alcohol?

- Yes, Joe
- Yes, Sam
- Yes, both
- No

Do you think Joe or Sam should have stayed in?

- Yes, Joe
- Yes, Sam
- Yes, both
- No

Given your answers above, please explain your reasoning here:

Kim is a senior, majoring in Brain Behavior and Cognitive Sciences. For some reason, she can go out every Thursday, Friday, and Saturday (sometimes even more) and still gets straight As. One night, she goes out to the bars and takes a friend with her who has never been out dancing. Brittany tries to keep up with Kim, but cannot take five shots within an hour and ends up in the bathroom vomiting most of the night. Kim leaves the bar with other friends. Brittany gets kicked out of the bar, but can't find Kim anywhere. She calls a cab and goes home.

Do you think Brittany or Kim has a problem with alcohol?

- Yes, Brittany
- Yes, Kim
- Yes, both
- No

Do you think Kim should drink less?

- Yes
- No

Given your answers above, please explain your reasoning here:

Jason is a sophomore in the School of Engineering. Since high school, he's always been really smart and he's one of those guys that just doesn't study and manages to get by. His first year in college, he got mostly As and some Bs and since then has begun smoking marijuana on almost a daily basis. He says that it doesn't affect him and he can still do work when he's high, but he doesn't get as many As as he used to in his courses.

Do you think Jason has a problem with marijuana?

- Yes
- No

Do you think Jason should stop smoking marijuana on a daily basis?

- Yes
- No

Given your answers above, please explain your reasoning here:

Katie, Mary, and Jessie are three freshman in their first semester of college. They met on their residence hall floor in Markley, and have made it a routine to go out together every Friday night. Typically, they go to fraternity parties, but sometimes they stay in their dorm rooms and drink. One Friday, they stay in and buy a fifth of vodka, finishing the entire bottle. At the end of the night, Jessie gets sick and on the way to the bathroom runs into the RA on duty. The RA calls the Department of Public Safety (DPS) officers and all three girls get Minor in Possession of alcohol charges (MIPs).

Do you think any of the girls has a problem with alcohol?

- Yes, Katie
- Yes, Mary
- Yes, Jessie
- Yes, all of them
- No

Do you think the girls should have stopped drinking before they finished the bottle?

- Yes
- No

Do you think it was right for the RA on duty to call DPS?

- Yes
- No

Given your answers above, please explain your reasoning here:

Ashley is a sophomore in LS&A. She isn't 21 yet, but she managed to purchase her older sister's friend's ID so she can go out to the bars and drink. The first night she goes to the bars, she gets older guys to pay for her drinks and begins getting intimate with them on the dance floor. Her friends don't intervene, and she goes home with one of the guys. The next morning, she wakes up but doesn't remember anything from the night before.

Do you think it is a problem that Ashley purchased a fake ID?

- Yes
- No

Do you think it is a problem that Ashley does not remember anything from the night she went out?

- Yes
- No

Given your answers above, please explain your reasoning here:

John is a junior in LS&A. He wants to go out Saturday, but knows he has a lot of work to do on Sunday and must get up early. He decides to go out, but only drink a little and come back early. After 7 beers and three hours later, he is offered marijuana by some of his friends and decides to smoke with them. Shortly after, he goes home and manages to wake up at 1 in the afternoon the next day, which is much later than he would have liked to wake up.

Do you think John should have stayed in on Saturday?

- Yes
- No

Do you think it is okay that John smoked marijuana?

- Yes
- No

Given your answers above, please explain your reasoning here:

Mike is a senior in the School of Kinesiology, graduating in a few months. One Saturday night, he is invited to a party being thrown by an acquaintance of his from a class. He goes with a few other friends and after having four or five beers needs to use the restroom. He opts to go to the backyard to relieve himself, and upon doing so is encountered by a drunk housemate of his acquaintance. Jake, the housemate, tells Mike that he's disrespecting his property and he needs to leave, among other obscenities. Mike tells Jake to "take it easy", and Jake punches him in the face. The ensuing fight draws a small crowd and Mike leaves with his friends.

Do you think Mike should have used the restroom inside?

- Yes
- No

Do you think it is okay that Jake punched Mike?

- Yes
- No

Given your answers above, please explain your reasoning here:

What is your sex?

- Male
- Female
- Other _____

What is your race? (you may select more than one)

- White/Caucasian
- Black/African-American
- Latino/Hispanic
- Asian
- Other _____

What is your height, in feet and in inches? (No symbols please)

Feet

Inches

What is your weight, in pounds? (No symbols please)

What is your current class standing?

- Freshman
- Sophomore
- Junior
- Senior (includes 5th year and beyond)

What is your cumulative GPA?

- Below 1.4
- 1.4 - 2.0
- 2.0 - 2.6
- 2.7 - 3.2
- 3.3 - 3.6
- 3.7 - 4.0
- Prefer not to say

Are you a member of a fraternity or sorority?

- Yes
 - No
-

What is the highest level of education you plan to attain?

- Bachelor's degree
- Master's degree
- Professional degree (MD, JD)
- PhD

What is your mother's highest level of educational attainment?

- Did not complete high school
- High school diploma / GED
- Associate's degree
- Bachelor's degree
- Master's degree
- Professional degree (MD, JD)
- PhD

What is your father's highest level of educational attainment?

- Did not complete high school
- High school diploma / GED
- Associate's degree
- Bachelor's degree
- Master's degree
- Professional degree (MD, JD)
- PhD

In what type of religious background were you raised?

- Christian
- Islamic
- Judaic
- Hindu
- Other _____
- None
- Prefer not to say

What is your parents' or legal guardians' yearly income?

- \$0 - \$15,000
- \$16,000 - \$30,000
- \$31,000 - \$60,000
- \$61,000 - \$90,000
- \$91,000 - \$120,000
- \$121,000 - \$150,000
- \$151,000 - \$180,000
- \$181,000 - \$210,000
- \$211,000 - \$240,000
- \$241,000 +
- Prefer not to say

Thank you for taking the time to complete this survey. Due to its sensitive nature, if you feel you require any resources pertaining to alcohol and drug use or related matters, you may follow any of the links below to on-campus organizations and resources.

[Counseling and Psychological Services \(CAPS\)](#)

Counseling and Psychological Services is committed to providing multicultural and multidisciplinary expert therapeutic support. Clinical services include brief personal therapy for individuals, couples and groups and crisis intervention.

[University Health Services – Resources for Alcohol and Other Drugs](#)

This is a comprehensive list of all the University offers in regard to alcohol and other drug assistance, including sexual assault help. There are links to online screenings, information on getting treatment or recovery, and details about on-campus resources.

