

Running Head: BINGE DRINKING BEHAVIORS

Gender, Self-Esteem and Athleticism as they predict Binge Drinking Behaviors  
Among College Students

By

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## BINGE DRINKING BEHAVIORS

### ABSTRACT

O'BRIEN, CATHERINE Gender, Self-Esteem and Athleticism as they predict Binge Drinking Behavior Among College Students. Department of Psychology, June 2013.

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There is a plethora of research focusing on athleticism, self-esteem and alcohol consumption but few studies have aimed to find a connection between these three dimensions. While much of the previous research focused on just two of these dimensions, the present study aims to uncover how these dimensions influence and impact one another. Students from Union College participated in a survey-based study in which they were asked to complete three surveys, one for each dimension. These surveys were used to identify level of athleticism, self-esteem and binge drinking behaviors among athletes and non-athletes at Union College. Based on previous research it was expected that team sport athletes would report the highest levels of self-esteem followed by individual athletes and then non-athletes. It was also predicted that athleticism and self-esteem would predict binge-drinking behaviors such that team sport athletes would report the most binge drinking, followed by individual athletes and then non-athletes. Results indicated no relationship between athletic status and self-esteem. Also inconsistent with hypotheses, there was no relationship between self-esteem, athleticism and binge drinking such that frequency of binge drinking behaviors did not vary along with athletic status or self-esteem.

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### **Introduction**

The Collegiate years are perhaps the most exciting and important time in the growth of young adults. These years are marked by new experiences and exploration of academic and social life. There are many dangers posed to collegiate men and women though. A common occurrence on many college campuses is the incidence of binge drinking. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) approved the following definition of binge drinking. Binge drinking is a pattern of drinking alcohol that brings blood alcohol concentration (BAC) to a level of .08 or higher. For a typical male adult, this corresponds to 5 or more alcoholic drinks in 2 hours. For a typical female adult, this corresponds to 4 or more alcoholic drinks in 2 hours (NIAAA). Binge drinking is clearly problematic in that it poses health risks to the drinker, and compromises the safety of those people around the drinker.

### **Binge Drinking**

Binge drinking is prevalent among college students. Studies on college students indicate that 80 percent of college students drink alcohol and that 40 percent engage in binge drinking (Surgeon General, 12). Twenty percent of college students report “frequent episodic alcohol consumption” (Surgeon General, 13) which indicates heavy binge drinking three or more times over a two-week period. Research supported by the Surgeon General’s: A Call to Action to Prevent and Reduce Underage Drinking states that alcohol use, abuse, and dependence is most prevalent among people between the ages of 18 and 20. Interestingly, the reports issued by the surgeon general show that young people drink less frequently than adults but that when adolescents and teens drink, they consume alcohol in much greater amounts than adults (Surgeon General, 6).

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As is evident in the NIAA's working definition of binge drinking, there are different thresholds for males and females. Males and females process and metabolize alcohol at different rates and thus can potentially react to different levels of alcohol. Not all measures of binge drinking acknowledge this gender difference though, so researchers aimed to clarify the importance of separate definitions.

### **Binge Drinking and Gender**

A study done by Weschler, Dowdall, Davenport and Rimm (1995) focused on this gender difference when it came to binge drinking behaviors and measuring binge drinking in college students. The study examined the binge drinking behaviors across gender. This research highlighted that not all definitions for binge drinking differ across gender. Weschler et al. compare the typical definition of binge drinking to a gender-specific definition of binge drinking among college students. Participants completed surveys that asked about differing alcohol problems that students' have suffered from after drinking. Interestingly, the results suggested the need for gender-specific measures of binge drinking.

Women who consumed 5 drinks reported more instances of "problems" than men who drank a similar amount. Alcohol related problems experienced and measured in this study included hangovers, missing class, falling behind, having regrets, forgetting things, arguments, unplanned sex, unsafe sex and injury (Weschler et al., 1995). "Women who typically drank 4 drinks, had a similar likelihood of each alcohol-related problem as men who had 5 drinks" (Weschler et al., 1995 p. 984). Their findings support the knowledge that women have lower rates of gastric metabolism than men. The study concluded that there is a need to be a lower standard defining binge drinking for females than males (Weschler et al., 1995). In

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reference to the current study, the research done by Weschler et al provides support to the differences between men and women when it comes to alcohol consumption.

Research done by Peralta, Steele, Nofziger and Rickles (2010) also examined the impact of gender on binge drinking behavior among college students. Their study was particularly interesting because they measured drinking behaviors as they varied by gender and also how they varied by gender characteristics. They employed different scales that measured the degree to which participants identified with “masculine” and “feminine” traits and the degree to which they express “masculine” or “feminine” traits (Peralta et al, 2010). The purpose of this measure was to indicate whether it was the gender, male or female, that indicated certain drinking behaviors or the gender characteristics. They hypothesized that men would report higher rates of binge drinking than women. They also predicted that males and females who exhibited more masculine traits as measured by the aforementioned scaled, would predict binge-drinking behaviors (Peralta et al, 2010). This means, that they hypothesized that regardless of gender, masculine traits would predict binge drinking. Their results indicated that indeed there was a relationship between gender and binge drinking such that males engaged in more binge drinking than women and furthermore, masculine characteristics predicted higher levels of binge drinking (Peralta, 2010). This study further suggests the predictive link between gender and binge drinking behaviors.

### **Binge Drinking and Self-Esteem**

Apart from gender discrepancies, there are other elements that can be related patterns of alcohol consumption among college students. Research indicates that there is a relationship between self-esteem and binge drinking. During the collegiate years, adolescents learn about

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themselves and others and develop personal and social identities. During this time, self-esteem can play a large role in this social and personal development.

A study done by Lewis, Neighbors, and Phillippi (2007) examined the role of morally based self-esteem in drinking motive and drinking behaviors among college students. They hypothesized that students who based their self-esteem on morals would engage in fewer drinking behaviors than students who did not base their self-esteem on morals. They identified four main motivations for drinking including enhancement, conformity, coping, and social. Utilizing a sample of 201 college students, they evaluated the volunteers on their morally based self-esteem using the Contingencies of Self-Worth Scale (Croker et. Al 2003).

Participants then completed a Drinking Motives Questionnaire (Cooper, 1994) followed by a Daily Drinking Questionnaire (Collins, Parks & Marlatt 1985) to measure their motives to drink and drinking behaviors respectively. Results indicated that students who based their self-esteem on morals were less motivated by the social effects of alcohol than by students who did not rely on morals to frame their self-esteem. Students who reported high levels of morally based self-esteem also reported lesser motives to drink and fewer drinking behaviors. As expected, there was a correlation between drinking motives and drinking behaviors. This study is relevant to the current research in that it illustrates the relationship between self-esteem and drinking behaviors among college students. Although Lewis et al. did not measure the levels of overall self-esteem as they relate to drinking, but rather the source of the self-esteem, their research does provide insight into the ability for self-esteem to impact drinking behaviors.

