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FACTORS THAT INFLUENCE ALCOHOL USE BY COLLEGE ATHL...

Factors that Influence Alcohol Use by College Athletes

BY

Nicole A.Gertken

A thesis submitted in partial fulfillment of the requirements for the

Master of Science

in Health, Physical Education, and Recreation

South Dakota State University

2011

## Factors that Influence Alcohol Use by College Athletes

This thesis is approved as a creditable and independent investigation by a candidate for the Master of Science in Health, Physical Education, and Recreation degree and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Dr. Patŷy Hacker  
Thesis Advisor

Date

Dr. Matt Vukovich,  
Head, HNS Department

Date

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## Abstract

## Factors that Influence Alcohol Use and Abuse by College Athletes

Nicole A. Gertken

2011

The purpose of the study was to examine specific factors influencing alcohol use by college student-athletes. Student-athletes have been identified as a group more prone to using and misusing alcohol than non-athletes. A survey was completed by 166 student-athletes of nine randomly selected institutions within the Upper Midwest. Participants were female and male, age 18 and older, and mainly of Caucasian ethnicity. A Chi-square test was utilized to determine if significant relationships existed among specific factors and alcohol use. Additionally, the statistical tests Kramer's V and Phi were used to examine the strength of significant relationships. Findings suggest alcohol use was dependent among type of sport (specific sports) played by student-athletes and sport types (individual or team). With limited research focusing on specific factors contributing to alcohol use, future research should focus on: surveying student-athletes at the national level, examining specific sports and sport types, observing group dynamics of teams and studying alcohol use among wet and dry college campuses.

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## Chapter 1

### **Introduction**

The use and abuse of alcohol is a problem that exists within American society. Although the problem is prevalent on the societal level, this problem seems to be especially problematic among students on college campuses. Alcohol related deaths and injuries of college students have been increasing. According to Hingson, Heeren, Winter and Wechsler (2005) in a span of three years the population of college students expanded by three percent and within the same time frame injuries and death caused by alcohol within this same group tripled the rate of the population increase (p. 267).

Alcohol use is not only prevalent among the American culture but is particularly evident in the realm of sport culture. Alcohol and sports seem to complement each other within athletics. According to Stainbeck (1997) many individuals viewing sport events believe that the presence of alcohol is part of the experience (p. 44). The relationship existing among sports and alcohol can be easily seen. Through the use of alcohol advertisements and alcoholic beverages sales during sporting events, the environment of sports venues can become problematic for spectators and athletes. Mucha (2010) reported a 21-year-old man who had been drinking during a Philadelphia Phillies game and intentionally vomited on a father and daughter and struck the father (2010, May 25). The impact of alcohol not only affects the behavior of individuals but also influences the overall atmosphere. This incident is one of the many that occur during sporting events. Although this particular incident occurred at the professional level, the problem also exists among college athletics.

Alcohol consumption by spectators occurs even in venues where alcohol is prohibited at the college level. College students are constantly exposed to media influence, peer pressure and cultural pressure to consume alcohol. Among college students, college athletes seem to consume and misuse alcohol the most. Nelson and Wechsler (2001) found peers not involved in athletics consumed less alcohol and to a lesser degree than athletes (p. 44). Factors such as type of sport and division within the National Collegiate Athletic Association (NCAA) may be factors influencing alcohol consumption and neglect. A study by Brenner and Swanik (2007) examined the factors of campus involvement and connection and the influence these factors have on alcohol consumption at nine collegiate institutions. They concluded no single source could be attributed to this problem. Obtaining more knowledge about what factors influence student-athletes to use and abuse alcohol will allow for the development of preventive programs to meet the specific needs of teams and individuals.

### **Statement of the Problem**

College athletes are a subgroup among college campuses with higher levels of alcohol use. The purpose of the study is to examine which factors influence the use of alcohol consumption among college athletes.

### **Purpose of the Study**

Alcohol consumption and misuse will be a problem that exists unless more preventive measures are taken to diminish this problem. By becoming aware of what influences athletes to misuse alcohol, coaches, administrators, sport psychologists and athletic trainers can become informed about these affects. These affects can then be

applied to establish acceptable behaviors and group norms among teams and athletes. This data could be especially critical if variables are found that make college athletes more or less susceptible to the use and abuse of alcohol. Two specific factors examined by Brenner and Swanik (2007) were campus connection and campus connection. Campus involvement was examined by the researchers based on participants' engagement in activities and relationships outside their athletic experiences. Campus connection was examined through the use of understanding participants' identification and belongingness to their college or university. Learning more about these two specific factors as well as others could be beneficial in developing improved policies regarding alcohol use within athletics and the development alcohol education programs targeting the specific challenges unique to the athlete population. By developing and altering policies and education, the effects could change the norms and perceptions which exist about alcohol use and abuse among college athletes. Since Brenner and Swanik's (2007) study involved institutions on the East coast, a replication of the same study conducted in the Upper Midwest is needed to determine if similar results exist for a different geographical location since there are likely to be some cultural differences based on the location of the study.

### **Research Hypotheses**

Previous research has shown that athletes participating at the NCAA Division I level consume higher amounts of alcohol than other divisions thus the hypothesis was that alcohol consumption would be greatest among Division I athletes. The null hypothesis is there is no relationship between NCAA Division and alcohol consumption.

Various researchers presented conflicting evidence on whether the type of sport influences alcohol use. Although there was conflict in research in identifying whether team sports or individual sports are more prone to a greater consumption of alcohol, most research notes athletes participating in team sports consume a greater amount of alcohol. With the basis of previous evidence, the research hypothesis posed was that alcohol use would be greater among athletes participating in team sports. The null hypothesis is there is no relationship between the type of sport an individual competes in and alcohol consumption. Brenner, Metz and Brenner (2009) found student-athletes with lower levels of alcohol consumption were more involved on campus beyond their athletic participation than student-athletes with higher levels of alcohol use were the opposite with regard to campus involvement. Campus involvement may be an influential factor in alcohol use and abuse by college student-athletes. The research hypothesis was that level of campus involvement impacts the use of alcohol. The null hypothesis is there is no relationship between level of campus involvement and alcohol consumption. Campus connection was another factor examined and it was determined student-athletes with higher levels of campus connection were more likely to consume alcohol at a dangerous level than student-athletes with lower levels of campus connection (Brenner et al., 2009). This suggests campus connection has an effect on alcohol use. Thus the research hypothesis was the level of campus connection influences alcohol consumption. The null hypothesis is there is no relationship between campus connection and alcohol consumption.

In addition to the four main hypotheses of the study, relationships were examined among alcohol use and nine of the demographics: (1) gender, (2) age, (3) year in school, (4) ethnicity, (5) hometown, (6) campus alcohol policy, (7) athletic financial assistance, (8) status as team captain and (9) number of NCAA sponsored sports played.

### **Significance of the Study**

By becoming attentive to how athletes are influenced to drinking, professionals in the sports realm will be able to aid these individuals. Martens, Watson II, and Beck (2006) examine how the type of sport (swimming/diving, baseball, softball, soccer, basketball, volleyball, cross country and track and field) contributes to alcohol use among its athletes. Relationships are established within each of these groups because of the amount of time these athletes spend with one another. A culture forms among the group that could be a contributor to the consumption and abuse of alcohol (Martens, et al., 2006). If certain groups are more likely to exhibit risky behaviors with the consumption of alcohol, it is essential that data be obtained to inform leaders in athletics. These individuals can use the information to implement preventive actions such as education programs and policies to alter the outcome of these specific athletic subgroups. Ford's (2007) study on alcohol use and sport team association discusses how research on social norms of individual sports teams may influence the consumption of alcohol. Studying team sports and individual sports will allow for more insight on the type of social structures that exist among these groups. Examining the NCAA I, II, and III Divisions will also serve as a behavior discriminator. In addition to examining the specific sports susceptible to consuming more alcohol, the NCAA Division, type of sport, investigating

how campus involvement and campus connections influences and impacts the use and abuse of alcohol is also important. Again, obtaining data in these specific areas is an asset in order to aid in successful alcohol abuse preventive measures.

### **Delimitations**

This study is delimited to the following:

1. Participants in the study were college student athletes.
2. Participants in the study were student-athletes competing in: baseball, men's track and field, softball or women's track and field in the Spring of 2011.
3. Responses were limited to those received by the survey submission deadline.
4. The survey was administered to nine upper midwest institutions of higher education.

### **Limitations**

The following are the limitations of this study.

1. Generalizations made can only be made among this population.
2. Participants may not have been serious in answering survey questions. Participants under the legal drinking age may be fearful of answering honestly. Some participants may overestimate or underestimate drinking consumption.
3. Participants may have been pressured by other individuals such as peers, administrators, faculty or staff, to take the survey.
4. Data was collected through an internet survey.
5. Questions in the survey may have been confusing or difficult for participants to understand.

6. Participants may not have checked the specific e-mail account to which the survey was sent.

### **Assumptions**

1. The participants were influenced by their personal beliefs, perceptions and culture in the use and abuse of alcohol.
2. Participants would fully understand the questions in the questionnaire.
3. The participants would honestly answer the questions of the survey.

### **Definition of Terms**

The following terms are defined to clarify their use in the study:

Athletic financial assistance. Monetary support provided through an institution's athletic program through sources such as scholarships or book loans.

Binge drinking. Consuming 5 or more drinks for men and 4 or more drinks for women within 2 hours.

Campus alcohol policy. A rule applying to the use of alcohol at the institution usually noted as wet or dry.

Campus connection. Perceived separation felt by student-athletes to their institution.

Campus involvement. Participation in activities linked to the institution or community excluding intercollegiate athletics.

College athlete. Individual attending and representing a college or university and participating in intercollegiate sport(s) recognized by the NCAA.



Drink. A 12-ounce beer, five-ounce glass of wine or 1.5-ounce shot of an alcoholic beverage.

Dry Campus. The prohibition of alcohol consumption on campus at any age with the exception of designated locations for legal drinking age individuals.

Hometown. Location student-athletes resided in prior to attending college.

Individual sport. A sport acquiring both individual and team scores.

NCAA. National Collegiate Athletic Association.

Sport type. A sport classified as either individual or team.

SPSS. Statistical Package for the Social Sciences.

Team sport. A sport acquiring a collective score with the participation of five or more individuals competing jointly.

Type of sport. A classification for each specific sport.

Upper Midwest. An area of the United States consisting of six states: Montana, Wyoming, South Dakota, North Dakota, Minnesota and Wisconsin.

Wet. The consumption of alcohol on campus is permitted for any one at the age 21 or older.

## Chapter 2

### **Review of Literature**

Researchers have become concerned with alcohol consumption of college students, especially college athletes, in order to gain understanding for implementing effective measures to reduce this behavior. For organizational purposes, the literature is presented under the following headings: (a) alcohol consumption by college students and athletes, (b) characteristics of alcohol use, (c) Social Ecology Model, (d) sport type, and (e) summary.

#### **Alcohol consumption of college students and athletes**

The use and misuse of alcohol exists on college campus throughout the United States. This is certainly apparent by the reports of college deaths that occur because of the influence of alcohol. Researchers are aware that alcohol consumption takes place by traditional students. Ford (2007) studied the use of alcohol by athletes and students through examining data of a national health survey and evaluating whether social norms and other variables such as demographics have an influence on alcohol use. As a result of the study athletes were found to binge drink at greater possibility than nonathletes. Similarly, other researchers have determined that student-athletes used more than nonathletes (Frye, Allen & Drinnon, 2010; Leichliter, Meilman, Presley & Cashin, 1998; Nelson & Wechsler, 2001; Tewksbury, Higgins & Mustaine, 2007; Wilson, Pritchard, & Schaffer, 2004). Yusko, Buckman, White and Pandina (2008) found male athletes to participate in heaving drinking over the past year than nonathletes (p. 284). There was a difference however among female athletes and nonathletes. Female athletes were found

to consume less alcohol in the past 30 days than nonathletes (p.286). Some variation exists on whether athletes consume more alcohol than nonathletes but most research suggests college students use alcohol more than their nonathletic peers.