[Sexual Assault Prevention and Awareness Center \(SAPAC\)](#)

SAPAC works on campus to inform students about sexual assault. They also offer consultations and crisis intervention at their center.

In case you are unsure of the University's alcohol and other drug policy, you can follow this link to the online version.

University of Michigan Alcohol and Other Drug (AOD)

APPENDIX C: TABLES AND FIGURES

Table 1: Descriptive Statistics		
Variable	%/mean	Total (n)
Age	19.8 years	417
Sex (Female)	65%	358
Race		358
White	88%	312
Black	3%	9
Latino	4%	13
Asian	8%	28
Class Standing		356
Freshman	28%	101
Sophomore	18%	64
Junior	26%	92
Senior	28%	99
Greek	14%	358
Alcohol at UM	85%	411
First Use of Alcohol	15%	348
Drug Use at UM	43%	409
Marijuana	33%	136
Other drugs only	0%	0
Marijuana & OD	10%	41
First Use of Drugs	38%	177
Marijuana	26%	46
Other drugs only	7%	12
Marijuana & OD	5%	9
Alcohol in past year	90%	337
Drug use in past year	47%	337
Marijuana	34%	114
Other drugs only	0%	0
Marijuana & OD	13%	43
Alcohol in past month	83%	337
Days drinking last week		284
1-2	74%	210
3-4	23%	65
5+	3%	9
Number of drinks last occ.		308
1	21%	63
2	12%	37
3	12%	35
4	12%	36
5	13%	42
6	8%	25
7	5%	17
8	3%	10

9+	15%	43
Drug use in past month	36%	335
Marijuana	29%	97
OD Only	1%	3
M&OD	6%	19
Marijuana use last week		334
0	77%	258
1-2	12%	39
3-4	3%	10
5-6	3%	11
7+	5%	16
Other drug use last week		335
0	96%	321
1-2	2%	7
3-4	1%	4
5+	1%	3
Type of drinker		335
Light	43%	145
Moderate	43%	145
Heavy	6%	18
No Answer	8%	27
Type of marijuana user		335
Infrequent	75%	217
Occasional	13%	39
Regular	12%	35
No Answer		44
Opinion of BAC chart		311
StD	6%	20
D	11%	36
SoD	17%	51
SoA	27%	82
A	32%	99
StA	7%	23
Opinion reason		237
NotMyExperience	30%	72
MyExperience	26%	61
NotUniversal	9%	21
Circumstance	7%	16
Exagger/Extreme	23%	54
ChartWrong	3%	7
ChartRight	12%	28
Abstainer	8%	19
SomeSymptom	11%	25
ObservePeers	3%	7
GPA		358
< 1.4	0%	1

1.4 – 2.0	0%	1
2.1 – 2.6	2%	7
2.7 – 3.2	16%	57
3.3 – 3.6	37%	132
3.7 – 4.0	33%	119
Prefer not to say	8%	30
No response	3%	11
Calculated BAC		261
0.00	6%	15
0.01 – 0.03	25%	65
0.04 – 0.06	11%	30
0.07 – 0.09	10%	27
0.10 – 0.12	10%	25
0.13 – 0.15	10%	25
0.16 – 0.19	11%	28
0.20 – 0.24	10%	25
0.25 – 0.29	4%	10
0.30 – 0.34	2%	6
0.35 +	2%	5

Variable	Monitoring the Future	This Study
Alcohol Use – Year	78.6%	90%
Alcohol Use – Month	65	83.3
Marijuana Use – Year	32.7	27.5
Marijuana Use – Month	17.5	23.4
Marijuana Use – Daily	4.4	4.7

Table 3: Coding Scheme for BAC Chart Opinion

Reason (Variable)	Example/Cue Words	# Responses
Not my experience	“In my experience”, not those effects, “I did not experience”, “I do not do behavior X”	72
My experience	“I experienced that,” “That’s what happened to me,” “Matches my experience,” “how I felt”	61
Exaggerated/ Extreme	Exaggerated, too extreme, too severe, too conservative, drunk but death was unlikely, description of symptoms of a lower BAC as more accurate, “dramatic”	54
Chart is right	“correct,” “accurate,” “scientifically based,” “it’s right”	28
Some symptom	Experienced X but not Y, “somewhat in line but not totally,” list a few symptoms but not all	25
Not universal	“Not universal,” cannot represent all people, “doesn’t apply to everyone”	21
Teetotaler	“don’t drink,” “teetotaler,” “never been drunk”	19
Circumstance	Tolerance, different weight, “depends on” food, what was drunk, how fast you drink, “how you appear/feel”	16
Chart is wrong	“inaccurate,” “wrong,” “flawed,”	7
Peers	“I’ve seen someone who...,” “I know people that drink X amount and act like...,” “observed others”	7

n = 238 students

Table 4: Coding Scheme for Vignette1: Joe/Sam

Reason (Variable)	Example/Cue Words	# Responses
DrinkExam	“never drink before an exam,” exam was mentioned in some way	145
NoProblem	“no issues/problem with alcohol,” “not alcoholics”	50
Responsibility/ Commitment	“they were responsible for making it,” “other commitments come first,” “school/exam is the first priority”	48
Stupid	“that was stupid/dumb/foolish,” “they are idiots/dumb/stupid”	45
TooMuch	“8-9 beers is too much/excessive,” “should not have drank that much”	26
CanDrink	“free to do what they want,” “happened one time,”	24
Grade/Academic	“could have gotten a better grade,” “could have made the exam,” “grades/school are important”	24
NotEnoughInfo	“not enough information to say if there is a problem,” “there could be other factors”	21
Drinking	“alcohol affects brain/performance,” “drinking can be dangerous/hurtful”	19
Function	“affecting/interfering with daily life,” “alcohol should not impair performance”	16
SchoolWeeknight	“never drink when you have class the next day,” “don’t drink on weeknights”	16
StudentWouldNot	“I would never...party before exam/drink the night before class/drink that much”	10

Table 5: Coding Scheme for Vignette2: Brittany/Kim

Reason (Variable)	Example/Cue Words	# Responses
TooMuch	“should not drink that much,” “too much to drink”	98
KimBadFriend	“Kim is a bad friend,” “should not have left her friend”	86
BrittanyLimitProb	“can’t hold her alcohol,” “should know better,” “should know limits”	83
Unhealthy	“unhealthy,” “bad for health,” “will affect body later”	57
Function	“still gets good grades,” “can still function,” “life is not affected”	54
CanDrink	“free to do what she wants,” “can drink,” “can handle it”	49
NoProblem	“don’t have a problem,” “neither has a problem,” “no problem”	36
DrinkProblem	“drinks all the time,” “will have alcoholism later,”	22
RespCommittment	“was irresponsible,” “should have looked after friend”	14
NotEnoughInfo	“not enough information to say,” “don’t know all the details”	7
n = 279 students		