### **Self-Esteem, Gender and Binge Drinking**

Another study done by Neumann, Leffingwell, and Wagner (2009) examined the connection between self-esteem and gender when it came to binge drinking among college



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students. This study examined the interactions between self-esteem and drinking behaviors across gender. Participants were asked to share their attitudes about alcohol following an alcohol related message that highlighted the risks of drinking. They were asked to complete a survey of their drinking behaviors 30 days after the initial meeting. The study measured the alcohol related attitudes and intentions, drinking behavior, and self-esteem. For the purpose of the current study, the attitudes and intentions relating to alcohol are not relevant. They found no significant effect of gender on self-esteem. A significant effect was found of self-esteem.

Participants with higher self-esteem reported drinking more than those with low self-esteem. Overall, males engaged in more binge drinking behaviors than females. Within gender, both males and females with higher self-esteem reported drinking more than those with low self-esteem. Males with high self-esteem had the greatest instance of binge drinking (Neumann et al 2009). This research indicates the different elements of college students that inherently create certain tendencies when it comes to drinking behaviors. While this study does illustrate effects of self-esteem, gender and interactions, this research does not take into account the athleticism of the participants.

A study done by DeHart, Tennen, Armeli, Todd and Mohr (2009) examined implicit self-esteem, interpersonal interaction, and alcohol consumption. For the purposes of the current research, the relationship between alcohol and self-esteem is most relevant. This research focuses on implicit self-esteem, which is an unconscious and automatic evaluation of self-worth and self-esteem (Dehart et al, 2009). Similar to the previous study, this study examined the relationship between self-esteem and alcohol consumption. Results suggest that people with low implicit self-esteem tend to consume more alcohol than those with higher implicit self-esteem. They hypothesized that people with low implicit self-esteem would consume more alcohol in response

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to negative interpersonal interactions compared to people with high implicit self-esteem. They also hypothesized that being in the presence of other people drinking would mediate the self-esteem x negative personal interaction predicting alcohol consumption such that participants with low implicit self-esteem would drink more on evenings when they experienced negative interpersonal interactions.

Similarly, they predicted that this same interaction would take place among those participants with high implicit self-esteem such that they would drink more on evenings when they experienced positive interpersonal interaction. They utilized the Rosenberg Self Esteem Scale to evaluate self-esteem among participants (Rosenberg, 1965). They were asked to keep an online private diary documenting their interpersonal reactions, drinking behaviors, drinking behaviors with others; time spent interacting with others and their daily intent to drink. Daily intent to drink was positively correlated with alcohol consumption. Being in the presence of other people drinking was also positively associated with alcohol consumption.

Consistent with the hypothesis, college students with high implicit self-esteem who experienced more positive interpersonal interactions consumed more alcohol. These results demonstrate the effect of level of implicit self-esteem on response to negative events. Also consistent with hypotheses, participants with low implicit self-esteem drank more on days when they experienced more negative interpersonal interactions.

### **Athleticism**

Many college students may elect to participate in a sport during their four years. The present research is being conducted at Union College where one third of the student population is made up of athletes ([www.union.edu](http://www.union.edu)). With and undergraduate class of approximately 2,133 students, there are about 711 student athletes on campus ([www.union.edu](http://www.union.edu)). This strong presence

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of athletes suggests that they are a population of interest when it comes to observing behavior. How are these students different from the other two thirds of Union College's population?

### **Athleticism and Self-Esteem**

Previous research also addresses the possible differences among athletes and non-athletes in relation to self-esteem. A study done by Armstrong and Oomen-Early (2009) examined just this. This study compared the self-esteem, levels of depression, and degree of social connectedness among college athletes compared to non-athletes. For the purpose of the current research, the self-esteem dimension is most important in this study. Using the Rosenberg Self-Esteem Scale (Rosenberg, 1965), they measured the self-esteem levels of 227 college students, 104 of which were collegiate athletes. Results illustrated significant effects of all dimensions between athletes and non-athletes. There was a significant relationship between athletic status and self-esteem such that athletes reported higher levels of self-esteem than non-athletes. Not surprisingly, high levels of self-esteem were associated with low levels of depression.

Research conducted by Findlay and Bowker (2007) examined the role of sports involvement in self-esteem among adolescents. The participants were either characterized as elite athletes, competitive athletes or non-athletes. Elite athletes were defined as adolescents who participated at the highest level of that sport and competitive athletes were defined as those athletes who competed at a more than the recreational level but not the most elite level (Findlay & Bowker, 2007). Participants who did not engage in any sports at a competitive level, were considered non-athletes (Findlay & Bowker, 2007).

They predicted that adolescents who participated in moderate or strenuous physical activity would have a higher level of self-esteem than non-athletes (Findlay & Bowker, 2007). Consistent with their hypothesis, athletes reported higher levels of self-esteem than non-athletes (Findlay &

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Bowker, 2007). There was no difference of self-esteem level between elite athletes and competitive athletes, suggesting that any athletic participation at some competitive level promotes a more positive psychological wellbeing and self-esteem (Findaly & Bowker, 2007).

### **Athleticism and Binge Drinking**

Research done by Moore and Werch (2008) studied the relationship between vigorous exercise and substance use among first-year drinking college students. The participants were 391 freshman college students from a midsized university. The sample was 52.7% female and 47.3% male. (Moore & Werch, 2008). Research staff used four screening questions to evaluate the participants prior to engaging in the study. These questions verified age, class year, living location, and whether or not they had consumed alcohol in the past 30 days. They collected data about alcohol and drug consumption and health behaviors using a 30-minute survey. Using 6 questions all beginning with “During the past 30 days” the researchers evaluated alcohol and drug use as well as physical exercise (Moore & Werch, 2008, p.687). Questions that dealt with drinking included “On how many days did you have at least one drink of alcohol?” and “How many times have you had 5 or more drinks in a row if you are male or 4 or more drinks in a row if you are female?” (Moore & Werch, 2008, p. 687). They measured physical activity frequency using the question, “During the past 7 days, on how many days did you exercise or participant in physical activity for at least 20 minutes that made you sweat and breathe hard...” (Moore & Werch, 2008 p. 687).

Most students in the study reported infrequent exercise (45.05%), followed by regular (29.9%) and frequent (24.8%). Men exercised more frequently than women and women reported “infrequent” exercise more often than men (Moore & Werch, 2008). There was no significant interaction between sex and exercise though. Frequent exercisers reported drinking significantly

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more often and consuming significantly greater quantities of alcohol when they drank in comparison to infrequent exercisers.