The college environment seems to impress students and their behaviors. This environment seems to have a stronger influence on college student-athletes than nonathletes. Students-athletes appear to be more influenced by their peers and environment than nonathletes. Yusko et al. (2008) noted the athletic environment as distinctive with higher physical demands, higher level of stress and time restriction than that of nonathletes (p.281). According to Ford (2007) social norms play a role in the lives of individuals and can have an influence on the behaviors of individuals. He also mentions that most athletes spend a large amount of their time together and not as much time in other areas of college such as organizations. The time spent together creates cohesion among the group and strengthens the relationships but also establishes social norms among the group. His study is limiting because the subjects were only male.

Hildebrand, Johnson and Bogle (2001) studied the use of alcohol by examining three groups of college students: college athletes, college students who were former high school athletes and college students who were never athletes. Hildebrand et al. (2001) discovered that individuals who were never an athlete at either the high school or college level were less likely to misuse and participate in risky behaviors. Athletes are part of a realm that is by nature filled with the influence of alcohol. In American culture, alcohol and sports seem to go hand in hand for spectator and athlete alike. Athletes are immersed in this culture. This culture has a great impact on influencing the behaviors and

perceptions of college students-athletes. Culture plays a role in alcohol consumption; various characteristics have been determined to impact alcohol use

### **Characteristics of alcohol use**

Various factors have been found to influence alcohol use and abuse by college student-athletes. The NCAA Division in which student-athletes compete has been identified as a contributor to alcohol consumption. Brenner and Swanik (2007) examined alcohol use among NCAA Division I, II and III including both team and individual sports; they reported that team sports of Division I institutions are more prone to alcohol use. Frye et al. (2010) found student-athletes competing at institutions associated with a religion were less likely to drink than student-athletes of public institutions. Brenner and Swanik's (2007) study is limited because the schools used were located only in the Northeastern United States and were of convenience. In addition, not all sports were represented in the study (Brenner & Swanik, 2007).

Gender has been another area examined in regards to alcohol use. Wilson et al. (2004) determined reasons for alcohol use among genders. They found male athletes consumed alcohol due to the social implications while female athletes used alcohol as coping strategies. Similar to female athletes, nonathletes also use alcohol as coping strategies. Yusko et al. (2008) found male athletes were more likely to consume heavy amounts of alcohol compared to that of female athletes and nonathletes.

Lewis (2008) studied how leadership roles, social norms, danger perception and coaches' attitude influenced the use of alcohol. Participants were divided into leaders and non-leaders and binge drinkers and non-binge drinkers (Lewis, 2008). Both leaders and

non-leaders were influenced by the norms of their close friends and did not perceive any dangers (Lewis, 2008). Ford (2007) also found that social norms had an impact on alcohol use among college athletes. Leichter et al. (1998) found athletics caused a greater level of binge drinking and became even greater as a team leader. Lewis (2008) reported leaders who believed their coaches did not approve of alcohol use were less likely to use alcohol. The leadership roles seem to increase the likelihood of alcohol use, but coaches may have a greater influence in regards to alcohol behaviors than their peers with some student-athletes.

Lewis (2008) determined that the age alcohol consumption began influenced the behavior of binge drinking later in life. The age at which alcohol was first consumed later impacted alcohol use behavior (Lewis, 2008). Hildebrand et al. (2001) also examined alcohol use in regard to age at which it was first used and determined that the first use of alcohol has an influence on later use of alcohol. This suggests that alcohol use could be influenced prior to coming to college. Lewis (2008) also discussed that research should be done among all divisions of athletics and is limiting because his study only involved one university.

In addition to age in which alcohol was first used Dumas, Turrisi, Coll, and Haralson (2007) found freshmen student-athletes were likely to face greater risks and outcomes associated with alcohol use than nonathlete freshmen. The uniqueness of athletics may perhaps influence student-athletes of different years to use and abuse alcohol.

Another factor examined in the influence of alcohol consumption was involvement. Brenner et al. (2009) noted that social networks (team and group involvement) can have an impact on behavior of alcohol use. The groups student-athletes associated with impacted their behaviors. Greater involvement on campus was found to decrease the use and abuse of alcohol while athletes reporting less involvement were found to have higher levels of alcohol consumption (Brenner et al.). Gender differences were determined in regards to involvement. Brenner et al. (2009) found females were more prone to campus involvement than males resulting in lower levels of alcohol consumption. A difference also existed between individual and team sports. Brenner et al. (2009) found athletes competing in individual sports participated in campus involvement at a larger level than those competing in team sports.

In addition to involvement, campus connection was examined and found to be different effect on alcohol use than that of campus involvement (Brenner et al., 2009). Campus connection was the perceived isolation student-athletes felt toward their institutions. Within the study, student-athletes consuming large amounts of alcohol were found to be more connected to their campus (Brenner et al., 2009). Brenner et al. (2009) note this could be because the student-athletes felt connected to their campus through the involvement of their sport. Connection to a campus may perhaps promote alcohol use and abuse. The findings however, are not consistent with the research done by Cherry (1987) "...which found that college students with a strong bond to the college community drank less than students with weak bonds" (as cited in Brenner et al., 2009, p. 316). A contrast seems to exist as to whether campus connection does impact alcohol use.

### **Social Ecology Model**

McLeroy, Bebeau, Steckler and Glanz (1988) stated that, "...the Social Ecology Model suggests that behavior is affected by multiple levels of influence including intrapersonal, interpersonal, organizational, community and policy factors" (as cited in Williams et al., 2008, p. 152). Alcohol use by college athletes is applied to this model, and interpersonal and intrapersonal divisions of the model seem to have the largest impact of influencing athletes (Williams et al., 2008). A possible contributor to this may be that student-athletes perceive themselves as leaders on campus. This perception of status may have an impact on their behaviors. Brenner et al. (2009) also noted how social groups could influence health behavior, specifically alcohol use. Personal values and how others view the alcohol consumption of their peers are factors that contribute to alcohol use among athletes. Williams et al. (2008) noted the study is limited because the sample size was not random and no separation between in season and out of season athletes existed.

### **Type of sport**

Martens et al. (2006) examined the consumption of alcohol and specific sport. Martens et al. (2006) found of the different sport affiliations, swimmers and divers use the most alcohol. Swimmers and divers have very intense and strenuous workouts that are time consuming resulting in decreased social time (Martens et al., 2006). Martens et al. (2006) suggested that swimmers and divers may believe that they are able to burn off the alcohol they drink in their workouts. In addition, swimmers and divers spent large amounts of time practicing and competing together thus establishing relationships within

the group and limiting time with outside groups (Martens et al., 2006). Because this specific group did not have time to interact with others outside their own group, the group culture could have influenced their alcohol use. Brenner et al. (2009) noted lack of involvement outside of sport can affect the use of alcohol by athletes. Swimmers and divers lack of involvement in other groups beside their team may influence alcohol consumption. Martens et al. (2006) study however, is limited because participants are from Division I schools only and do not represent all sports. Storsved (1996) examined alcohol use among college athletes competing in various spring sports at the Division III level. He found baseball players and men's tennis players were more likely to consume larger amounts of alcohol (Storsved, 1996). The uniqueness and composition of specific sports may be influences in the behavior of alcohol consumption.

### **Summary**

The literature on alcohol consumption and misuse suggests that college athletes drink more than traditional college students. Numerous factors and characteristics seem to influence alcohol consumption by athletes. Social norms and perception of alcohol use by others seem to be major factors of influence. The kind of sport athletes participate in may contribute to the consumption of alcohol. There are numerous areas that should be expanded in the literature to form a more concrete foundation on the influences of alcohol use and misuse. More data is required to determine whether specific factors impact the use and abuse of alcohol. By finding behavior patterns within specific groups, solutions can implemented to cater to their specific needs. The impact of social norms, personal values and views, and perceptions of alcohol use should also continue to be studied.



### Chapter 3

#### **Method**

The purpose of the study was to examine which factors influenced athletes' consumption of alcohol. The conduct of the study included the following organizational steps: (a) arrangements for conducting the study, (b) selection of subjects, (c) procedures for testing and gathering data, (d) instrumentation, (e) treatment of data, and (f) summary.

#### **Arrangements for Conducting the Study**

The original survey (Appendix A) was developed by Dr. James Brenner from West Chester University. Permission was granted to use and modify the original survey. After receiving human subjects approval from South Dakota State University, the survey was modified with the suggestions by Dr. James Brenner during a personal interview and the recommendations of the research committee. The survey was then piloted and examined for ambiguous and misleading questions. All questions were found to be clear and understandable. In the fall of 2010, a pilot study was conducted at one university as a result of convenience and offered all sports being surveyed in the study. The pilot study was done to ensure validity and reliability of the modified survey (Appendix B). Hoonakker and Carayon (2009) found an appropriate e-mail response rate in regards to email surveys to be 33 percent. A 33 percent response rate was the objective for the pilot study and research study

The study was conducted with nine randomly selected NCAA Division I, II, and III institutions or institutions transitioning to one of the levels within the Upper Midwest. The institutions were selected for the study based on the criteria of offering at least three

out of the four major sports (baseball, men's track and field, softball and women's track and field). All institutions matching the sport criteria were then randomly drawn. E-mail messages were sent to the appropriate athletic administrators of the selected institutions specifying goals and study outcomes. Institutions had the option to decline participation in the study. After receiving approval from administrations, the goals were sent to sport specific coaches via e-mail message. In addition, another e-mail was sent to the sport specific coaches containing a consent form and survey link that was to be forwarded to their specific student-athletes.

### **Selection of Subjects**

All the subjects were volunteers and were actively enrolled at one of nine institutions. Participants were male or female and 18 years of age or older. Subjects were active participants of an intercollegiate baseball, men's track and field, softball or women's track and field at an institution of a NCAA Division I, II or III level or universities transitioning into one of these levels. These sports were selected because they are the most common spring sports offered among the Midwest region. They were also selected because Brenner and Swanik (2007) previously selected the same sports in their study.

### **Procedures for Testing and Gathering Data**

Subjects were administered a link to a survey through the secured website Survey Monkey via e-mail in the spring of 2011 by their respective sport coach. Consent was implied when participants responded to the survey. Subjects were able to answer only questions they felt comfortable answering. They also had the choice of not continuing to

participate by not submitting the survey. Participants were provided four weeks to complete the questionnaire. Answers were coded to numbers. The statistical software program Statistical Package for the Social Sciences was used to analyze the data.

### **Instrumentation**

A 58 question survey was offered to the participants (see Appendix B). Questions one through 11 pertained to demographics, hometown size and sport specific information. Questions 12 through 28 concerned campus involvement. In question 12, participants were asked about class attendance. Question 30 inquired about the likelihood of getting a recommendation from a faculty/staff member outside of athletics. Question 31 requested their current cumulative grade point average. Campus connection issues were posed in questions 32 through 40. Question 41 asked the participants if they had consumed alcohol since the beginning of the school year. If the participants answered no, the survey was terminated. However, if the participants answered yes, they continued with question 42. Question 42 asked about the preferred choice of alcoholic beverage with the option to add anything not listed. Questions 43 through 58 asked about consumption behavior and external factors.

The original instrument was developed by Dr. James Brenner. A panel of four experts evaluated and examined the instrument for validity. In addition, a pilot test was completed and resulted in a Cronbach's alpha of 0.85 and in the actual study the Cronbach's alpha was 0.87 (Brenner et al., 2009, p. 308). The instrument was found to be reliable. After receiving approval by Dr. James Brenner to utilize his instrument, modifications were made to the survey. The original instrument had six questions in

regard to demographics. An additional five more questions were added in regard to hometown size, campus alcohol policy, athletic financial assistance, NCAA Division and additional NCAA varsity sports played. Section 2 and 3 in the original instrument were removed because of the insignificance determined by Dr. James Brenner. In the original instrument 23 questions were developed regarding campus involvement. After modifications had been made a total of 19 questions were used of the original 23. The question regarding receiving a written recommendation from faculty and staff outside of athletics was modified because participants in the pilot study noted the possible answers were not clear. As a result the likert scale for this question was modified to match the rest of the instrument. In the original instrument three questions asked about similar artist events. These three questions were combined into one question. A question regarding attendance to meetings of various campus groups was dropped. This question was dropped because another question in the instrument asked about membership in organization. Since the two questions were very similar, only the question regarding membership was used. In addition, a modification was made to the membership of an organization question by adding active. This was added to examine proactive individuals in regard to organization membership rather than passive. The last question eliminated from the original instrument asked about working on projects within in the off campus community. Since the questions did not directly ask about campus related involvement, it was eliminated for the instrument. The questions were specifically focused to evaluate on-campus involvement.