Table 6: Coding Scheme for Vignette3: Jason

Reason (Variable)	Example/Cue Words	# Responses
GradeProblem	“should not let grades drop,” “grades are more important”	157
TooMuch	“smokes too much,” “should smoke less,” “not every day”	128
CanSmoke	“just cut back,” “smoking is okay,” “wait until after work is done”	36
DrugBad	“drugs are unhealthy,” “drugs are bad,” “drugs are illegal”	27
Unhealthy	“drugs are unhealthy,” “smoking is unhealthy”	24
RespProblem	“being irresponsible,” “needs to get priorities straight”	19
DrugProblem	“has a problem with drugs”	19
Lazy	“he’s lazy,” “smoking marijuana makes you lazy”	7

n = 267 students

Table 7: Coding Scheme for Vignette4: Markley Girls

Reason (Variable)	Example/Cue Words	# Responses
TooMuch	“drank too much,” “should have drank less,”	127
RAResponsible	“RA is responsible for students,” “RA should look out for them”	114
RAOverreact	“RA overreacted,” “should have dealt with it themselves”	45
DormDrinkBad	“drinking in the dorms is bad,” “drinking in the dorms is against the rules”	45
NoCops	“should not have called DPS,” “police don’t need to be involved”	44
LearnMistake	“they will learn,” “they are just freshmen,” “it’s one mistake”	41
Stupid	“stupid”	33
Illegal	“drinking under 21 is illegal,”	33
n = 261 students		

Table 8: Coding Scheme for Vignette5: Ashley

Reason (Variable)	Example/Cue Words	# Responses
TooMuch	“drank too much,” “should have drank less,”	95
RiskDanger	“was dangerous,” “risked a lot,”	65
Irresponsible	“she was irresponsible,”	42
Illegal	“getting a fake ID is illegal,” “illegal to serve minors”	41
Stupid	“stupid of her to go home with some guy,” “stupid to drink that much”	16
Unsafe	“wasn’t safe,” “could have been hurt”	10

n = 243 students

Table 9: Coding Scheme for Vignette6: John

Reason (Variable)	Example/Cue Words	# Responses
Irresponsible	“was irresponsible,” “should be more responsible,” “priorities”	135
TooMuch	“drank too much,” “smoked too much,”	52
CanSmoke	“smoking is okay,” “smoking was fine, did nothing bad,”	51
MarijuanaBad	“marijuana is bad for you,” “marijuana is unhealthy/illegal”	45
GradeProblem	“grades are more important,” “should have priorities”	40
BadCombo	“should not smoke and drink,” “marijuana is bad after alcohol,”	22
CanDrink	“drinking was fine,” “can drink,” “cut back, but still okay”	11
Stupid	“that was stupid,”	8

n = 248 students

Table 10: Coding Scheme for Vignette7: Mike/Jake

Reason (Variable)	Example/Cue Words	# Responses
JakeWrong	“Jake should not have punched Mike,” “Jake was wrong”	95
FightingBad	“fighting is always bad,” “keep the peace,” “violence is bad”	93
UIPBad	“urinating in public is gross/bad/unnecessary”	85
MikeWrong	“Mike should have waited inside,” “Mike was wrong”	71
UIPOK	“urinating in public is fine,” “line was probably long,”	47
TooMuch	“both drank too much,” “both were drunk and belligerent”	44
Stupid	“stupid”	27
n = 226 students		

Figure 1. "Stay in the Blue" (UHS)