Relevant to the current study, Moore and Werch took their research a step further as they conducted additional analyses to investigate the relationships between reported exercise frequency, substance use, and status as a university athlete. Results showed that athletes were significantly more likely to report exercising frequently than non-athletes. There was no significant interaction between reported exercise frequency and athletic status (Moore, 688). Overall, results showed that college students who exercised more frequently engaged in greater alcohol consumption than did infrequent exercisers. They also found that frequent exercisers smoked less than infrequent exercisers (Moore, 688). “Greater frequency of exercise was related to reporting increased frequency and quantity of alcohol use and decreased smoking regardless of athletic status” (Moore, 688). This is consistent with the previous research in that it supports the notion that specific position on an athletic team does not indicate binge drinking and that the mere involvement in physical activity is a greater indicator of binge drinking.

Given the relationship found among college freshman when it comes to binge drinking and athleticism, it is important to evaluate the possible relationship between athleticism and binge drinking across all grades. Considering the collegiate population the current research employs, it is important to identify drinking patterns among athletes at a high level.

A study done by Green, Uryasz, Petr, and Bray (2001) analyzed substance use and abuse habits in NCAA college athletes. The purpose of their study was to evaluate substance use patterns of NCAA athletes when it came to alcohol, amphetamines, anabolic steroids, cocaine, marijuana, hallucinogens, ephedrine and smokeless tobacco (Green, Uryasz, Petr, Bray, 2001).

For the purpose of the current research, we will focus on their findings regarding the use

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and abuse of alcohol among these NCAA athletes. They took a sample from 11 NCAA institutions all containing the same 10 sports. Each school was randomly assigned to give the surveys to the members of 2 teams. Only 2 teams from each school participated. The survey tool contained four sections that examined attitudes about drug use among student athletes, drug testing, effects of drug use and the relationship of sports participation and academic performance (Green, 52). Additionally, and more relevant to the current research, participants were asked if they had used any substances from a list presented, in the last 12 months. Alcohol was among the drugs. The survey also included a portion aimed at identifying the reason the student-athlete used a particular substance. Student-athletes from Division I, II and III schools participated. Green and colleagues received a very good response rate and were able to utilize data from 637 of the 991 schools (Green et al, 53).

A significant effect of ethnicity on substance abuse was found such that Caucasian student-athletes were most likely to use drugs (Green et al, 53). The responses given in reply to questions about why students took drugs were to be “recreational or social” and because they “make me feel good”. If we combine the population of students who engage in drugs for these two reasons, we can see that over 80% of student athletes use drugs. Interestingly, student-athletes from Division III schools had the highest instance of drug use, especially of alcohol (82.6%) (Green, et al, 53). Green and colleagues attribute this trend to the level of athlete that is drawn to a Division III school, the lack of drug testing at Division III schools in comparison to Division I and II schools, the lack of scholarship and therefore the lower level of skill. This is particularly relevant to the current research because Union College, where the data are being gathered, is a Division III school (with the exception of hockey) ([www.union.edu](http://www.union.edu)).

Based on the previous research, the current study aims to analyze these dimensions among

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Union College students. The current research will examine the possible relationship between athleticism, gender, self-esteem and binge drinking behaviors of students at Union College.

The present study will introduce another category of athleticism beside team sport athlete and non-team sport athlete. Participants will be identified as team sport athletes, individual athletes or non-athletes. The “individual athlete” will be defined as a participant who is not on a sports team but exercises regularly.

Based on previous research suggesting a correlation between gender and binge drinking, the present research predicts that this same relationship will be demonstrated in the data collected.

Hypothesis 1: Gender will predict binge-drinking behavior such that males will report more instances of binge drinking than females.

Because previous research indicated a relationship between athleticism and self-esteem, it is expected that the “individual athlete” categorization will produce another group of participants who report higher levels of self-esteem (along with team sport athletes). This is based on the idea that the physical activity correlates to self-esteem.

Hypothesis 2: Athleticism will predict self-esteem such that team sport athletes and individual athletes will report higher levels of self-esteem and non-athletes will report lower levels self-esteem.

A correlation between athleticism and binge drinking is expected to occur. The introduction of the “individual athlete” category is expected to create a group that falls somewhere between the team sport athletes and the non-athletes when it comes to instances of binge drinking.

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Hypothesis 3: Athletes on sports teams will report the most frequent instances of binge drinking followed by individual athletes and non-athletes respectively. Male, team sport athletes will report more instances of binge drinking than females.

### **Method**

#### **Participants**

Participants for this study were 97 students at Union College. The sample of participants represented each grade with 26 freshman, 27 sophomore, 13 juniors and 31 seniors. Of the participants, 57 were female and 34 were male. Participants received \$4.00 monetary compensation or credit toward an Introductory Psychology class. Informed consent was received from all participants prior to participating in the study.

#### **Procedure**

After receiving grant funding and approval from the Human Subject Committee at Union College, the study was placed online at [www.FREUD.union.edu](http://www.FREUD.union.edu). Participants were acquired online, as they needed to participate in a certain number of studies in order to fulfill requirements for Introduction to Psychology classes or chose to participate for monetary compensation. The remaining participants were acquired randomly around campus in common areas and via email by the student researcher inviting students to participate. Participants were given informed consent forms stating the voluntary nature of the study. Upon obtaining consent, participants were given a packet of surveys. Each participant received the same three surveys in the same order. The surveys took about 10-20 minutes to complete. Upon completion, participants were given written debriefings and either monetary compensation (\$4.00) or a ½ credit toward an introductory Psychology class.



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### Measures

The current research aimed to measure self-esteem, athleticism and binge drinking among college students at Union College and attempted to find some correlation between these measures. In order to measure each of these dimensions, three surveys were used.

The Rosenberg Self-Esteem Scale (1965) is a ten-item Likert scale that evaluates participants' level of self-worth (Rosenberg, 1965). Participants indicate the degree to which they agree with the statements provided using the following options: Strongly Agree, Agree, Disagree and Strongly Disagree (Rosenberg, 1965). The Rosenberg Self-Esteem Scale is a widely used measure of self-esteem and has been utilized in many studies that evaluated self-esteem including Lewis et al (2007), Dehart et al (2009), Armstrong and Oomen-Early (2009), Findlay and Bowker (2007). Because of the frequency of use of this scale and the scale's validity, it was employed for the current study in order to measure the self-esteem of participants. See Appendix 1.