### **Treatment of Data**

All data were downloaded from the Survey Monkey website onto a password secured flash drive. All surveys were checked for completeness. Surveys with any questions answered were used in the analysis of data. The Pearson chi-square test was applied to the data to determine whether significant relationships existed among variables through SPSS. In addition to the chi-square test, Kramer's V and Phi tests were used to determine the strength of any significant relationships. Percentages and descriptive statistics were utilized to summarize and categorize data. Data were presented in the order it appeared in the survey to allow for consistency and logic. For example, the questionnaire asks participants first about their demographics, followed by campus involvement, then campus connection and finally alcohol use.

In the fall of 2010, a pilot study was completed using the Survey Monkey website. The survey was sent to 130 participants. Participants receiving the survey were an athlete for baseball, men's track and field, softball or women's track and field. Of the 130 participants, 32 student-athletes responded to the survey. The response rate for the pilot study was 25.4%.

### **Summary**

This chapter presented the procedures used in the study. Nine institutions were randomly selected based on their membership within one of the NCAA Divisions, geographical location and satisfying the criteria of offering at least 3 of 4 designated sports. Subjects were then selected based on the participation within a specific sport. Participants were all over the age of 18 and consisted of both genders. The research

instrument used in the study was a questionnaire and the software program SPSS was used to analyze the data. Percentages and frequencies were calculated to present a summary of the survey data. Chi-Square was utilized to examine if any relationship existed among alcohol use and four specific factors (division, type of sport, campus involvement and campus connection).

## Chapter 4

### **Data Analysis**

The purpose of the study was to examine if any of the four research hypotheses (division, type of sport, campus involvement and campus connection) influenced the behavior of alcohol consumption among college athletes attending nine randomly selected institutions. The analyses of this chapter include the following sections: (a) response rate, (b) demographic data and (c) hypothesis testing.

#### **Response Rate Analysis**

The survey used for this study was emailed to 1,273 college athletes attending one of the nine randomly selected institutions located throughout the upper Midwest. In the fall of 2010, a pilot survey was e-mailed to 130 student-athletes with 33 responses (25.4% response rate). After obtaining pilot data, a few modifications were made to the survey with the approval of the research committee. The revised survey was then e-mailed to nine randomly selected institutions with 167 returned responses (13.1% response rate). This response rate did not match the response rate of 33 percent noted by Hoonakker and Carayon (2009) as appropriate for e-mail surveys. The actual sample was 166 responses (13.0% response rate) because one respondent did not answer any of the survey questions. The response rate for the study was about half that of the pilot response rate. The variation in response rates could have been the result of numerous factors, which will be discussed later in the paper. The Division I institutions had a total of 454 student-athletes participating in baseball, men's track and field, softball and women's track and field and yielded 59 responses (35.54%). Division II institutions had a total of

341 student-athletes and a return response rate of 16 (9.64%). The Division III institutions had a response rate of 87 (52.41%) with a total of 478 student-athletes participating in one of the four sports. Four (2.41%) participants who completed the survey chose not to disclose the NCAA Division in which they participated.

### **Demographic Data**

Participants of the survey were asked to answer 11 questions about demographics. The areas included: (a) gender, (b) age, (c) year in school, (d) ethnicity, (e) hometown size, (f) campus alcohol policy, (g) participation of spring sport, (h) receiving athletic financial assistance, (i) NCAA Division, (j) a team captain and (k) participation in any other NCAA varsity sport.

Table 1 displays the distribution of gender among survey participants. Of the 166 respondents, 74 were male (44.58%) and 92 were female (55.42%). The gender sample is not an actual representative of the actual population because there were 710 (55.77%) males and 563 females (44.23%) in total.

Table 1

#### *Gender of Participants*

Gender	#	%
Male	74	44.58
Female	92	55.42
Total	166	100.0

In addition, a Chi-square of independence was calculated comparing gender and alcohol consumption since the start of the academic year. The null hypothesis was there



is no significant association between gender and alcohol consumption. No significant relationship was found ( $\chi^2(1) = .929, p > .05$ ) and the null hypothesis was accepted.

Gender and alcohol use seem to be separate from each other.

In Table 2, the distribution of the participants' ages is shown. Of the 166 participants, two (1.20%) declined to disclose their age. Thirteen (7.83%) of the respondents were age 18. Forty-six (27.071%) of the participants were age 19. There were 36 respondents at age 20 (21.69%). Thirty-seven of the individuals participating in the survey were age 21 (22.29%). Respondents' age 22 or older consisted of 32 (19.28%) individuals.

Table 2

*Age of Participants*

Age	#	%
18	13	7.83
19	46	27.71
20	36	21.69
21	37	22.29
22 & over	32	19.28
No Response	2	1.20
Total	166	100.0

A Chi-square of independence was also computed to determine whether a relationship existed between participants' age and alcohol use since the start of the school year. The null hypothesis states there is no association between age and alcohol use. A

significant interaction was found ( $\chi^2(4) = 18.015, p < .05$ ) thus resulting in rejection of the null hypothesis. As participants' age increases the more likely alcohol use occurs.

Table 3 (see page 26) shows the participants' year in school. All 166 participants choose to answer the survey question regarding year in school. Thirty-eight (22.9%) of the respondents were first year student. Of the participants, 41 (24.7%) noted themselves as second year students. Similar to the student identifying themselves as first year students, 38 respondents (22.9%) were in their third year of college. There were 39 respondents (23.5%) in their fourth year and 10 (6.0%) in their fifth year. The distribution of year in school among survey participants appears to be similar to the actual population. Of first year student-athletes, 405 (31.8%) made up of the population while second year student-athletes made up less with a total of 327 (25.7%). With regard to response rates, second year athletes answered the survey more than first year athletes even though the actual population consisted of more first year student athletes. This again held true for the third and fourth year respondents. The actual number of third year student-athletes was 284 (22.3%). Fourth year student-athletes consisted of 224 (17.6%). In the survey more fourth year athletes responded than third year even though there were a great number of third year student-athletes in the actual population. Student-athletes competing in athletics beyond the fourth year made up 33 (2.6%) individuals in the actual population. In the survey, however, student-athletes participating beyond the fourth year consisted of 10 (6%) of the total number of survey participants.

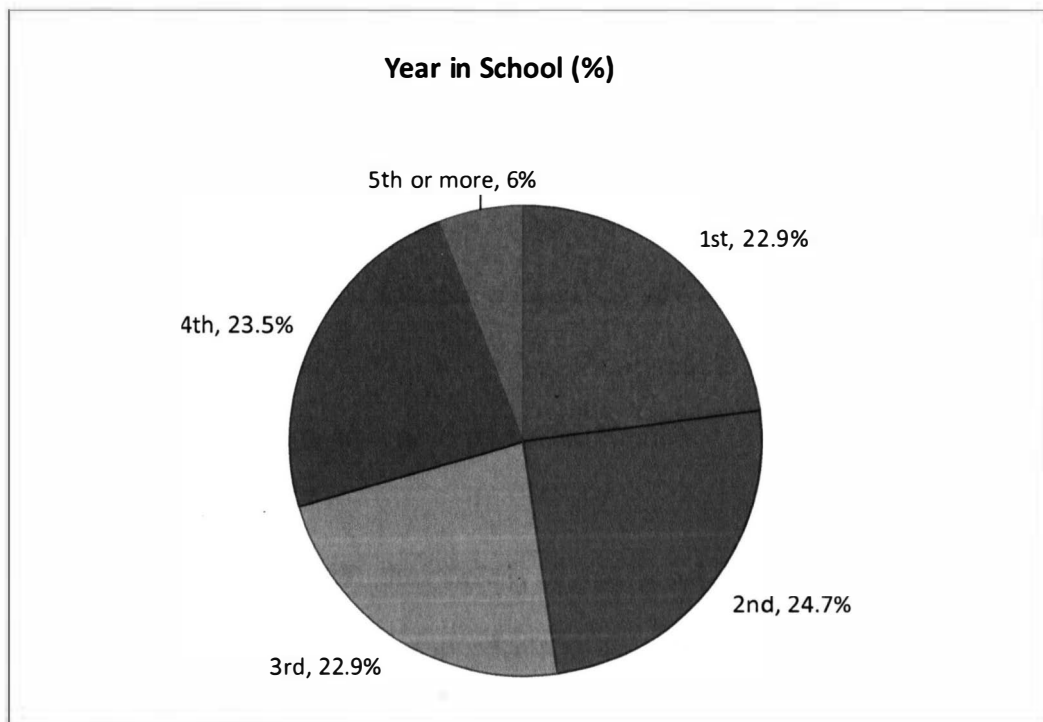
The year in which participations are in school is presented in Figure 1 (see page 26). Second year student-athletes made up the greatest number in the sample while fifth

Table 3

*Year in School of Participants*

Year	#	%
1 <sup>st</sup>	38	22.9
2 <sup>nd</sup>	41	24.7
3 <sup>rd</sup>	38	22.9
4 <sup>th</sup>	39	23.5
5 <sup>th</sup> or more	10	6.0
Total	166	100.0

Figure 1

*Year in School of Sample Population*

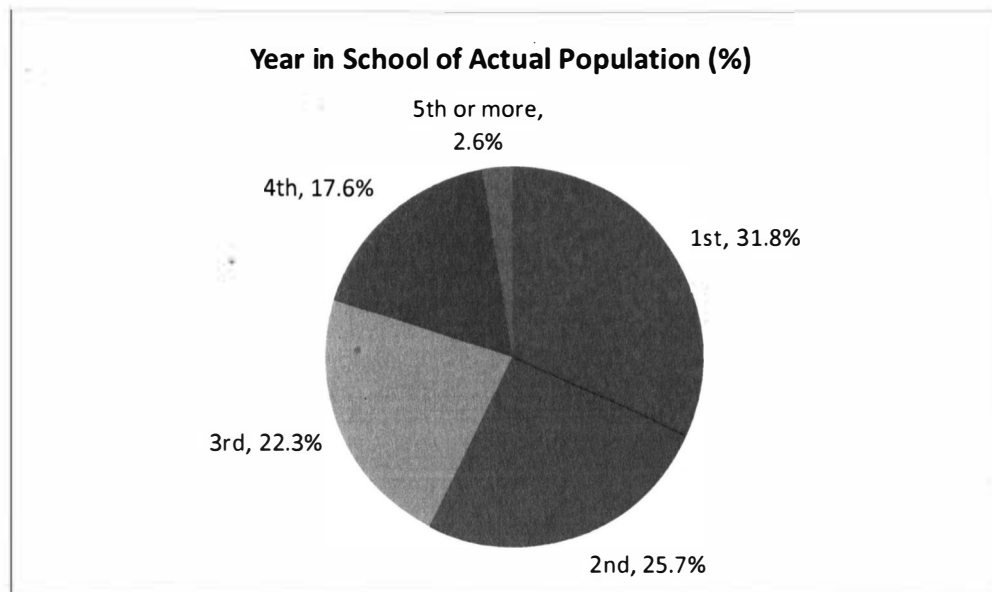
year athletes made up the smallest number of participants. There were an equal number of first and third year student-athletes in the sample. The fourth year student-athletes were the second largest group among the sample. When compared to the actual population however these proportions differ. The sample does not represent the actual population as a whole in regards to year in school.

Figure 2 (see page 28) presents the year in school of the actual population. In the actual population first year student-athletes constituted the largest portion of the population and fourth year student-athletes comprised of the smallest with the exception of the athletes in the fifth year or beyond in school. The second largest group in the actual group was second year students and the third largest group was third year students. When examining the actual population, a pattern is seen. As student-athletes progress in athletic career, the number of student-athletes decreases for each specific year. This pattern was not present in the sample population.