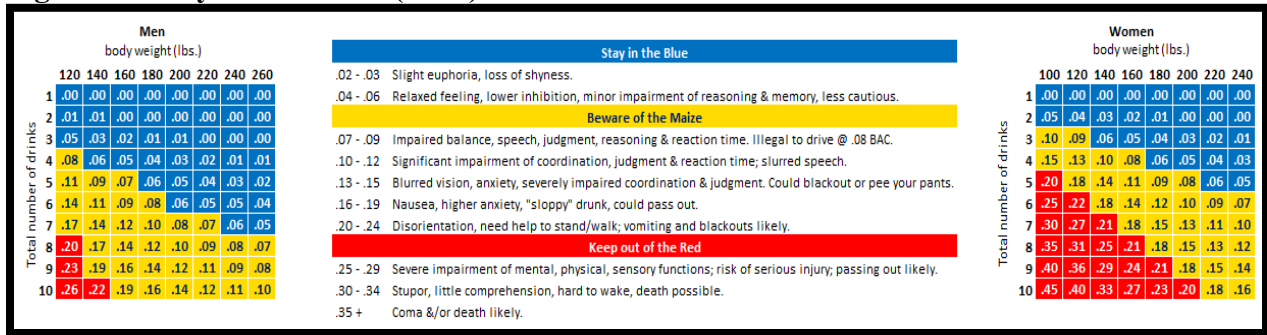


Figure 2 – Self-Identified Drinker Type

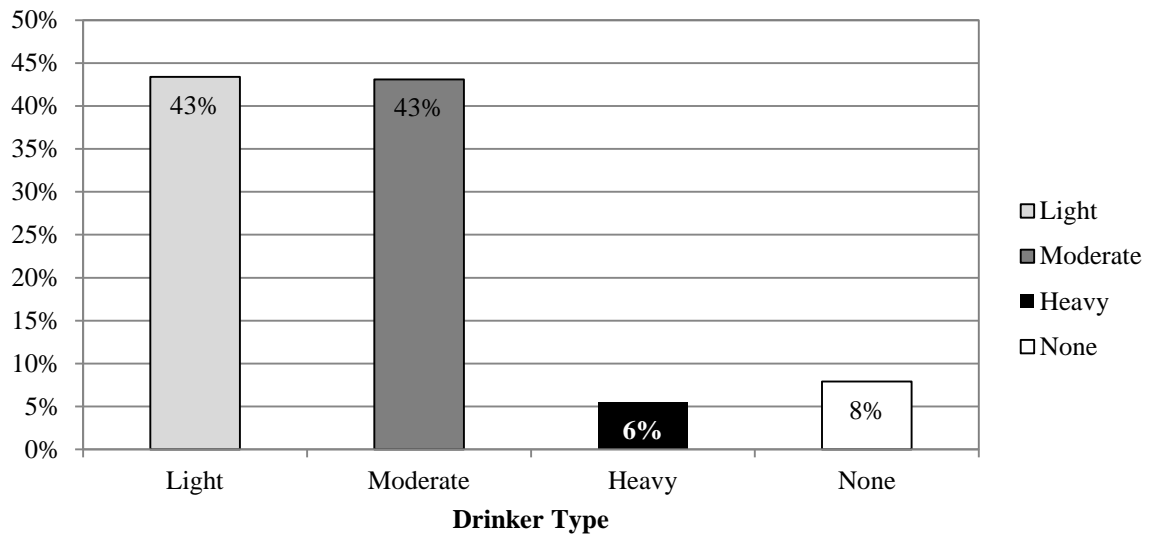


Figure 3 – Self-Identified Drinker Type and Number of Drinks at Last Consumption

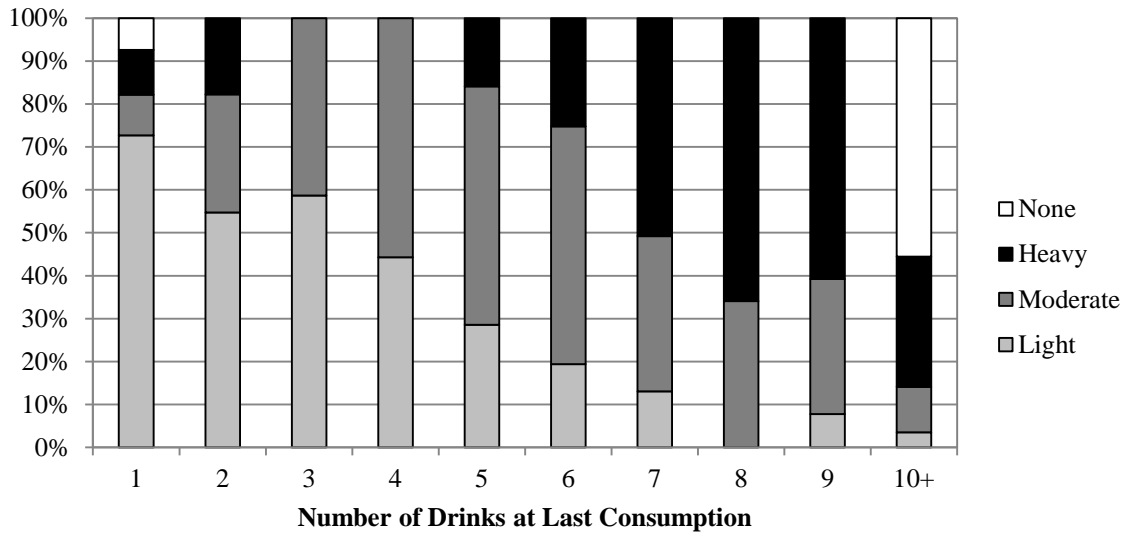


Figure 4 – Self-Identified Marijuana User Type

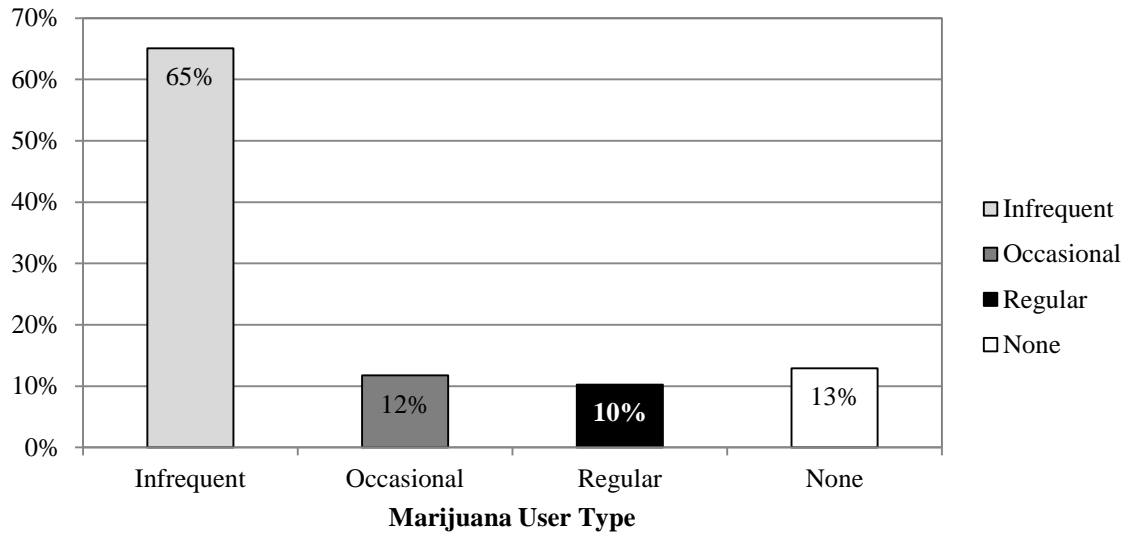


Figure 5 – Self-Identified Marijuana User Type and Number of Times Marijuana was Used