The second dimension that was measured was binge-drinking behavior. The College Alcohol Study survey was used because of its recent use in Harvard School of Public Health's Research on binge drinking (Weschler et al, 2008). This survey measures binge drinking behaviors and the risks associated with drinking. This survey also provided definitions for a "drink" as a 12-ounce can (or bottle) of beer, a 4-ounce glass of wine, a 12-ounce bottle (or can) of a wine cooler and a shot of liquor straight or in a mixed drink. See Appendix 2.

Binge drinking instances were identified based on participants' answer to question 7 on the CAS survey which asked participants to indicate how many times they had 5 or more drinks in a row in the past two weeks. Because binge drinking is identified as consuming 5 or more alcoholic drinks in a row as binge drinking, this question identified the number of times a

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participant binge drank in the past 2 weeks. Frequency of hangovers was also identified as an indicator of binge drinking. Participants were asked to identify how many times they experienced hangovers (never, once, twice or more). Additionally, the survey asked participants to identify how they would describe themselves when it came to drinking by selecting one of the following, Abstainer, Abstainer-former drinking problem, light drinker, moderate drinker, heavy drinker.

The final dimension measured in the study was athleticism. No standardized measure was employed. The athleticism survey identified was used to group participants into one of three categories: team sport athlete, individual athlete and non-athlete. The purpose of this survey was to effectively group participants by athleticism/athletic involvement. A team sport athlete is defined as a participant who is a member of a team sport at Union College. An individual athlete is identified as a participant who exercises regularly/ values exercising but is not a member of a team sport. Non-athletes were identified as participants who do not work out at all and place no importance on exercise. See Appendix 3.

Participants' athletic statuses were categorized based on answers to specific questions in the athleticism survey. Participants were classified, as team sport athletes if they answered, "yes" in response to the question, "Are you a member of a sports team?". Participants were classified as individual athletes if they answered, "no" in response to the question, "Are you a member of a sports team?" but indicated that they worked out, on average, more than 2 days per week for at least 30 minutes. Participants were classified as non-athletes if they answered "no" in response to the question, "Are you a member of sports team?" and indicated that they did not work at all or that on average they worked out less than 3 days per week and for less than 30 minutes.

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### Results

#### Gender and Binge Drinking

Chi-Squared analysis indicated that there was no significant effect of gender on binge drinking ( $X^2(2) = 3.9, p = .42$ ). Most participants (32% of males and 35% of female) reported having had 5 or more drinks in a row, 3-5 times, in the past two weeks (See Figure 1). Because there is a gender difference when it comes to the definition of binge drinking (4 or more alcoholic drinks in a row for women, and 5 or more alcoholic drinks in a row for men) it was important to consider female participants' answers to question 8 which asked participants to indicate how many times in the past 2 weeks they had four drinks in a row but no more than that. Most female participants (35%) reported that they had 4 or more drinks in a row but no more than that once in the past two weeks.

There was no effect of gender on frequency of hangovers ( $X^2(4) = 2.58, p = .63$ ). Most participants (64.7% of males and 61% of females) indicated that they have experienced two or more hangovers (See Figure 2).

When it came to the self-evaluation, most participants identified themselves as being "moderate drinkers" (44% of males and 63% of females). The second most frequent response was "heavy drinker" (23% of males and 10% of females). Although there was no significant effect, males were more likely to evaluate themselves as being "heavy drinkers" than females. Most participants reported having had a drink within the last week (67% if males and 92.9% of females).

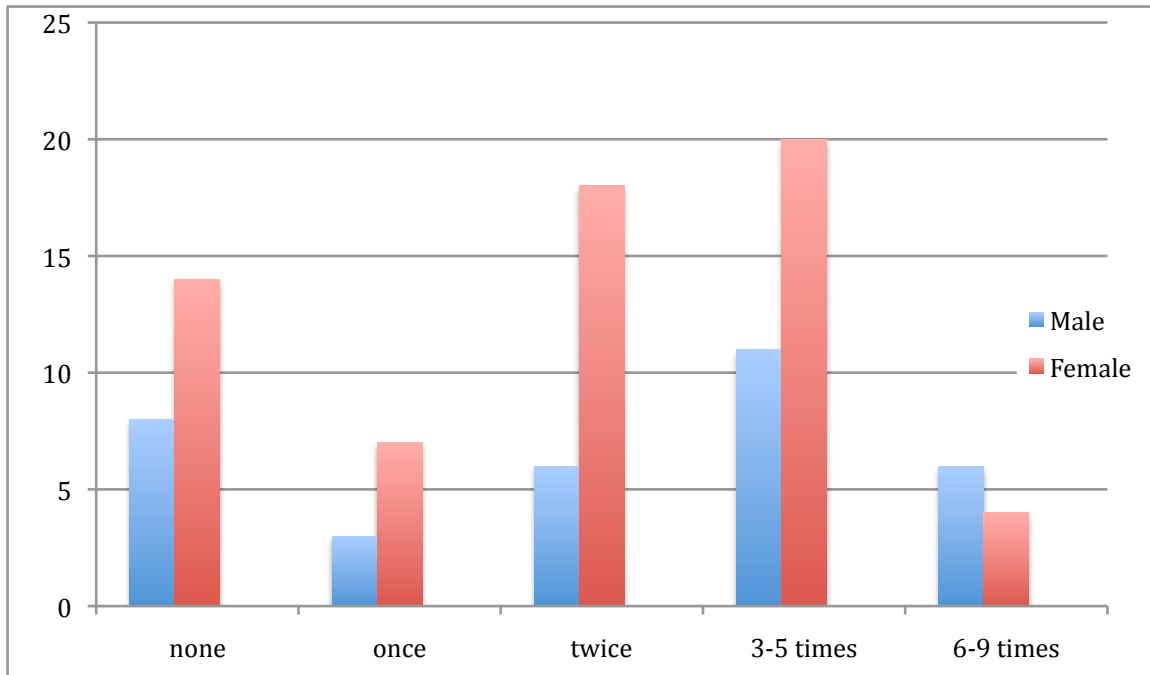
Chi-Squared analysis did find a significant effect of self-evaluation on frequency of hangovers ( $X^2(20) = 44.8, p = .24$ ) such that the frequency of hangovers was higher for those participants who identified themselves as moderate and heavy drinkers. Of the 57 participants

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who reported experiencing two or more hangovers, 48 of them identified themselves as moderate (37) or heavy drinkers (11).

Figure 1.