Additionally, a Chi-square of independence was calculated comparing the results of year in school and the consumption of alcohol since the start of the academic year. The null hypothesis was there is no relationship regarding year in school and alcohol use. The null hypothesis was rejected because a significant relationship was found ( $\chi^2(4) = 16.274$ ,  $p < .05$ ). As participants' progressed in school the likelihood of consuming alcohol increased.

In Table 4 (see page 29), the ethnicity of student-athletes is displayed based on each specific ethnicity. Of the 166 respondents, two (1.2%) participants chose not to answer the question pertaining to ethnicity. The largest population in the survey group

Figure 2

*Year in School of Actual Population*

was Caucasians consisting of 149 (89.8%) individuals. The next largest ethnicity group was African Americans with six (3.6%). Five Hispanic student-athletes (3.0%) responded to the survey. Asian Americans consisted of two (1.2%) individuals and one student-athlete (0.6%) was Native American. One (0.6%) survey participant was identified as other. Since the Upper Midwest ethnicity was predominately of the Caucasian ethnicity, a large number of Caucasian participates in the survey fit the geographical ethnicity.

The ethnicity of the participants is displayed in Figure 3 (see page 29).

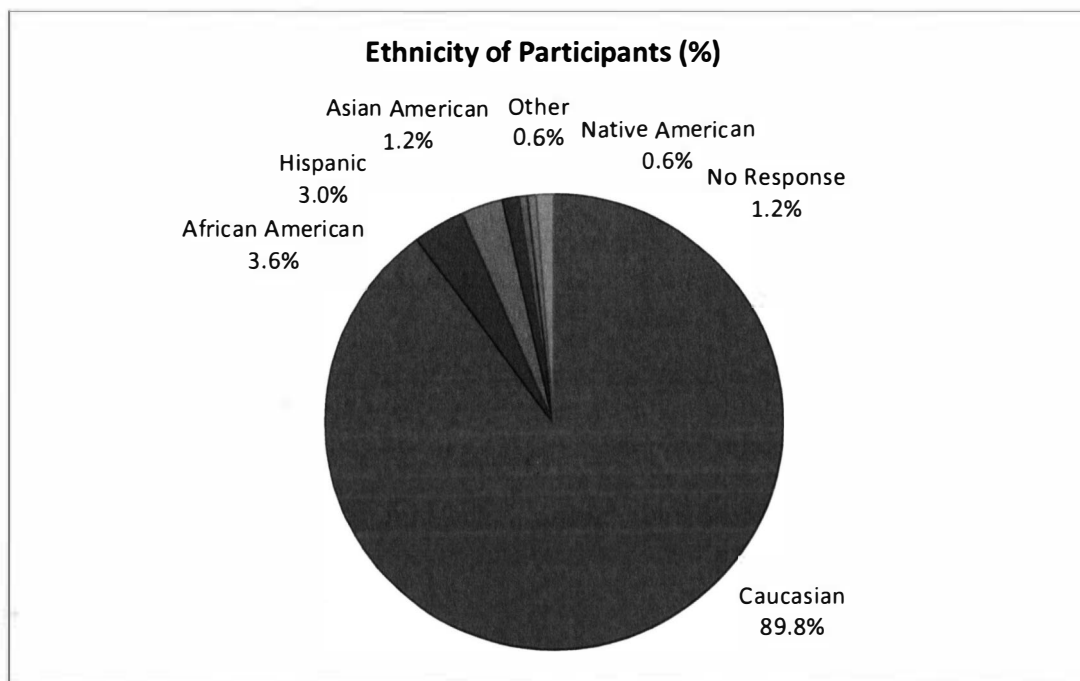
Participants of the Caucasian ethnicity were the greatest in the sample. The African American ethnicity was the next largest followed by Hispanic. Respondents of the Asian American ethnicity and participants choosing not to respond were equal in size and comprised of the second to smallest groups. Participants of the Native American ethnicity

Table 4

*Specific Ethnicity of Participants*

Specific Ethnicity	#	%
Caucasian	149	89.8
African American	6	3.6
Hispanic	5	3.0
Asian American	2	1.2
Native American	1	0.6
Other	1	0.6
No Response	2	1.2
Total	166	100.0

Figure 3

*Ethnicity of Participants*

and other as ethnicity were the same in size and encompass the smallest groups of the sample. Since the institutions were located in the upper Midwest which is comprised of mainly Caucasian ethnicity influenced the large number of Caucasian student-athletes. Geographical region impacts ethnicity greatly.

A Chi-square of independence was calculated but could not be used because the assumptions were not met.

Table 5 presents the ethnicity of the participants based on majority and minority groups. Of the respondents, 149 (89.8%) were among the majority group and 15 (9.0%) were among the minority group. Again two (1.2%) participants in the study opted not to answer the question pertaining to ethnicity.

Table 5

*Ethnicity Group of Participants*

Ethnicity Group	#	%
Majority	149	89.8
Minority	15	9.0
No Response	2	1.2
Total	166	100.0

Since the assumptions for a Chi-square of independence were not satisfied, the calculation could not be utilized to determine whether any relationship exists between the ethnicity group of participants and alcohol consumption since the beginning of the academic year.

In Table 6 hometown size of survey participants is shown. Two (1.2%) participants chose not to answer the question. Student-athletes from rural residency consisted of 26 (15.7%) while 51 (30.7%) came from small towns. Suburban hometown size had the greatest number of participants with 77 (46.4%) and urban had the least with 10 (6.0%).

Table 6

*Hometown Size of Participants*

Hometown Size	#	%
Rural > 2,500	26	15.7
Small Town 2,500 - 19,999	51	30.7
Suburban 20,000 - 249,999	77	46.4
Urban < 250,000	10	6.0
No Response	2	1.2
Total	166	100.0

A Chi-square of independence was calculated computed comparing the results of hometown size and the consumption of alcohol since the start of the academic year. The null hypothesis states there is no association between hometown size and consumption of alcohol. No significant relationship was determined ( $\chi^2(3) = 3.352, p > .05$ ). The null hypothesis was accepted. There is no relationship among hometown size and alcohol use



since the beginning of the school year. These two events appear to be independent of each other.

Table 7 shows the campus alcohol policy of participants' institutions. Every college campus has an alcohol policy. This question examined the awareness student-athletes had about the alcohol policy on their specific campus. A wet campus allows students to consume alcohol on campus grounds as long as students are at least 21 years while a dry campus prohibits the use of any alcohol on campus with the exception of designated areas. Of the participants, 91 (54.82%) reported attending a school with a wet campus alcohol policy while 54 (32.53%) reported a dry campus alcohol policy. Eighteen (10.84%) participants were unaware of the campus alcohol policy and three (1.81%) chose not to respond to the question.

Table 7

*Campus Alcohol Policy of Participants*

Campus Alcohol Policy	#	%
Wet	91	54.82
Dry	54	32.53
Unknown	18	10.84
No Response	3	1.81
Total	166	100.0

In addition a statistical measure was used to determine the existence of a relationship among campus alcohol policy and the use of alcohol since the onset of the

academic year. The null hypothesis states there is no relationship between campus alcohol policy and the use of alcohol. A Chi-square of independence was calculated comparing campus alcohol policy and the consumption of alcohol since the start of the academic year. The null hypothesis was accepted because no significant relationship was found ( $\chi^2(2) = .967, p > .05$ ).

Participants were asked to report which of the spring sports competitively played, which is displayed in Table 8. Sports are reported in alphabetical order and no response noted last. Of the 166 responses, 31 (18.7%) reported competing in baseball, 41 (24.7%) reported participation in men's track and field, 20 (12.1%) reported competing in softball, and 56 (33.7%) reported participation in women's track and field. No response was provided by 18 (10.8%) of the participants of the survey. The great number of no responses could be a result of fear for being identified by the sport participants competitively played.

Table 8

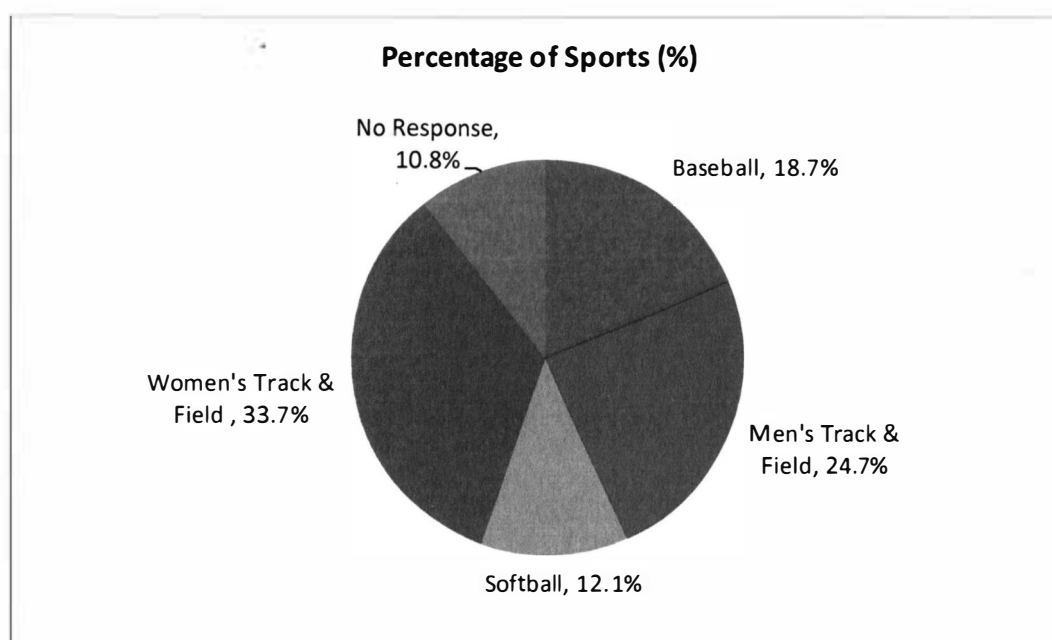
*Type of Sport of Participants*

Type of Sport	#	%
Baseball	31	18.7
Men's Track and Field	41	24.7
Softball	20	12.1
Women's Track and Field	56	33.7
No Response	18	10.8
Total	166	100.0

Figure 4 shows the percentage of each sport in the sample. Women's track and field made up the largest portion of the respondents. Men's track and field was the next largest group of respondents. Since these two sports usually have a

Figure 4

*Percentage of Sports*



larger number of student-athletes, a larger response rate from these two groups would be expected. Baseball had the third largest number of respondents and softball had the smallest with the exception of respondents declining to answer the question. Baseball and softball usually have smaller team rosters due to the composition of the sport. A smaller number of responses from these two sports compare to that of the actual number of participants in these sports.

A Chi-square of independence was computed to determine whether a relationship exists between type of sport and alcohol use in regards to the start of the school year. See the hypotheses testing section for details.

Table 9 displays the number of participants receiving athletic financial assistance. Financial assistance for student-athletes may be provided through such things as scholarships, stipends, textbook purchases and so forth. Athletic financial assistance was reported by 66 (39.76%) of the participants while 98 (59.04%) respondents noted no financial assistance through athletics. The disclosure of athletic financial assistance was declined by two (1.20%) participants.

Table 9

*Athletic Financial Assistance received by Participants*

Athletic Financial Assistance	#	%
Yes	66	39.76
No	98	59.04
No Response	2	1.20
Total	166	100.0

Additionally, a Chi-square of independence was calculated comparing the results of athletic financial assistance and the consumption of alcohol since the start of the academic year. The null hypothesis was there is no association among athletic financial assistance and alcohol use. No significant relationship was found ( $\chi^2(1) = 1.951, p > .05$ ). As a result the null hypothesis was accepted. Athletic financial assistance and alcohol consumption since the onset of the school year appear to be independent events.

Table 10 presents the NCAA Division of participants starting with Division I and continuing in ascending order and ending with no response. Division I had 59 (35.54%) participants respond to the survey while Division II had 16 (9.64%) respondents. Division III had the largest number of participants with 87 (52.41%) reporting. NCAA Division was not reported by four (2.41%) participants.