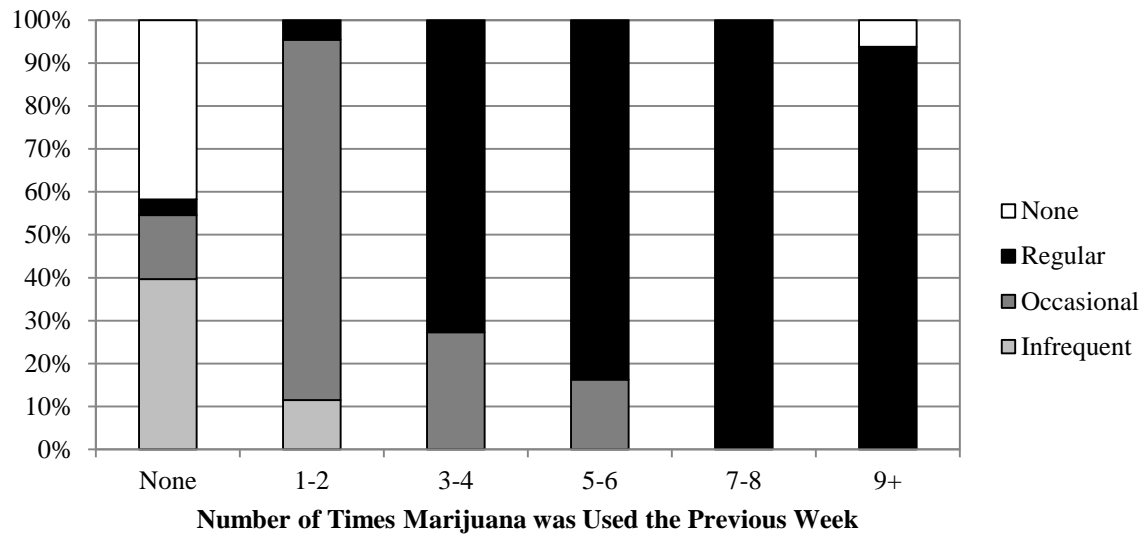


Figure 6 – Self-Identified Drinker Type and Number of Days Drinking

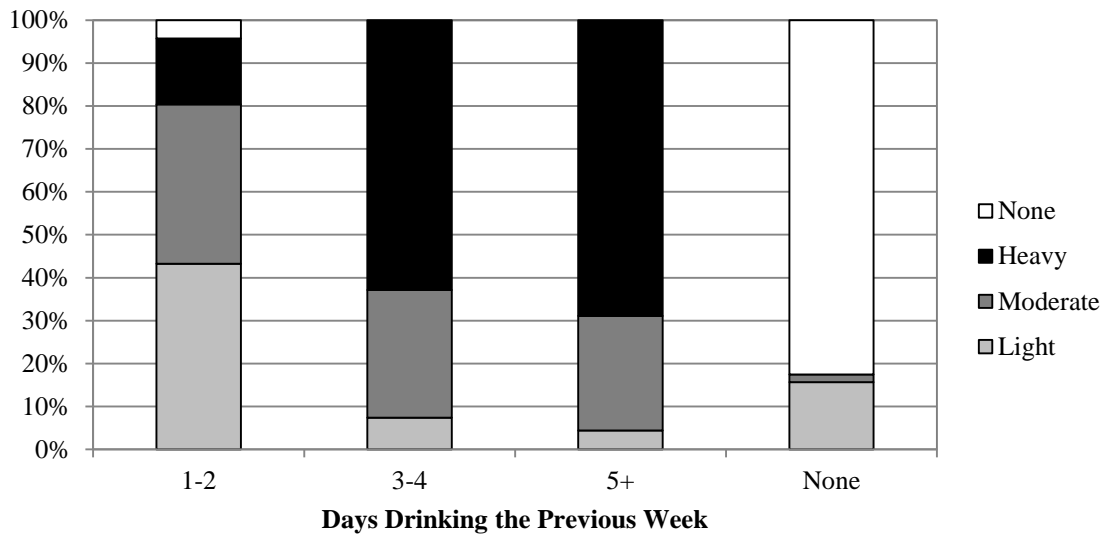


Figure 7 – Student Level of Agreement with the Stay in the Blue Chart

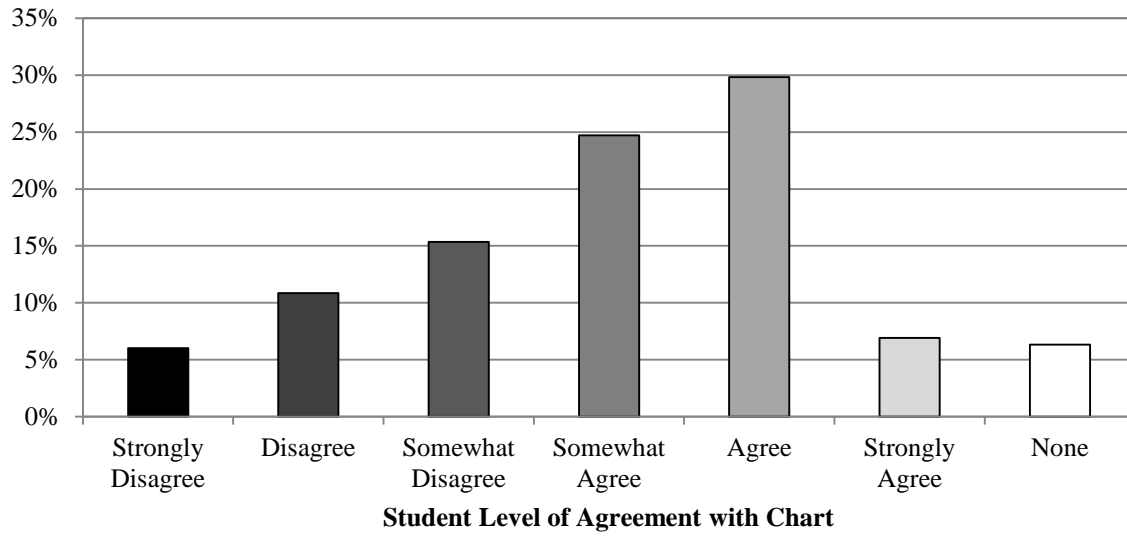


Figure 8 – Student Agreement with the Stay in the Blue Chart and Calculated BAC

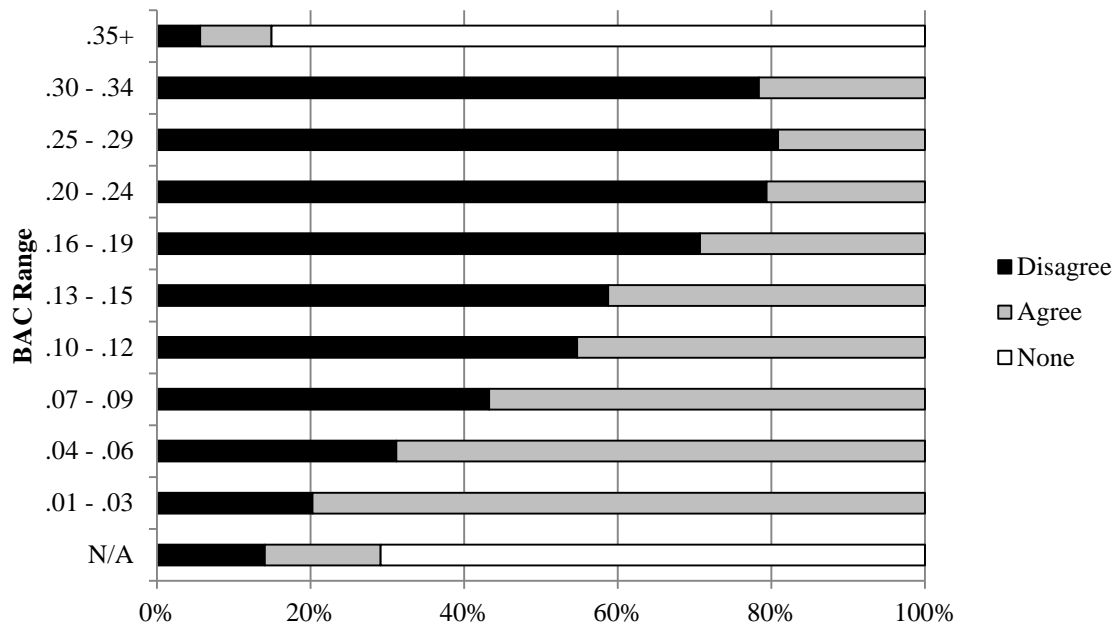


Figure 9 – Students agreeing that “X drinks in one night is acceptable...”