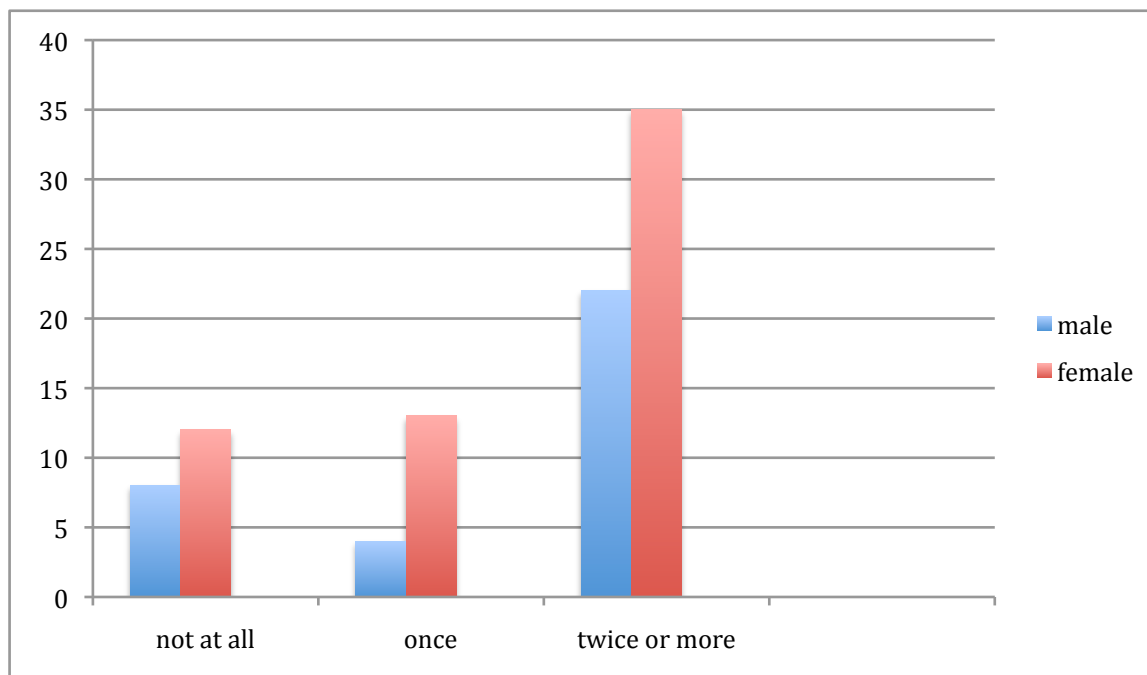
Gender and Frequency of Binge Drinking (in the past two weeks)



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Figure 2.

Gender and Frequency of Hangovers



### Gender and Self-Esteem

Independent samples t-test indicated that there was no relationship between gender and self-esteem ( $t(92) = .454, p = .101$ ). Males reported equivalent levels of self-esteem ( $M = 33.63, SD = 4.79$ ) as females ( $M = 33.19, SD = 4.13$ ). Most participants (28) reported having binge drank 3-5 times in the past two weeks. The mean self-esteem score across participants who reported having binge drank 3-5 times in the past two weeks was 34.6. (See Figure 5)

### Athletic Status and Gender

Of the sample of 97, 25 participants were team sport athletes, 49 were individual athletes and 20 were non-athletes. The Union College teams represented in the sample included lacrosse, football, field hockey, soccer, cross-country/track, swimming, rugby, volleyball, crew and dance team. Of the Non-Athletes, 4 were males (11.6%) and 16 (28%) were females. Of the team-sport

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athletes, 11 were males (32%) and 14 were females (24.5%). Majority of the participants, 17 males (50%) and 32 females (56%) fell under the individual athlete category.

### **Athletic Status and Self-Esteem**

A one-way ANOVA analysis revealed that there was no significant effect of athletic status on self-esteem ( $F(2) = .699, p = .5$ ). There was no significant difference between the mean self-esteem scores of non-athletes ( $M = 33.5$ ), Individual athletes ( $M = 32.9$ ) and team sport athletes ( $M = 34.2$ ). Although the differences between the groups produced no significant p-values, team sport athletes reported the highest average self-esteem score. (See Figure 5)

### **Athletic Status and Binge Drinking**

Chi-Squared analysis revealed no significant relationship between athletic status and instances of binge drinking ( $X^2(8) = 8.17, p > .05$ ) (See Figure 3). Most non-athletes (8) and team sport athletes (9) reported binge drinking 3-5 times in the past two weeks. Majority of individual athletes (17) reported 2 instances of binge drinking in the past two weeks. Overall, most participants (28) reported binge drinking 3-5 times in the past two weeks. An additional Chi-Square analysis revealed no significant effect of athletic status on frequency of hangovers ( $X^2(8) = 6.44, p > .05$ ) (See Figure 4). Majority of non-athletes (9), individual athletes (28), and team sport athletes (17) reported having experienced a hangover 2 or more times.

Chi-Squared analysis found no significant effect of athletic status on self-evaluation ( $X^2(10) = 13.3, p > .05$ ). Majority of non-athletes (9), individual athletes (29) and team sport athletes (11) evaluated themselves as “moderate drinkers”.

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Figure 3.

Athletic Status and Frequency of Binge Drinking (in the past two weeks)