Table 10

*NCAA Division of Participants*

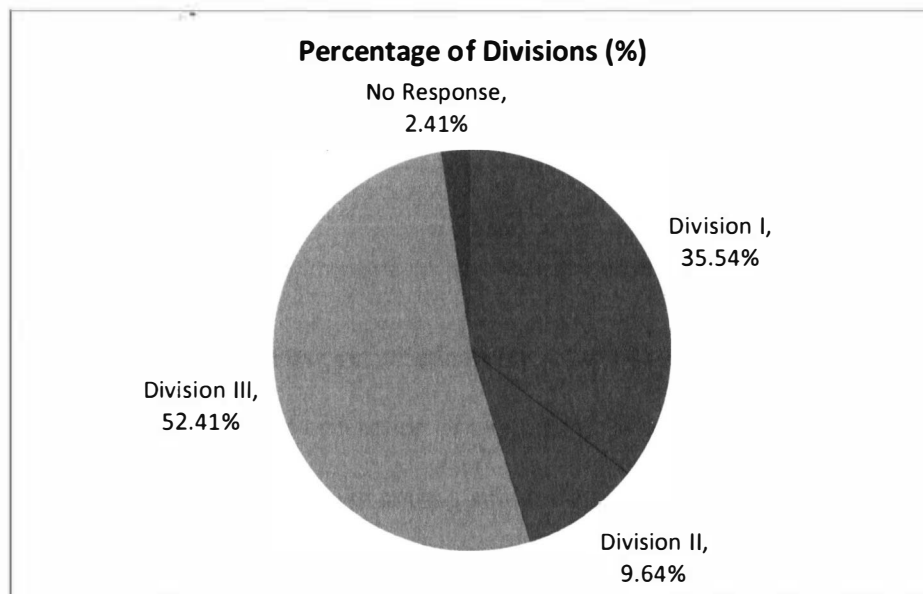
NCAA Division	#	%
DI	59	35.54
DII	16	9.64
DIII	87	52.41
No Response	4	2.41
Total	166	100.0

In Figure 5 (see page 37) the percentage of each division is displayed. Division III had the greatest number of respondents. Similar to the actual population many Division III institutions have more student-athletes within their athletic programs than Division I and II institutions because scholarships cannot be provided to participants at this level. Since no scholarships are awarded to Division III student-athletes, any individual can be accepted onto the team of any athletic ability. Division I was the next largest number. When comparing the number of athletes by division with the actual population, Division I had the second largest number of student-athletes. Division II had the smallest percent with the exclusion of no response. Although Division II had the smallest number of

athletes in the actual population, the sample does not denote that of the actual group. A small percent of participants choose not to respond to the question regarding NCAA Division.

Figure 5

*Percentage of Divisions*



A Chi-square of independence was computed to determine whether a relationship exists between NCAA Division and alcohol use since the start of the school year. See the hypotheses testing section for details.

One question on the survey examined the status as team captain of participants as seen in Table 11 (see page 38). There were 23 (13.86%) respondents noting status as a team captain. This however was the minority group compared to 137 (82.53%) respondents reporting no status as a team captain. Since athletic teams only have a few student-athletes designated as team captains, a smaller number of student-athletes

indicating status as a team captain would be expected. In some cases coaches do not employ team captains due to various reasons. Teams functioning with team captains may or may not be better off than those without. When electing team captains, various

Table 11

*Status as Team Captain of Participants*

Status as Team Captain	#	%
Yes	23	13.86
No	137	82.53
No Response	6	3.61
Total	166	100.0

methods may be utilized such as peer nominations, coach designation or self selected.

Examining the designation and utilization of captains or lack of may influence team culture, group norms and alcohol use among student-athletes. There were six survey participants declining to disclose status. A Chi-square of independence could not be calculated to determine if a relationship exists among status as a captain and alcohol use since the start of the school year due to the inability to meet the test assumptions.

Table 12 (see page 39) exhibits the number of NCAA sponsored sports played by participants. The number of sports are played by participants are displayed in ascending order and ending with no response. One sport was played by 93 (56.0%) of the respondents. A large number of one sport athletes could be expected due to the time commitment needed for college sports especially at the Division I level. Athletes competing in two sports had the next highest number of respondents at 63 (38.0%). Many

sports complement each other such as cross-country and track and field. Participating in two or more sports allow student-athletes to continue training throughout the year. Only one (.6%) participant reported participating in three NCAA sponsored sports.

Table 12

*Number of NCAA Sponsored Sports Played by Participants*

Number of NCAA Sponsored Sports	#	%
1	93	56.0
2	63	38.0
3	1	.6
No Response	9	5.4
Total	166	100.0

Participating in three intercollegiate NCAA sponsored sports is rare due to the complexity of balancing them and the overlapping seasons. This occurrence is more likely to occur at the Division III. Since student-athletes are not restricted by sport specific scholarships, student-athletes have more flexibility in participating in numerous sports. Groups can be very influential so gaining greater insight on the complexity of being a member of different sports teams may be beneficial in understanding the use of alcohol among college student-athletes. Of the 166 respondents, nine (5.4%) choose not to identify the number of NCAA sponsored sports played.

In Figure 6 (see page 40) the number of NCAA sponsored sports played by participants is displayed. A majority of the participants played only one sport.

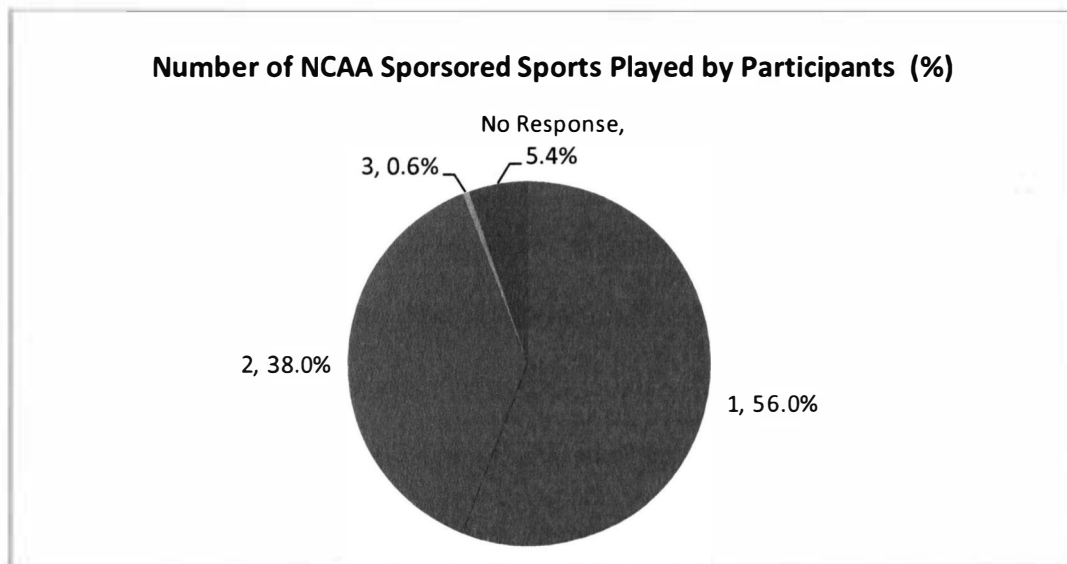
Respondents playing two sports comprised the second largest group. Participants



declining to answer the question consisted of the third largest group and three sport participants were in the smallest group of the sample. Over half of the participants compete and specialized in one sport. It is uncommon for student-athletes compete in three NCAA sponsored sports due to the level

Figure 6

*Number of NCAA Sponsored Sports Played by Participants*



of training and time restraints at the college level.

In addition to examining the demographics of the participants of the sample, hypothesis testing was used to determine whether a relationship existed between alcohol use and (a) type of sport, (b) NCAA division, (c) campus involvement, and (d) campus connection.

### **Hypotheses Testing**

A.05 alpha level was used to determine the significance of all hypotheses. All calculations were completed using SPSS.

### **Type of Sport Null Hypothesis**

The first null hypothesis regarding type of sport states there is no relationship between type of sport and alcohol use. In order to test this hypothesis a Chi-square of independence as used. The null hypothesis with regards to type of sport was rejected due to determining a significant relationship between alcohol use since the start of the academic year and type of sport ( $\chi^2(3) = 8.456, p < .05$ ). Student-athletes participating in certain types of sports were more likely to use alcohol. After noting a significant relationship between alcohol use and type of sport, a Cramer's V test was calculated to determine the strength of the relationship ( $V = .249, p < .05$ ). The type of sport has a medium effect on chance of alcohol use since the beginning of the academic year.

Further investigation was done in determining whether a relationship existed between sport type and alcohol use. The null hypothesis was there is no relationship between sport type and alcohol use since the start of the academic year. Again Chi-square of independence was calculated comparing the results of sport type and alcohol consumption since the start of the academic year. A significant relationship was found ( $\chi^2(1) = 6.940, p < .05$ ). Student-athletes competing in team sports are more likely to consume alcohol than those participating in individual sports. Since an association was determined between sport type and alcohol use, a Phi test was calculated to determine the strength of the relationship. A small effect was found ( $\Phi = .266, p < .05$ ). Student-athletes participating in team sports had a small effect on chance of using alcohol since the start of the academic year.

### **NCAA Division Null Hypothesis**

The second null hypothesis in regards to NCAA Division states there is no relationship between NCAA Division and alcohol use. A Chi-square of independence was calculated comparing the results of NCAA Division and the consumption of alcohol since the start of the academic year. The null hypothesis was accepted because no significant relationship was found ( $\chi^2(2) = 1.471, p > .05$ ). There is no relationship between the NCAA Division student-athletes compete within and alcohol use from the time when the academic year began. NCAA Division and the use of alcohol appear to be independent of one another.

### **Involvement Null Hypothesis**

The cumulative involvement score was based off the 19 questions answered on the survey regarding campus involvement. Only participants answering all 19 questions were used in the statistical calculation. Due to a small sample of the target population, cumulative involvement scores of each participant were categorized. To be considered in the low involvement category a cumulative score were between one and 38. If a score was in the range of 39 to 76, it was considered high involvement. The third null hypothesis states there is no relationship between campus involvement and alcohol consumption since the beginning of the academic year. A Chi-square of independence was calculated and no significance was found ( $\chi^2(2) = .659, p > .05$ ). As a result, the null hypothesis was accepted. The use of alcohol since the onset of the school year and campus involvement appear to be independent events.

### **Connection Null Hypothesis**

Similar to the categorization done with involvement, cumulative connection scores were assigned into three groups and established from the nine questions regarding campus connection. A score ranging from 19 to 24 was placed in the low connection category. Scores ranging from 25 to 30 were considered medium connection. Finally, scores from 31 to 36 fell into the high connection group. The final null hypothesis states there is no relationship between campus connection and alcohol use since the start of the academic school year. A Chi-square of independence was computed. No significance was found ( $\chi^2(2) = 1.271, p > .05$ ). The null hypothesis was accepted because it appears there is a disassociation between campus connection and alcohol use from the time when the academic year began.

A summary of the null hypotheses are noted in Table 13 (see page 44). Type of sport and sport type were found to be significant. Division, campus involvement and campus connection were found to be insignificant.

Table 13

*Null Hypotheses Summary*

Null Hypothesis	Chi-square	Alpha	df	Significance *
Type of sport vs. alcohol use	8.456	.037	3	*
Sport type vs. alcohol use	6.940	.008	1	*
NCAA Division vs. alcohol use	1.471	.479	2	
Involvement vs. alcohol use	.659	.417	1	
Connection vs. alcohol use	1.271	.530	2	

Note. Adapted from "Frequency and Quantity of Alcohol Use of NCAA Division III Student-Athletes Participating in the Minnesota Intercollegiate Athletic Conference," by R. J. Storsved, 1996, p. 58. Copyright 1996 by R. J. Storsved.

\* = significant relationship at the .05 alpha level

## Chapter 5

### **Discussion**

The first point that offers discussion is the low response rate compared to that of the pilot study. Response rate for the study was 13 percent while the pilot response rate was just over 25 percent. One important difference in regard to the study is that the pilot was completed during the fall semester while the actual study was done during the spring while the student-athletes were in season. Since student-athletes do not have as much athletic responsibility during the off season, this is one possible reason for a higher response rate. Another factor may have been since the pilot was done with a convenience sample at the researcher's institution participants personally knowing the researcher may have been more likely to respond to the survey. One additional comment should be noted that the survey was sent by the student-athletes coaches so there may have been instances where student-athletes may not have received the survey. Neither the pilot study nor the research study achieved a response rate of 33 percent or higher as suggested by Hoonakker and Carayon (2009) which is considered appropriate for e-mail survey response rates. As a result, bias response rate may have occurred and limit the use of the data.