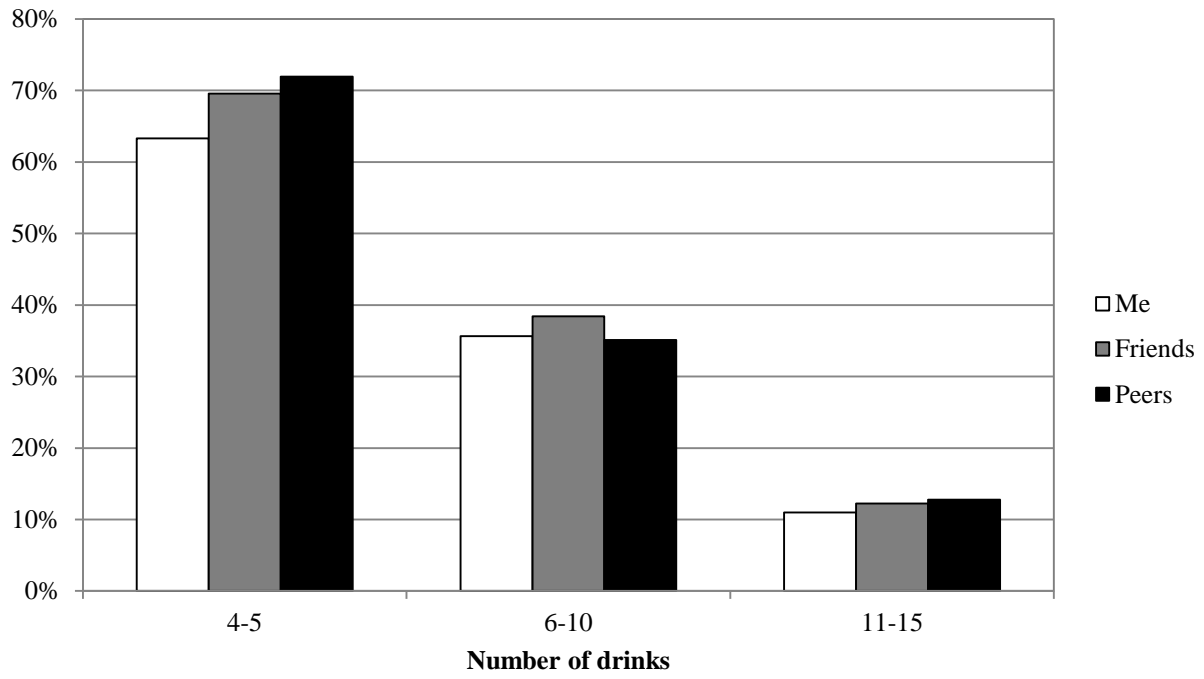


Figure 10 – Students agreeing that “Smoking marijuana is acceptable...”

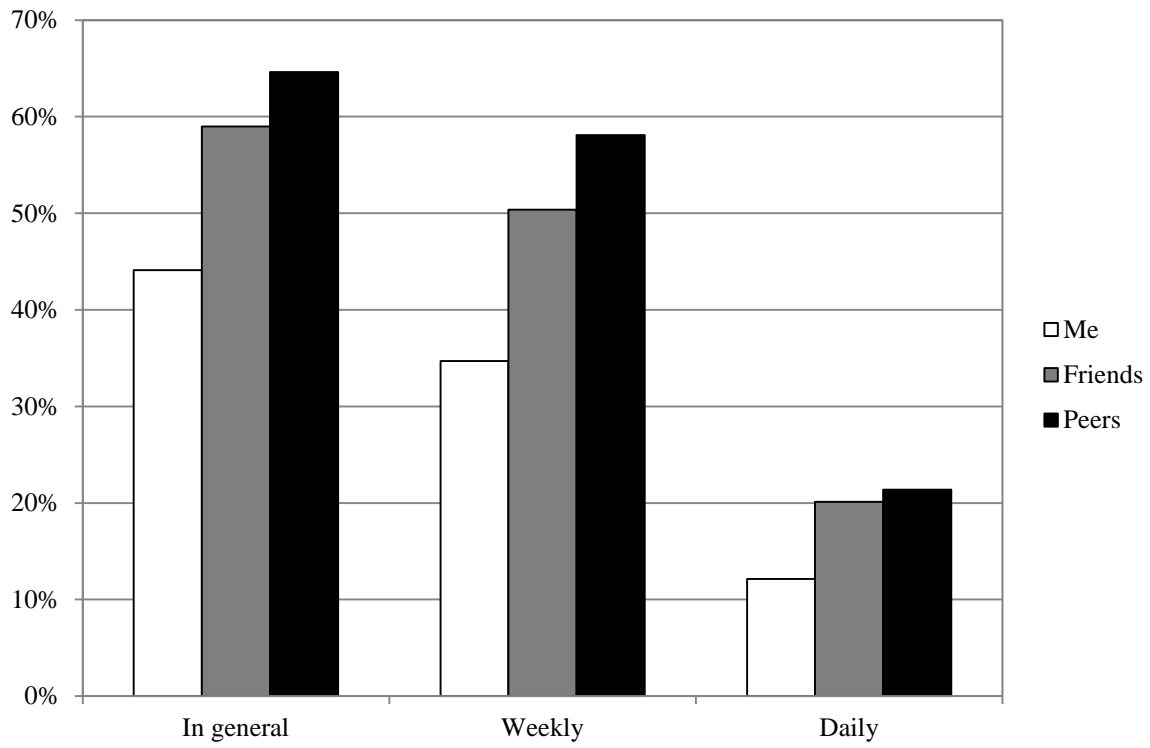


Figure 11 – Percentage of students agreeing having 4-5 or 6-10 drinks is acceptable by location