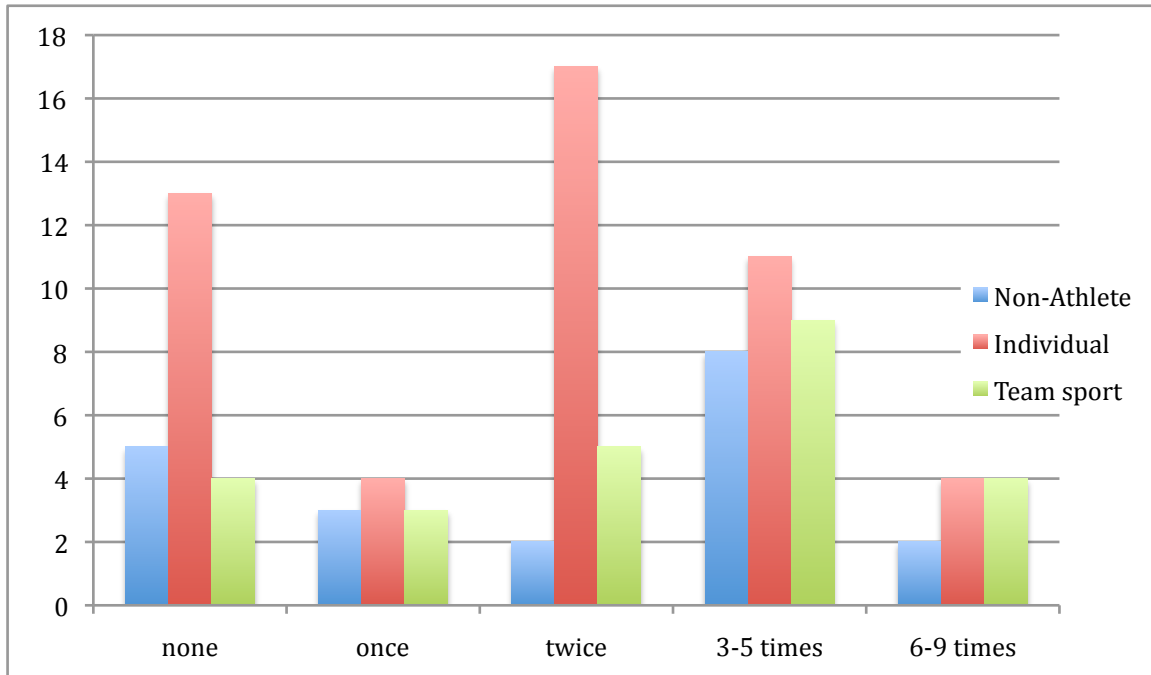
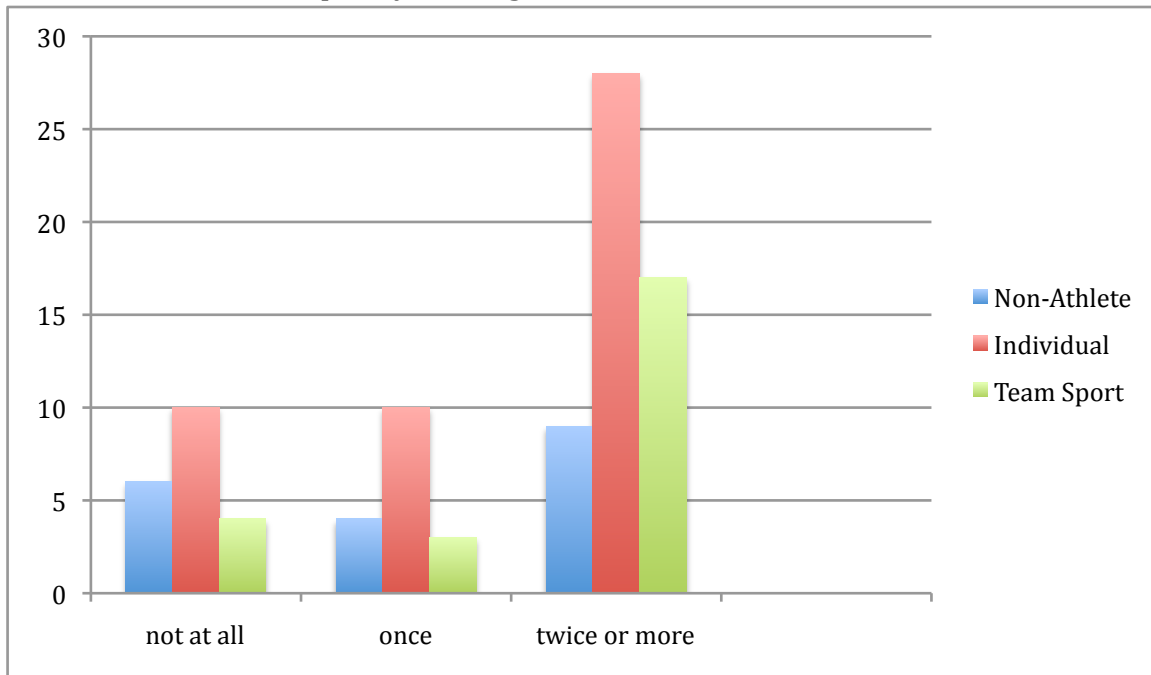


Figure 4.

Athletic Status and Frequency of Hangovers



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Figure 5.

Self-Esteem Means across Categories

Category	Mean Self-Esteem Score
Male	33.6
Female	33.1
Non-Athletes	33.5
Individual Athletes	32.9
Team Sport Athletes	34.2

### Discussion

There are many factors that influence students during their time in college. The current study aimed to find correlations between gender, self-esteem and binge drinking among students, specifically athletes, and Union College. The present research utilized surveys to measure self-esteem, instances of binge drinking and athletic status. Participants were categorized as either non-athletes, individual athletes, and team sport athletes based on their answers to questions regarding athleticism and team sport involvement.

The purpose of this study was to examine how binge drinking behaviors could be predicted by gender, self-esteem and athleticism. It was predicted that there would be a significant relationship between gender and binge drinking behaviors such that males would report more instances of binge drinking than females. A second hypothesis predicted that self-esteem would vary as a function of athletic status such that non-athletes would report significantly lower levels of self-esteem than team sport athletes and individual athletes. Finally, this study hypothesized that athletic status would influence frequency of binge drinking such that team sport athletes would engage in binge drinking more than individual athletes and non-



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athletes and that individual athletes would engage in binge drinking more frequently than non-athletes.

No significant correlations were found between gender and binge drinking, self-esteem and binge drinking, athleticism and binge drinking or athleticism and self-esteem.

### **Binge Drinking**

There was no significant effect of gender on binge drinking or correlation between gender and instances of binge drinking. Males were no more likely than females to experience hangovers. Contrary to hypothesis 1, males did not engage in more binge drinking behaviors than females. This finding suggests that among students at Union College gender cannot be used as a dimension to predict binge drinking. It is possible that the types of student Union College attracts and admits have similar drinking habits and thus there is no discrepancy between genders. Being that Union College is a small liberal arts school in the Northeast and attracts people from similar areas and socioeconomic classes, the student population is quite homogenous. Even though the study utilized random sample, the lack of diversity (3% African American, 7% Asian, 5% Hispanic) among the student body at Union College limits the study ([www.union.edu](http://www.union.edu)).

No correlation was found between self-esteem and binge drinking. Regardless of reported level of self-esteem, there was no significant difference in the number of instances of binge drinking or frequency of hangovers as reported by participants. Previous research (Neumann et al, 2009) supported the hypothesis that participants with higher levels of self-esteem would engage in more instances of binge drinking but other avenues of research provide support for lower levels of self-esteem predicting higher instances of binge drinking (DeHart et al 2009).

The research done by DeHart et al (2009) found that the level of self-esteem correlated to binge drinking based on the types of interpersonal interactions the participant experienced. In

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this way, both high and low levels of self-esteem acted as predictors of increased binge drinking as long as the interpersonal interaction experienced was consistent with the level of self-esteem. This is to say that if the participant had high self-esteem and had positive interpersonal interactions, they reported high levels of binge drinking. Additionally, low levels of self-esteem paired with negative interpersonal interactions predicted high instances of binge drinking.

The lack of significant findings in the present study could be attributed to the fact that there may have been a third variable was not taken into account. This is to say that, it is possible that the type of interpersonal interactions the participants had recently experienced (good or bad) influenced their self-esteem at the time of the study. It is also possible that the current record of the team influenced the athletes' self-esteem as well.