The results of the study note various factors contributing to the use of alcohol by student-athletes. When examining the gender of the participants, more participants were female than male, however in the target population males contribute for a larger portion than females. It may be that female student-athletes may be more prone to answer electronic surveys than males. In addition to noting the response difference between

females and males a Chi-square test of independence determined no relationship between alcohol use since the start of the academic year and gender. This finding is unique because in the general population males tend to consume more alcohol than females because of biological differences. In addition this finding is different than many other researchers. Male student-athletes were found to consume and misuse alcohol more than females (Brenner and Swanik, 2007; Brenner, et al., 2009; Ford, 2007). Since the survey had more female student-athletes respond than that of male, the differences among gender response rate may have impacted the results. Another factor may be the impact of the geographical location. Male student-athletes may drink less than their counterparts of different locations.

In addition to gender, observation of participants' age was also done. Student-athletes age 18 and 22 and over consist of the smallest age groups within the study. Since the survey was distributed during the spring semester, many students turn an additional year older. This could explain the reason for a small group of 18 year old student-athletes. Although the participants within the age group of 22 and older were not as small as the 18 year old student-athletes, it was the next smallest group in the sample. Since many student-athletes completing their degree are usually 22 years old or older when they graduate, it is interesting to note that this age group was the second smallest. Participants age 19 made up the largest group. Although many first year student-athletes are becoming a year older throughout the school year, the distribution of age should be relatively equivalent because every individual is advancing in age. One consideration may be many teams have more first year student-athletes between age 18 and 19 than

other years. In the target population the first year student-athletes accounted for more than any other year. Additionally, as athletes continue their careers some face injuries and other unforeseen events that may contribute to a larger number of 19 year olds. It is also important to note more second year student-athletes answered the survey than any other group.

In addition the results of a Chi-square of independence a significant interaction was found among age and alcohol use ever since the start of the school year. As student-athletes become older their use of alcohol increases. This seems to parallel with the reality that student-athletes become legal drinking during their time at an institution. If student-athletes are waiting until they are legal to drink, the relationship between increased age and alcohol consumption appears to be a factor. One consideration however may be student-athletes portraying one behavior and doing another for fear of legal consequences.

Another demographic explored through the study were participants' year in school. As noted earlier second year athletes had the greatest response rate. A possible explanation could be second year student-athletes are not as busy as student-athletes of other years. First year students may still be adjusting to the demands of college and athletics while third, fourth, and fifth year students are within their majors and developing a professional identity outside of athletics through various activities such as volunteering, clinical experiences and internships. The demands of these students' classes in addition to athletic participation may occupy much more of their time.

The smallest number of respondents consisted of fifth year or more. This group



may be the smallest due to a large portion of student-athletes completing school within four years. Student-athletes competing and attending college as a fifth year student or older usually occurs at the NCAA Division I level more commonly or if a student continues on with graduate school and has unused athletic eligibility.

It is interesting to note the results of the fourth year students. This group had the second largest response rate even though they are among the smallest size in the target population with the exception of fifth year student-athletes. In addition many fourth year student-athletes are busy during the spring semester with various responsibilities besides athletics. These individuals may have been interested or concerned with the topic being surveyed. They may also have participated in numerous surveys over the course of their athletic career and were aware of the time commitment and significance of research. The year in which student-athletes compete may reflect their willingness to complete surveys.

Again a Chi-square of independence was calculated and determined a significant relationship between year and alcohol use since the start of the academic year. Similar to the findings of age, as student-athletes advances in college the likelihood of consumption of alcohol also increases. This again appears to be consistent with the concept as individuals become the legal age to drink they consume alcohol.

After observing participants' year in school, ethnicity among student-athletes was examined. Specific ethnicity was first observed and then ethnicity group. When noting ethnicity, Caucasians consisted of the largest group followed by African Americans and then Hispanics. Asian Americans was the second smallest group followed by both Native American and other contributing for the smallest groups. In order to get a different

perspective on the ethnicity distribution, ethnicity was divided into two groups. The first group was majority and the second was minority. The majority group consisted of Caucasians almost 90 percent of the sample and the minority group consisting of all other groups was almost 10 percent. Since the study was distributed among student-athletes among the Upper Midwest, a large portion of Caucasian participants appear to reflect that of the geographical region. Although minority groups do exist within the Upper Midwest, they are usually small in size compared to the Caucasian counterparts. Furthermore, a Chi-square of independence was computed to establish whether a significant association existed between ethnicity and alcohol use but was found invalid because the parameters were not met for the assumptions of the test.

Another demographic explored through the study was the hometown of the participants. In order to get better consistency with answers, participants were given both a classification and corresponding numbers for each hometown to eliminate confusion. Over 45 percent of participants resided in a suburban community. Small town communities were the next largest at a little over 30 percent followed by rural accounting for a bit above 15 percent. Student-athletes previously residing in urban community were the smallest group at 6 percent. Since suburban communities are usually larger in size and have a greater population, having the largest group of student-athletes from this community appears to be congruent. The same could be noted for small town communities as well. A larger number of small towns exist than rural communities. The age demographics among small towns and rural communities also look different than those of suburban communities. Many individuals move to suburban and small town

communities for jobs and raising families. This may be a reflection of the migration habits of individuals based on specific needs thus influencing the location of the greatest number of college students and in this case student-athletes. The representation of urban community in the study consisted of the smallest group but has the largest in population. A possible factor may be that the randomly selected institutions may target or recruit students-athletes from specific communities. Again, the geographical locations of the institutions may influence the type of student-athletes enrolling at the institutions. Additionally, a statistical test was completed to find out if an association existed between hometown size and alcohol consumption from the beginning of the academic year. In order to determine whether a significant relationship is present a Chi-square was calculated. The results concluded no relationship between the two events. The community size in which student-athletes reside prior to attending college appears to have no impact on their alcohol use. One consideration may be community size does not influence alcohol use but rather the culture of communities. Further investigation of community culture may give a better perspective in understanding alcohol use as a whole. In addition, more research examining the size of communities and alcohol use may also be beneficial.

The next demographic investigated was type of sport. The four sports specifically examined were 1) baseball, 2) men's track and field, 3) softball and 4) women's track and field. These sports were selected because they all have the same seasons occurring in the spring. In the study completed by Swanik and Brenner also chose these sports as well as lacrosse and tennis. Since many Upper Midwest athletic programs do not have lacrosse

and tennis, they were eliminated from the study. Furthermore by examining all four sports, separation could be made in determining whether sport type has any impact on alcohol consumption.

The response rate of women's track and field was the greatest followed by men's track and field. Baseball and softball had smaller response rates. The difference in number of responses could be a result of roster sizes. Most track and field teams need more participants to compete in the various and unlimited events while softball and baseball have limited positions that are filled with one or two individuals.

Determining whether the type of sport impacts alcohol consumption among student-athletes was one of the major research questions for this study. The results from Chi-square note that a significant relationship exists. In addition, the results of the Cramer's V test note a medium effect on the type of sport and the probability of the consumption of alcohol since the start of the academic year. A small effect of likelihood was also determined between sport type and alcohol use noting team participants with greater chance. Baseball and softball had more observed individuals reporting yes to consuming alcohol since the start of the academic year than men's and women's track and field. This finding in regards to baseball parallels that of Storsved (1996) in his study of student-athletes of the Minnesota Intercollegiate Conference and NCAA Division III in which baseball players consumed more alcohol than softball and men's and women's track and field. All sports have unique dynamics and norms that impact constitution of acceptable behaviors. Perkins (2002) notes individuals are easily influenced to follow the behaviors of others. People in general are easily affected by others and this concept can

be tied to the realm of sports as well. Student-athletes are impacted on a daily basis by the peers within their sport.

In addition to peer influence, the group culture and values within each specific sport could be a contributor to the impact of alcohol use. Consider the culture of baseball at the professional level. This sport and alcohol use by spectators seems to complement one another. When games are covered by the media, viewers are likely to view alcohol advertisements and spectators consuming alcohol. The display of these same concepts occurs at an even greater extent while attending games in person. Culture of sport not only influences spectators but also athletes.

Group camaraderie is significant to athletes and in many cases the first step to developing these relationships is acceptance of the group culture. This buy in begins when student-athletes are being recruited. Many student-athletes must buy into the coach's program and organization of the team. Some prospective student-athletes attend practice and even spend time with current student-athletes. Prospective athletes are becoming exposed and influence by the culture of the sport prior to becoming an official member of the team. This does bring up the thought on whether the type of sport student-athletes compete effect the consumption of alcohol or if certain athletes likely to use and abuse alcohol are attracted to certain sports. Is the sport the cause or is the type of person competing in the sport the cause in regards to the use and misuse of alcohol?

In addition to examining the type of sport, sport type was also observed. The results of the Chi-square test found a significant relationship between team sport and the use of alcohol. Student-athletes participating in a team sport were more likely to consume

alcohol since the start of the academic year than athletes competing in individual sports. Findings seem to match Brenner and Swanik (2007) study examining team and individual sports and the impact alcohol. The researchers found participants competing in team sports were more prone to consume alcohol at greater and dangerous levels than those of individual sport. Type of sport and sport type may be a possible factors contributing to the use and abuse of alcohol among student-athletes. Group norms and cohesion among specific sports are likely to have an impact on student-athletes behaviors.

Another demographic explored through the study was athletic financial assistance in regards to alcohol use. Almost 60 percent of the participants reported no assistance through athletics. Since a major portion of the sample were student-athletes competing at the Division III level in which athletic assistance is prohibited, a large number of athletes not receiving assistance seems reasonable. No significant relationship was determined by the Chi-Square test. Financial assistance through athletics does not appear connected to alcohol use and these two factors are independent.

The next observation focused the NCAA Division in which participants compete and was another major research question. Responses were greatest among Division III student-athletes followed by Division I and then Division II. In the target population Division III had the greatest number of student-athletes and second largest was Division. Since Division III has the most number of student-athletes receiving more responses this specific division seems logical. The response rate of the Division II athlete-athletes is a concern because this may not be an accurate representation of the population even though the sample was randomly selected. Again a Chi-square test of independence was used to

determine the existence of a significant relationship. No relationship was identified between NCAA Division and alcohol consumption since the start of the academic year. This finding however does not parallel that of Brenner and Swanik. The researchers found a significant relationship between NCAA Division and alcohol use described by student-athletes (Brenner & Swanik, 2007). According to Brenner and Swanik (2007) student-athletes competing in Division I and II were more likely to misuse alcohol than those of Division III. Green, Uryasz, Petr and Bray (2001) determined NCAA Division III student-athletes consumed greater amounts of alcohol than Division I and II student-athletes. Difference in findings suggests further investigation in whether specific NCAA Divisions influence alcohol use and misuse among student-athletes.

Another consideration to take in account is the religious or nonreligious affiliations held by institutions. A study done by Frye, Allen and Drinnon (2010) found student-athletes attending institutions with a religious affiliation were to consume less alcohol than student-athletes enrolled at nonreligious affiliated schools. In this study the religious institutions associated with the Christian religion. Numerous NCAA Division institutions have some affiliation to religious and may also impact the behavior of alcohol consumption of student-athletes.

After exploring NCAA Division, status as team captain examined. The majority of participants reported no status as a team captain which seems reasonable since a limited number of student-athletes are designated as team captain compared to the number of participants. A little over 13 percent reported status as a team captain. Team captains may be more likely to complete surveys due to their commitment and interest to

their sport. Interest in the topic being surveyed may also have impacted the response rate of team captains. Additionally, no relationship between alcohol use and status as a team captain could be determined because the statistical assumptions for the Chi-square test were not met.