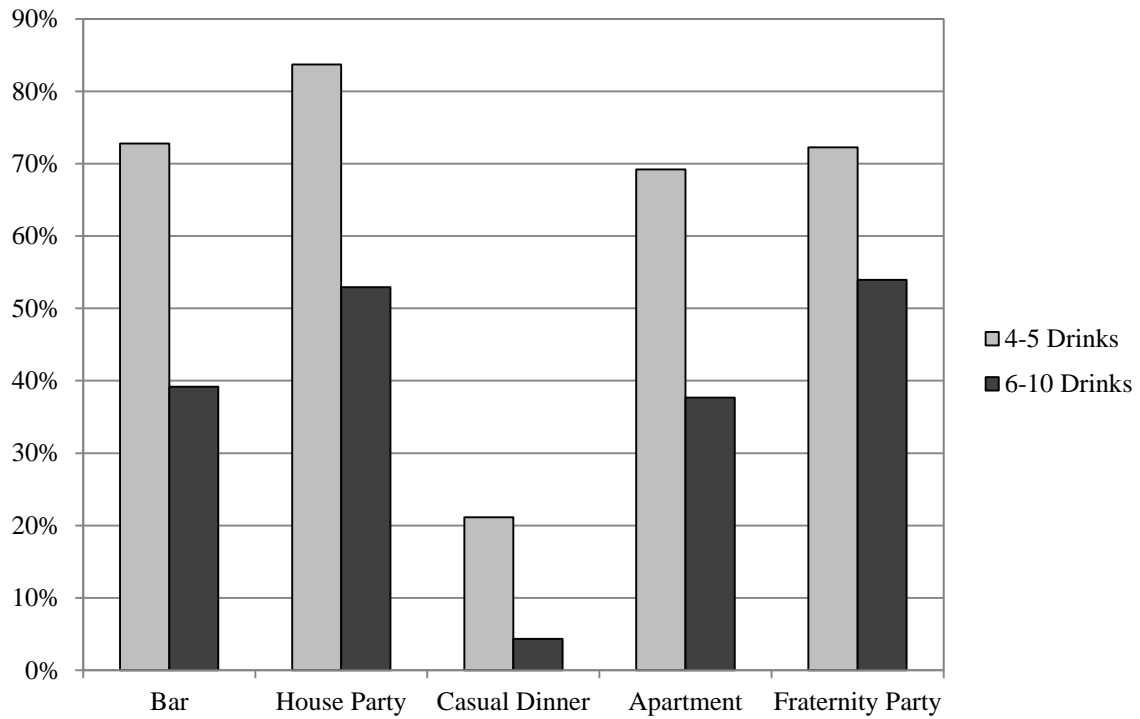


Figure 12 – Percentage of students agreeing blacking out, vomiting, fighting, and urinating in public are acceptable

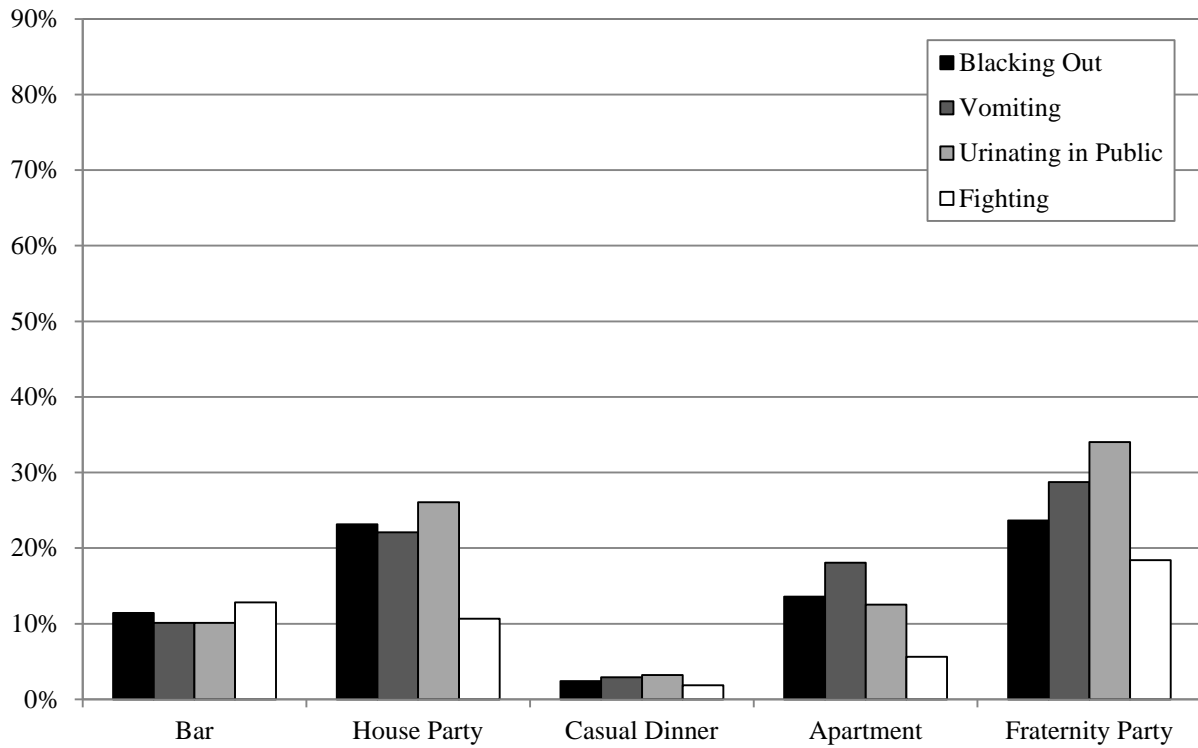


Figure 13 – Self-Identified Drinker Type and Percentage Agreeing that “4-5 drinks is acceptable...”