### **Athleticism**

Athleticism was not correlated to self-esteem such that participants' levels of self-esteem did not vary according to athletic status. Hypothesis 2 predicted that team sport athletes and individual athletes would report higher levels of self-esteem than non-athletes. Although no significant differences were found between groups' reported levels of self-esteem, team sport athletes had the highest mean score for self-esteem.

As previously stated, the lack of findings could be attributed to the success of the team during the time the survey was taken. Teams having a winning season might be more likely to report higher self-esteem than teams who are not winning as frequently. It is plausible that the size of the campus community and the sample size were not large enough to produce significant results. Perhaps if the study were to be conducted at a larger university with a larger amount of participants, there would be more significant results.

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Another possible reason why there were no significant results here could be attributed to the level of athleticism at Union College. All participants who reported being team sport athletes were Division III athletes (as no Hockey players participated). Perhaps a more rigorous program, like a Division I program, would yield more significant results. At some larger universities, members of athletic teams are “campus celebrities” of sorts. This added attention and praise from the campus community of these larger schools could potentially influence levels of self-esteem as well.

### **Athleticism and Binge Drinking**

There was no relationship between athletic status and binge drinking as hypothesis 3 predicted. Participant who identified as team sport athletes did not report more frequent instances of binge drinking than individual athletes and non-athletes. This could be attributed to the fact that Union College’s campus population is quite homogenous. Team sport athletes do not socialize exclusively with their team and interact in social settings with non-athletes and individual athletes. In this way, team sport athletes, individual athletes and non-athletes all attend the same social gatherings and are potentially consuming the same amounts of alcohol. As previously stated, it is possible that conducting this study at a larger school, where athletic teams are perhaps more exclusive, could yield results consistent with the hypothesis.

Another possible reason the current research was not consistent with previous research is the fact that sports season was not taken into account. Team sport athletes did not indicate whether or not they were in season at the time of the survey. It is possible that binge-drinking occurrences vary based on whether they are in season or out of season.

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### **Limitations and Future Research**

One of the study's main limitations lies primarily in evaluating participants' athletic status. Unlike the measures of self-esteem and binge drinking, there was no standardized method used to measure athleticism. Using standardized measures increases the reliability of the measures and thus produces more consistent and accurate results. Additionally, not all team sports on Union College's campus were represented in the study. Whether or not the team sport was currently in season was not taken into account when it came to evaluating binge drinking and self-esteem. It is possible that instances of binge drinking and level of self-esteem vary according to whether the athlete is in season. A follow-up study might examine this difference by splitting the team sport athlete category into two sub categories based on whether or not they were in season.

Another major limitation of the study can be attributed to Union College's homogenous population. Union College is a small liberal arts school that attracts and admits people of a certain academic caliber. Additionally, many of Union's students come from the tri-state area (New York, New Jersey, Connecticut). It is possible that the Union College population is homogenous and does not represent a diverse population. Because of Union's small campus and student body, there is more interaction and mixing between groups of friends on campus. This is to say that friend groups do not socialize exclusively but rather interact with many groups of people. This means that students on team sports may not socialize exclusively with their teammates. It is likely that social circles overlap with one another and may contain members of sports teams, non-athletes and individual athletes. Because of this, a question addressing friend groups and the types of people that team sport athletes hang out with could be important. For example, asking all participants to indicate what percentage of their friends are non-athletes,

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individual athletes and team sport athletes could provide evidence for the heterogeneous social groups. Based on the findings of this research, it is likely that regardless of athletic status, social circles would be very similar and contain a diverse group of people. If this study were to be conducted at a larger university, perhaps where athletic teams did not regularly intermingle with non-athletes or individual athletes, the results could potentially support the hypothesis.

Another limitation could be found in the fact that all of the team sports included in the study were Division 3 (as no Union College Hockey members participated in the study). While rigorous, the regimen and commitment associated with Division 3 sports is not as intense as the regimen and commitment associated with Division 1 sports. In this way, it is possible that the athletic involvement of team sport athletes at a division 3 level is not intense enough to create a discrepancy between team sport athletes and non-athletes and individual athletes.

A follow up study may compare the dimensions of self-esteem, athleticism and binge drinking across sports divisions. It would be interesting to compare team sport athletes from Division 1, 2 and 3 schools to examine whether or not there is a difference between these groups. It may be the case that only Division 1 team sport athletes, competing at a certain level, show differences in self-esteem and binge drinking compared to their non-athletic counterparts.

Another avenue of research that could follow up the present study would be to examine the dimensions of self-esteem and binge drinking as they vary based on the success of a given athletic team. This would require all team sport athletes to report their record for the season. It would be interesting to examine whether the teams' success influenced self-esteem or binge drinking behaviors of the members of the team. It is possible that athletes who are members of a team that is experiencing more wins would report higher levels of self-esteem than athletes who are members of teams that are losing. Additionally it would be interesting to examine

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whether binge drinking was influenced by record such that teams that are winning would report more frequent instances of binge drinking.

### **Conclusion**

Based on previous research conducted on self-esteem, athleticism and binge drinking, the present study aimed to find an interaction between these dimensions and predicted that self-esteem and athleticism would act as predictors of binge drinking behaviors. It was hypothesize that binge drinking would be predicted by gender, self-esteem and athletic status. There was no significant effect of gender or athleticism on binge drinking. There was also no significant effect of athletic status on self-esteem. While there were no significant results, the absence of relevant findings suggests the potential for further research in the field. The studies limitations may represent the potential for relevant results to be obtained should the study be conducted with a more diverse and larger population.

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### Appendix 1

#### **Rosenberg Self-Esteem Scale** (Rosenberg, 1965)

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you strongly disagree, circle **SD**.

- |   |           |
|---|-----------|
| 1. On the whole, I am satisfied with myself.                                  | SA A D SD |
| 2.* At times, I think I am no good at all.                                    | SA A D SD |
| 3. I feel that I have a number of good qualities.                             | SA A D SD |
| 4. I am able to do things as well as most other people.                       | SA A D SD |
| 5.* I feel I do not have much to be proud of.                                 | SA A D SD |
| 6.* I certainly feel useless at times.  | SA A D SD |
| 7. I feel that I'm a person of worth, at least on an equal plane with others. | SA A D SD |
| 8.* I wish I could have more respect for myself.                              | SA A D SD |
| 9.* All in all, I am inclined to feel that I am a failure.                    | SA A D SD |
| 10. I take a positive attitude toward myself.                                 | SA A D SD |

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### Appendix 2

#### College Alcohol Study

Please complete the questionnaire as soon as possible. Indicate your answers by checking off your responses. Your answers are anonymous. Do not write your name on the questionnaire. Your participation is, of course, voluntary. You do not need to answer any question, which makes you feel uncomfortable. Thank you for your help. We do hope you will take part and let your views be represented.