The final demographic examined was number of NCAA sponsored sports played by participants. Very few people reported competing in three sports. This may be due to the fact that many student-athletes specialize in a sport at that point in their athletic careers. Time commitment for one sport is pressing. Participating in numerous sports can restrict the resource of time even more. Close to 40 percent of the participants reported competing in two sports. Many student-athletes participate in sports that complement one another in training such as track and field and cross country. A large portion of the respondents were participants of the NCAA Division III, which has more flexibility in allowing students to compete in more than one sport. The largest number of participants reported competing in only one sport. This again appears logical because of the time constraints placed on student-athletes due to athletics and academics.

In addition to investigating demographics relative to alcohol consumption, campus involvement was examined. A Chi-square test determined no significant relationship exists between alcohol use since the start of the academic year and campus involvement. This finding is incongruent to the findings of Brenner, Metz and Brenner. The researchers found a significant relationship in regards to high-risk alcohol consumption and campus involvement (Brenner, Metz & Brenner, 2009). The inability to determine a relationship may be that because of the difference in geographical location,



student-athletes involvement in the Upper Midwest does not influence alcohol use and misuse. Involvement may not be a factor dependent of alcohol use. A larger sample however could improve the study and allow individual involvement scores in to be calculated for each participant rather than the use of categorical groups. Another consideration may be examining each specific involvement activity and its relationship and the use and abuse of alcohol consumption. Specific involvement activities may impact the behavior of alcohol consumption.

The final factor examined through the study was campus connection. Again the results of the Chi-Square test found no significant association between campus connection and alcohol use since the start of the academic year. This finding is different from Brenner, et al. (2009) study wherein a high connection score impacted high-risk drinking among college-athletes. Again, the geographical location could have an effect on the relationship between campus connection and alcohol use. Obtaining a larger sample size in the future would allow participants individual connection score instead of categorical group scores. In addition specific connection scores may be found to contribute or not to the use and misuse of alcohol.

There seems to be only a few factors influencing alcohol use and abuse in the case of this study. Many of the findings suggest differences than that of other researchers. Specific factors found in the study associated with alcohol use were age, year in school, type of sport, and sport type. Although the exact causation of alcohol use by student-athletes is not clear, certain factors have continually been found to contribute to this use. The concept of alcohol consumption is not easily understood due to the fact that many

factors are meshed within each other and influenced by cultural values and beliefs.

Identifying these specific factors cannot be done without considering the influence of culture.

## Chapter 6

### **Conclusions & Recommendations**

Alcohol use and sport seem to be two cohesive notions. From the appearance of alcohol advisements, intoxicated spectators to even the athletes consuming alcohol themselves, it can be observed how influential this drug can in the sports realm. Although the behavior of alcohol consumption is greatly intertwined with group culture, particular factors appear to play a part. Through the study specific factors were identified.

The findings of this study are limited to the parameters of geographical location, sample size, and sports surveyed but suggest significant relationships among various factors. A significant relationship exists between age, year in school, type of sport and sport type. Additionally, a small possibility of effect was determined between sport type and alcohol use since the start of the academic year. The type of sport was also found to have a medium effect on the likelihood of alcohol consumption since the onset of the school year. Type of sport and sport type seems to be two factors connected to another. This also brings up an important question posed earlier in the discussion. Does the type of sport attract individuals more prone to using and abusing alcohol or does the sport influence the consumption of alcohol?

In addition to determining significant relationships among factors, no significant relationships were also found among three main factors (NCAA Division, campus involvement and campus connection) examined in the study. The first determined no considerable relationship between NCAA Division and alcohol use since the beginning of the school year. Campus involvement and connection were also found having no

significant association with the consumption of alcohol since the start of the academic year.

Coaches, administrators, athletic trainers and sport psychologists can use this information to aid in understanding behavioral differences in alcohol use among type of sport and sport type. The groups identified as high-risk can be placed under closer observation and specific alcohol education programs can be developed focusing on the needs of these specific groups.

In addition to focusing on target groups, changing group dynamics may also generate modifications in group behavior. Gladwell (2000) notes how through the use individuals' consumer roles in society can influence behavior. He categories people into three different groups: mavens, connectors and salesmen (Gladwell, 2000, p. 70). Through the use of these roles societal behaviors have been altered, resulting in specific consumer and behavioral tendencies. Could this same concept be applied to sports? Could the norms and culture of groups among athletics be changed by identifying these individuals within teams and modifying group behavior? Another consideration may be focusing on recruits and the behaviors possessed by these individuals prior to joining a collegiate team. Coaches should also be clear about behavioral expectations among student-athletes. This sets a tone for what is acceptable of the group. In addition, coaches and administrators should not accept irresponsible behaviors among student-athletes and no tolerance attitude with consequences should be instituted to ensure the seriousness of careless behavior.

After noting specific factors influencing alcohol use and abuse, a considerable

number of recommendations should be noted. The first would be obtaining a larger sample size. Specific identifiers were not able to be calculated separately because of the sample size. This resulted in the use of categorical number ranges. Examining each individual score may improve determining if specific involvement and connection scores impact alcohol use.

The use of additional statistical tests would be another recommendation such as a logical regression. By using a logical regression test, predictors of alcohol use and misuse could be observed as a whole unit rather than individually. Since some factors may be associated with others, determining how these factors contribute to the behavior as an entirety should also taken into consideration.

A greater examination of sport type and type of sport should be completed to determine whether this pattern appears throughout various geographical locations. Furthermore, research pertaining to the type of sport should be expanded to all sports. Studying each specific sport would also allow researchers to learn and examine team dynamics, values, beliefs, norms and peers' influences of each group. This may result in identifying specific factors of target sports.

Another recommendation would be to obtain a larger sample in the context of the study and perform the study on a national basis. This would allow various regions in the United States to be examined. Additionally, a focus on cultural beliefs and values of these regions could be helpful in understanding the whole depiction of alcoholic behavior.

In addition, examining campuses alcohol policy in regard to being wet or dry would be another recommendation. This may allow in gaining a better understanding of

how campus alcohol policies impacts alcohol use. This could also assist in learning more about how student-athletes perceive their campus alcohol policies. Further examination of campus alcohol policies could focus on alcohol use and abuse in regards to campus culture and social norms.

The consideration of three additional recommendations is important to note. Examining athletic organization is the first. Comparing NCAA and National Association of Intercollegiate Athletics (NAIA) institutions may also reveal factors related to alcohol use that are similar or different among the groups. The second recommendation would be to observe how media coverage of high profile sports contributes to the use and abuse of alcohol of athletes. Does media coverage of high profile sports contribute to greater use and abuse of alcohol among athletes in these same sports than those with little to no coverage at collegiate and professional levels? The final recommendation would be to investigate the policies used by institutions to allow research to be done on college-athletes. When obtaining permission to survey college student-athletes, contact and policies varied for each institution. Establishing a consistent approval policy in regards to researching college student-athletes is also recommended. This would allow future researchers consistency in obtaining institutional approval and data from institutions declining to participate in studies.

There is no easy solution to this problem. Obtaining more information and observing behaviors in regards to alcohol use and abuse can provide greater understanding in what influences college student-athletes. By identifying certain

predictors of alcohol consumption, intentional programs and resources can be imparted among individuals and groups found to contain these characteristics.

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## Appendix A

**Jim Brenner, A.T.C., M.Ed.**

**Ph.D. Candidate, Temple University**

**Department of Public Health**

This questionnaire is being used to gather data about college athletes' alcohol use and the relationship to some intrapersonal and interpersonal variables. I am asking you to be a participant in this study. Your responses will be kept strictly confidential and will not be shared with anyone. Your participation in this research will be used as a partial requirement for my dissertation project.

Completing this questionnaire is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time without consequence. I ask that you do not put your name on the survey to maintain anonymity. Please answer the questions as they relate to **your** experiences and behaviors at your current school.

Thank you very much for your time. If you have any questions regarding the questionnaire or this research project, please contact Jim Brenner at 610-383-7474.

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## Section 1

## DEMOGRAPHIC CHARACTERISTICS

1. Gender

- A. Male                      B. Female

2. Age

- A. 18                      B. 19                      C. 20                      D. 21                      E. 22 AND  
OVER

3. What year are you in school?

- A. 1                      B. 2                      C. 3                      D. 4                      E. 5+

4. Race/Ethnicity
- A. African American      B. Asian American      C. Caucasian      D. Hispanic      E. Other

5. Sport \_\_\_\_\_

6. Are you an official team leader (ie. Team Captain, Co-Captain)?
- A. Yes      B. No
- 

## Section 2

Below is a list of statements dealing with your general feelings about yourself.

7. I feel that I am a person of worth, at least on an equal basis with others.
- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree
8. I feel that I have a number of good qualities.
- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree
9. All in all, I am inclined to feel that I am a failure.
- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree
10. I am able to do things as well as most other people.
- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree
11. I feel I do not have much to be proud of.
- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

12. I take a positive attitude toward myself.  
A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree
13. On the whole, I am satisfied with myself.  
A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree
14. I wish I could have more respect for myself.  
A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree
15. I certainly feel useless at times.  
A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree
16. At times I think I am no good at all.  
A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree
- 

### Section 3

For this section, please indicate the degree to which the statement is characteristic or true of you.

17. I often feel nervous even in casual get-togethers.  
A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree
18. I usually feel uncomfortable when I am in a group of people I don't know.  
A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

19. I am usually at ease when speaking to a member of the opposite sex.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

20. I get nervous when I must talk to a teacher or boss.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

21. Parties often make me feel anxious and uncomfortable.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

22. I am probably less shy in social interactions than most people.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

23. I sometimes feel tense when talking to people of my own sex if I don't know them very well.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

24. I would be nervous if I was being interviewed for a job.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

25. I wish I had more confidence in social situations.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

26. I seldom feel anxious in social situations.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

27. In general, I am a shy person.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

28. I often feel nervous when talking to an attractive member of the opposite sex.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

29. I often feel nervous when calling someone I don't know very well on the telephone.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

30. I get nervous when I speak to someone in a position of authority.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

31. I usually feel relaxed around other people, even people who are quite different from myself.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

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#### Section 4

In your experience during the current school year, how often have you done the following?

32. Worked on a class assignment, project or presentation with other students?

- A. Very Often      B. Often      C. Occasionally      D. Never

33. Asked for outside help (from a fellow student, faculty or staff) to improve your writing.

- A. Very Often      B. Often      C. Occasionally      D. Never



34. Met with a faculty member outside of the classroom for career or academic assistance.  
A. Very Often      B. Often      C. Occasionally      D. Never
35. Socialized with a faculty member outside of the classroom.  
A. Very Often      B. Often      C. Occasionally      D. Never
36. Attended a concert or other music event on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
37. Attended an art exhibit/gallery event on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
38. Attended a play or other theater performance on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
39. Attended a lecture or other special event on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
40. Attended a social or student event on campus (ie. Movie, dance)  
A. Very Often      B. Often      C. Occasionally      D. Never
41. Attended an athletic contest (other than your own) on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
42. Attended a meeting of a campus club, organization or student government group.  
A. Very Often      B. Often      C. Occasionally      D. Never
43. Voted in a student election/forum.  
A. Very Often      B. Often      C. Occasionally      D. Never

44. Worked on a campus committee, student organization or project (publications, student government, special event, etc.)  
A. Very Often      B. Often      C. Occasionally      D. Never
45. Met with a faculty member or staff advisor to discuss activities of a group or organization.  
A. Very Often      B. Often      C. Occasionally      D. Never
46. Managed or provided leadership for a club or organization (outside your athletic team) on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
47. Read the school's student newspaper.  
A. Very Often      B. Often      C. Occasionally      D. Never
48. Participated in any student-related demonstrations, protests, boycotts, or marches?  
A. Very Often      B. Often      C. Occasionally      D. Never
49. Participated in a volunteer event on campus like donating blood, raising money, or etc.  
A. Very Often      B. Often      C. Occasionally      D. Never
50. Worked on a school or club sponsored off campus community project.  
A. Very Often      B. Often      C. Occasionally      D. Never
51. Participated in a mentoring program at your school.  
A. Very Often      B. Often      C. Occasionally      D. Never
52. Held membership in an academic, social, or service organization.  
A. Very Often      B. Often      C. Occasionally      D. Never

53. How often do you cut classes?

- A. Very Often      B. Often      C. Occasionally      D. Never

54. Would you be able to get three faculty/staff members not affiliated with your athletic team to write you a letter of recommendation?