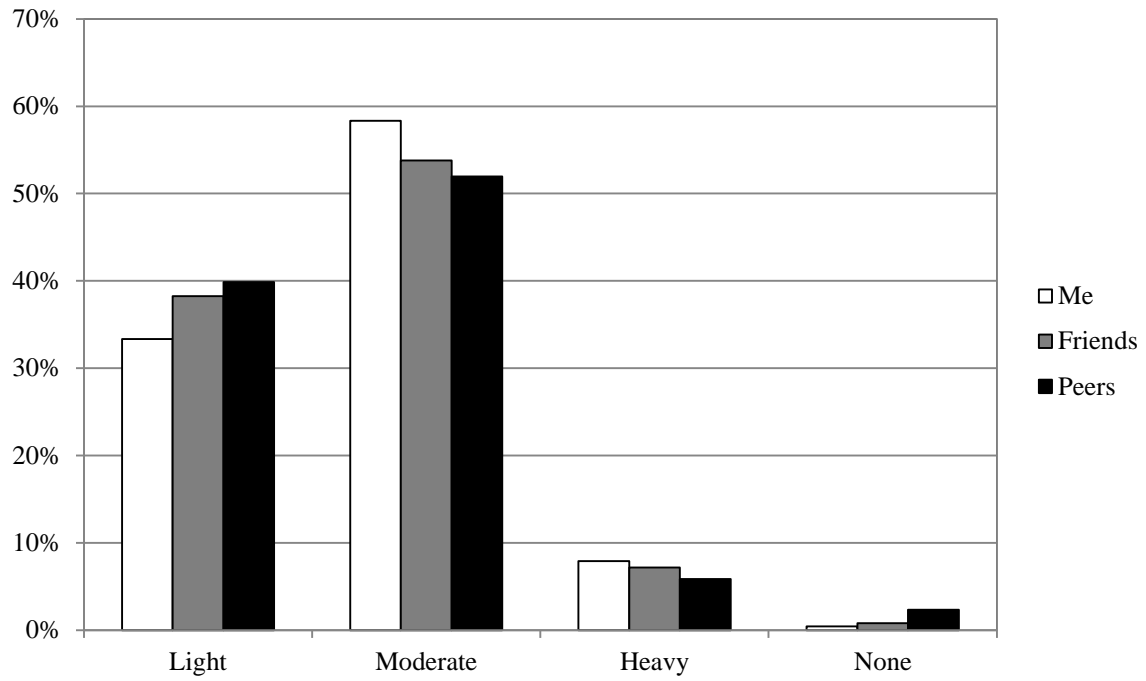


Figure 14 – Self-Identified Drinker Type and Percentage Agreeing that “6-10 drinks is acceptable...”

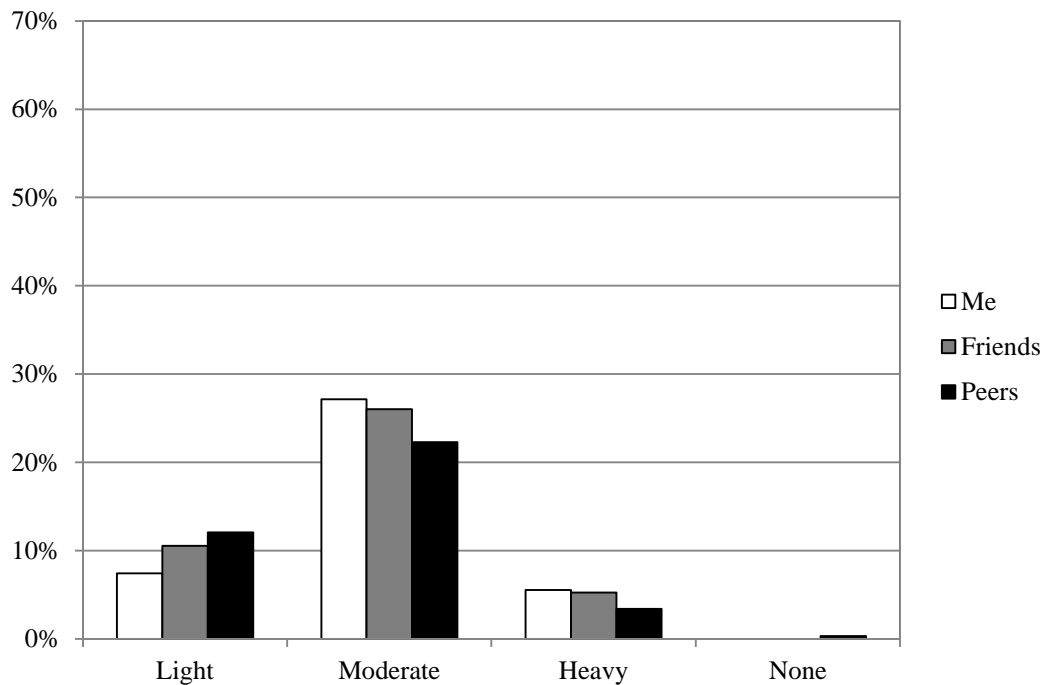


Figure 15 – Self-Identified Marijuana User Type and Percentage Agreeing with Smoking Marijuana

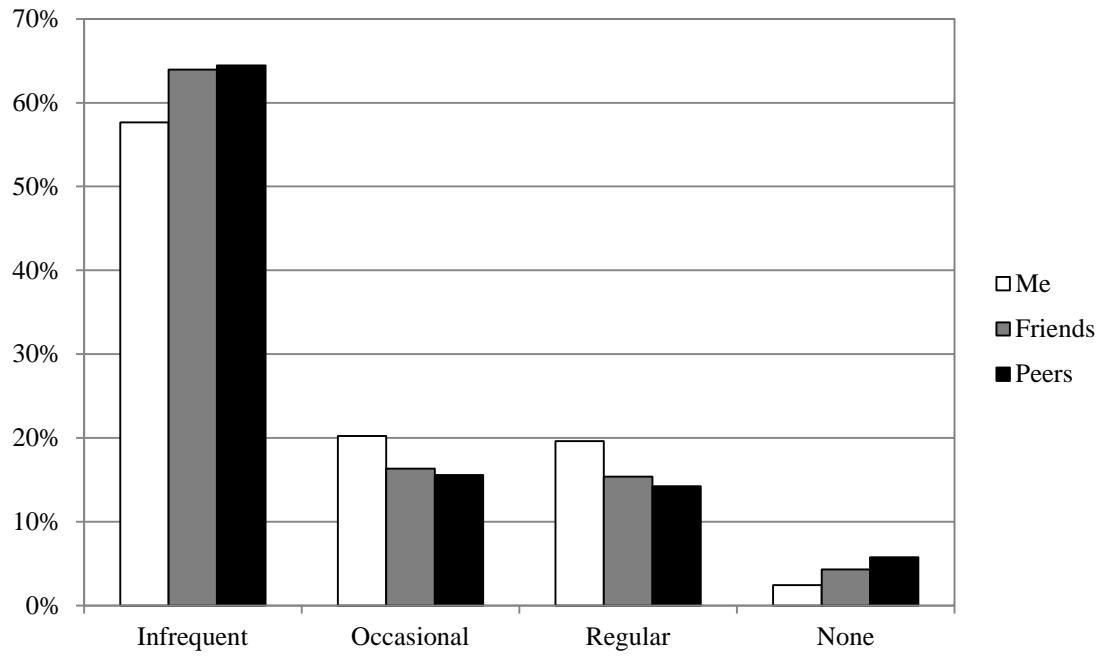


Figure 16 – Percentage of Students Saying there Was No Problem