1. How old are you?

- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26 or older

2. Are you male or female?

- Male
- Female

3. What is your current year in school?

- Freshman (1st year)
- Sophomore (2nd year)
- Junior (3rd year)
- Senior (4th year)
- 5th year or beyond

4. Where do you currently live? (Choose one answer)

- Single sex residence hall or dormitory
- Co-ed residence hall or dormitory
- Fraternity or sorority
- Other university housing
- Co-op or university affiliated group house
- Off-campus house or apartment

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5. Are you a member of a fraternity or sorority?

Yes

No

6. How important is it for you to participate in the following activities at college? (Choose one answer in each row.)

	Very Important	Important	Somewhat Important	Not at all Important
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a. Athletics

e. Religion

h. Parties

The following questions ask about how much you drink. A “drink” means any of the following:

**A 12-ounce can (or bottle) of beer**

**A 4-ounce glass of wine**

**A 12-ounce bottle (or can) of wine cooler**

**A shot of liquor straight or in a mixed drink**

7. Think back over the last two weeks:

How many times have you had 5 or more drinks in a row?

None

Once

Twice

3 to 5 times

6 to 9 times

10 or more times

8. During the last two weeks:

How many times have you had four drinks in a row (but no more than that)?

None

Once

Twice

3 to 5 times

6 to 9 times

10 or more times

9. When did you last have a drink (that is more than just a few sips)?

(Exclude use in religious ceremonies)

I have never had a drink

Not in the past year

More than 30 days ago, but less than a year ago

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- More than a week ago, but less than 30 days ago  
 Within the last week

Answer question 10 and 11 only if you have had a drink in the past 30 days.

10. How many drinks in a row does it usually take you to get drunk? (By drunk we mean unsteady, dizzy or sick to your stomach.

(Choose one answer)

- 1 drink or less  6 drinks  
 2 drinks  7 drinks  
 3 drinks  8 drinks  
 4 drinks  9 drinks or more  
 5 drinks  Don't know or don't get drunk

11. Since the beginning of the school year, how often has your drinking caused you to . . .  
(Choose one answer in each row)

	Not at All	Once	Twice or more
a. have a hangover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. miss a class	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. get behind in school work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. do something you later regretted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. forget where you were or what you did	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. argue with friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. engage in unplanned sexual activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. not use protection when you had sex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. damage property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. get into trouble with campus or local police	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. get hurt or injured	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. require medical treatment for an alcohol overdose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. How would you best describe yourself in terms of your current use of alcohol?

- Abstainer  
 Abstainer-former problem drinker in recovery  
 Infrequent drinking  
 Light drinker  
 Moderate drinker  
 Heavy drinker  
 Problem drinker

13. Since the beginning of the school year, how often have you experienced any of the following because of other students' drinking?  
(Choose one answer in each row)

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Not at All	Once	Twice or more
a. Been insulted or humiliated	<input type="checkbox"/>	<input type="checkbox"/>
b. Had a serious argument or quarrel	<input type="checkbox"/>	<input type="checkbox"/>
c. Been pushed, hit or assaulted	<input type="checkbox"/>	<input type="checkbox"/>
d. Had your property damaged	<input type="checkbox"/>	<input type="checkbox"/>
e. Had to “babysit” or take care of another student who drank too much	<input type="checkbox"/>	<input type="checkbox"/>
f. Had your studying or sleep disrupted	<input type="checkbox"/>	<input type="checkbox"/>
g. Experienced an unwanted sexual advance	<input type="checkbox"/>	<input type="checkbox"/>
h. Been a victim of date rape	<input type="checkbox"/>	<input type="checkbox"/>

14. How often, if ever, have you used any of the drugs listed below. Do not include anything you used under a doctor’s orders. (Choose one answer in each row)

	Never Used	Used but not in past 12 months	Used but not in past 30 days	Used in past 30 days
a. Marijuana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Cigarettes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Have you ever had sexual intercourse?

Yes

No

How many people have you had sexual intercourse with in the past 30 days?

0

1

2 or more

17. How many close student friends do you have?

None

One

Two

Three

Four

Five or more

18. Which of the following best describes your grade point average so far this year?

A

A-

B+

B-

B

C+

C

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- C-
- D
- No grade or don't know

19. In the past 30 days, how many hours per day on average have you spent on each of the following activities?

(Choose one answer in each row)

Average # Hours per day

0 1 2 3 4 5 6 7 8

b. Studying outside of class

e. Socializing with friends

g. Intercollegiate athletics

20. Which of these racial or ethnic groups describes you best?

- White
- Black/African American
- Asian/Pacific Islander
- Native American Indian/Native Alaskan
- Other

21. During your last year in high school, on how many occasions did you have five or more drinks in a row.

- Never
- 1-2 occasions
- 3-5 occasions
- 6-9 occasions
- 10-19 occasions
- 20-39 occasions
- 40 or more occasions

22. How did your family feel about drinking alcohol when you were growing up?

- My family did not approve of drinking.
- They accepted light drinking but disapproved of heavy drinking.
- They accepted heavy drinking.
- There was no agreement about drinking in the family.

THANK YOU VERY MUCH FOR YOUR COOPERATION.

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### Appendix 3

#### Athleticism

1. Are you a member of a sports team? (Yes/ No) **(If no, SKIP to number 8) If yes, omit numbers 8 & 9)**
2. Varsity or club? (Varsity/Club)
3. If so, what sport? \_\_\_\_\_.
4. How many days per week do you normally workout while in season? (1, 2, 3, 4, 5, 6, 7)
5. How many days per week do you normally workout out of season? (1, 2, 3, 4, 5, 6, 7)
6. On average, how long are your workouts while in season? (Less than 30 min, 30min, 1 hour, 90min, more than 2 hours)
7. On average, how long are your workouts while out of season? (Less than 30 min, 30min, 1 hour, 90min, more than 2 hours)
8. If you are **not a team sport athlete at Union College**, on average, how many days per week do you normally work out? (0,1, 2, 3, 4, 5, 6, 7)
9. If you are **not a team sport athlete at Union College**, on average, how long are your workouts? (I do not workout, less than 30 minutes, 30 minutes, 1 hour, 90 minutes, more than 2 hours)

Please indicate to what extent you agree with the following statements

10. Overall, I feel better on days when I work out. (SA A D SD)
11. I feel upset or anxious when I do not workout. (SA A D SD)
12. My mood is positively correlated with the success of my workouts (SA A D SD)
13. Exercising is an important part of my routine/ everyday life? (SA A D SD)
14. I consider myself to be an athletic person (SA A D SD)
15. People who know me well would describe me as athletic. (SA A D SD)