- A. Very Easy      B. Easy      C. With some difficulty      D. Very difficult

55. Please indicate your current grade point average.

- A. Under 2.0      B. 2.00-2.50      C. 2.50-3.00      D. 3.00-3.50      E. 3.50-4.00
- 

#### Section 5

Below is a list of statements designed to measure the degree to which you feel a part of your school. Please indicate the level to which you agree or disagree with the following statements.

56. Getting my degree is very important to me.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

57. I know many fellow students outside my athletic team.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

58. I trust many fellow students outside my athletic team.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

59. I feel a strong connection to the campus community.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

60. I will financially support my school as an alumnus.

- A. Strongly Agree      B. Agree      C. Disagree      D. Strongly Disagree

61. I feel isolated from the campus community.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

62. I know many fellow students (not on my athletic team) in the classes I am taking?

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

63. I am proud to be a student at my school.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

64. I am confident that the education I am receiving from my school will enable me to accomplish my career goals.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

---

#### Section 6

This section will ask questions about your personal alcohol use. One drink equals 12oz. of beer, 5oz. wine, or a 1oz. shot of hard liquor straight or in a mixed drink.

65. Over the last two weeks, how many times have you had five or more drinks in a row?

- A. None    B. 1-2 times    C. 3-5 times    D. 6-9 times    E. 10 or more times

66. How many times over the last two weeks have you gotten drunk?

- A. None    B. 1-2 times    C. 3-5 times    D. 6-9 times    E. 10 or more times

67. Over the last 30 days, how many times have you had five or more drinks in a row?

- A. None    B. 1-2 times    C. 3-5 times    D. 6-9 times    E. 10 or more times

68. How many times over the last 30 days have you gotten drunk?  
A. None      B. 1-2 times      C. 3-5 times      D. 6-9 times      E. 10 or more times
69. Would you describe your alcohol consumption as "binge drinking"?  
A. Yes      B. No      C. Unsure
70. How many alcoholic drinks do you normally consume in one sitting?  
A. None      B. 1-2      C. 3-4      D. 5-8      E. 9 or more
71. How many days do you drink alcohol in a typical week?  
A. None      B. 1-2 times      C. 3-4 times      D. 5-7 times
72. What is the most number of alcohol drinks you have consumed at one time in the past month?  
A. None      B. 1-3      C. 4-6      D. 7-10      E. 11 or more
- 

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!!

## Appendix B

This questionnaire is being used to gather data about college athletes' alcohol use and the relationship to some intrapersonal and interpersonal variables. I am asking you to be a participant in this study. Your responses will be kept strictly confidential and will not be shared with anyone. Your participation in this research will be used as a partial requirement for my thesis project.

Completing this questionnaire is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time without consequence. Please answer the questions as they relate to **your** experiences and behaviors at your current school.

Thank you very much for your time. If you have any questions regarding the questionnaire or this research project, please contact Nicole Gertken (605) 688-4155.

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### Section 1

#### DEMOGRAPHIC CHARACTERISTICS

1. Gender

- A. Male                      B. Female

2. Age

- A. 18                      B. 19                      C. 20                      D. 21                      E. 22 AND  
OVER

3. What year are you in school?

- A. 1                      B. 2                      C. 3                      D. 4                      E. 5+

4. Race/Ethnicity

- A. African American      B. Asian American      C. Caucasian      D. Hispanic      E. American Indian

- F. Alaska Native      G. Native Hawaiian and Other Pacific Islander      H. Other

5. How would you classify your hometown?

- |                 |                |                  |                 |
|-----------------|----------------|------------------|-----------------|
| A. Rural        | B. Small Town  | C. Suburban      | D. Urban        |
| Less than 2,500 | 2,500 – 19,999 | 20,000 – 249,999 | 250,000 or more |

6. Is your campus considered a wet or dry campus? (ie. wet campuses students may consume alcohol on campus at age 21 or older, dry campuses students may not consume alcohol on campus at any age)

- A. Wet                      B. Dry                      C. Unknown

7. Check the sport in which you compete.

- Baseball                      Men's Track & Field                      Softball                      Women's Track & Field

8. Do you receive any financial assistance through athletics? (ie. scholarships, book loans, etc.)

- A. Yes                      B. No                      C. Unsure

9. National Collegiate Athletic Association (NCAA) Division for your sport?

- A. I                      B. II                      C. III

10. Are you an official team leader (ie. Team Captain, Co-Captain)?

- A. Yes                      B. No

11. Check any NCAA varsity sports you are a participant of on campus? (Check all that apply)

Men's Basketball	Men's Cross Country	Men's Golf	Women's Rowing
Women's Basketball	Women's Cross Country	Women's Golf	Football
Men's Soccer	Women's Volleyball	Men's Swimming & Diving	Men's Ice Hockey
Women's Soccer	Men's Volleyball	Women's Swimming & Diving	Women's Ice Hockey
Rifle	Men's Tennis	Women's Bowling	Men's Gymnastics
Skiing	Women's Tennis	Men's Wrestling	Women's Gymnastics
Fencing	Men's Water Polo	Women's Lacrosse	
Field Hockey	Women's Water Polo	Men's Lacrosse	

## Section 2

In your experience during the current school year, how often have you done the following?

12. Worked on a class assignment, project or presentation with other students?

- A. Very Often      B. Often      C. Occasionally      D. Never

13. Asked for outside help (from a fellow student, faculty or staff) to improve your academics.

- A. Very Often      B. Often      C. Occasionally      D. Never



14. Met with a faculty member outside of the classroom for career or academic assistance.  
A. Very Often      B. Often      C. Occasionally      D. Never
15. Socialized with a faculty member outside of the classroom.  
A. Very Often      B. Often      C. Occasionally      D. Never
16. Attended an arts event on campus (ie. concert, other music event, art exhibit/gallery, play, other theater performance etc.)  
A. Very Often      B. Often      C. Occasionally      D. Never
17. Attended a lecture or other special event on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
18. Attended a social or student event on campus (ie. movie, dance)  
A. Very Often      B. Often      C. Occasionally      D. Never
19. Attended an athletic contest (other than your own) on campus.  
A. Very Often      B. Often      C. Occasionally      D. Never
20. Voted in a student election/forum.  
A. Very Often      B. Often      C. Occasionally      D. Never
21. Worked on a campus committee, student organization or project (ie. publications, student government, special event, etc.).  
A. Very Often      B. Often      C. Occasionally      D. Never
22. Met with a faculty member or staff advisor to discuss activities of a group or organization.  
A. Very Often      B. Often      C. Occasionally      D. Never

23. Managed or provided leadership for a club or organization (outside your athletic team) on campus.

- A. Very Often      B. Often      C. Occasionally      D. Never

24. Read the school's student newspaper.

- A. Very Often      B. Often      C. Occasionally      D. Never

25. Participated in any student-related demonstrations, protests, boycotts, or marches?

- A. Very Often      B. Often      C. Occasionally      D. Never

26. Participated in a volunteer event on campus? (ie. donating blood, raising money, or etc.)

- A. Very Often      B. Often      C. Occasionally      D. Never

27. Participated in a mentoring program at your school.

- A. Very Often      B. Often      C. Occasionally      D. Never

28. Held active membership in an academic, social, or service organization on campus.

- A. Very Often      B. Often      C. Occasionally      D. Never

29. How often do you cut classes?

- A. Very Often      B. Often      C. Occasionally      D. Never

30. How often would you be able to get three faculty/staff members not affiliated with your athletic team to write you a letter of recommendation?

- A. Very Often      B. Often      C. Occasionally      D. Never

31. Please indicate your current grade point average.

- A. Under 2.0      B. 2.00-2.50      C. 2.50-3.00      D. 3.00-3.50      E. 3.50-4.00
-

## Section 3

Below is a list of statements designed to measure the degree to which you feel a part of your school. Please indicate the level to which you agree or disagree with the following statements.

32. Getting my degree is very important to me.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

33. I know many fellow students outside my athletic team.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

34. I trust many fellow students outside my athletic team.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

35. I feel a strong connection to the campus community.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

36. I will financially support my school as an alumnus.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

37. I feel isolated from the campus community.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

38. I know many fellow students (not on my athletic team) in the classes I am taking?

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

39. I am proud to be a student at my school.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree

40. I am confident that the education I am receiving from my school will enable me to accomplish my career goals.

- A. Strongly Agree    B. Agree    C. Disagree    D. Strongly Disagree
-

## Section 4

This section will ask questions about your personal alcohol use. One drink equals 12 oz. of beer, 5 oz. wine or a 1 oz. shot of hard liquor straight or in a mixed drink.

41. Since you have started college this academic year, have you consumed alcohol?

- A. Yes – Please continue with the survey      B. No – Thank you for your participation in this survey

42. When consuming alcohol, which from the following types do you most often drink?

- A. Beer      B. Wine Coolers      C. Wine      D. Shots Liquor      E. Shots Liqueur  
F. Mixed Drinks      H. Other

43. Over the last two weeks, how many times have you had five or more drinks in a row?

- A. None      B. 1-2 times      C. 3-5 times      D. 6-9 times      E. 10 or more times

44. How many times over the two weeks have you drunk so much that you caused danger to yourself or others?

- A. None      B. 1-2 times      C. 3-5 times      D. 6-9 times      E. 10 or more times

45. What is the most number of alcohol drinks you have consumed at one time in the past two weeks?

- A. None      B. 1-4      C. 5-8      D. 9-12      E. 13-16  
F. 17-20      G. 21 or more

46. Over the last 30 days, how many times have you had five or more drinks in a row?

- A. None      B. 1-2 times      C. 3-5 times      D. 6-9 times      E. 10 or more times

47. How many times over the last 30 days have you drunk so much that you caused danger to yourself or others?

- A. None      B. 1-2 times      C. 3-5 times      D. 6-9 times      E. 10 or more times

48. What is the most number of alcohol drinks you have consumed at one time in the past 30 days?

- A. None      B. 1-4      C. 5-8      D. 9-12      E. 13-16  
F. 17-20      G. 21 or more

49. Over the last year, how many times have you had five or more drinks in a row?

- A. None      B. 1-2 times      C. 3-5 times      D. 6-9 times      E. 10 or more times

50. How many times over the last year have you drunk so much that you caused danger to yourself or others?

- A. None      B. 1-2 times      C. 3-5 times      D. 6-9 times      E. 10 or more times

51. What is the most number of alcohol drinks you have consumed at one time in the past year?

- A. 1-4                      B. 5-8                      C. 9-12                      D. 13-16  
E. 17-20                      F. 21 or more

52. Would you describe your alcohol consumption as "binge drinking"?

- A. Yes                      B. No                      C. Unsure

53. How many alcoholic drinks do you normally consume in one sitting?

- A. None                      B. 1-2                      C. 3-4                      D. 5-8                      E. 9 or more

54. How many days do you drink alcohol in a typical week?

- A. None                      B. 1-2 times                      C. 3-4 times                      D. 5-7 times

55. Which day do you normally consume the most alcohol? (Check all that apply)

- A. Monday                      B. Tuesday                      C. Wednesday                      D. Thursday                      E. Friday  
F. Saturday                      G. Sunday

56. What are some reason(s) that you consume alcohol on that particular day?

---

57. Where do you normally consume the most alcohol?

- A. Residence Halls      B. Residence (apartment/ house)  
C. Fraternity/ Sorority house      D. Parties      E. Bars/ Taverns  
F. Parietal's home      G. Other \_\_\_\_\_

58. Who do you typically consume alcohol with?

- A. Roommate(s) -      B. Teammate(s)      C. Friends      D. Employers      E. Parents  
F. Other \_\_\_\_\_

---

THANK YOU VERY MUCH FOR YOUR PARTICIPATION!!

## Appendix C

Dear \_\_\_\_\_:

I, Nicole Gertken am conducting a research project entitled "Factors that Influence Alcohol Use and Abuse by College Athletes" as part of a thesis study at South Dakota State University. The purpose of the study is to determine what specific factors influence the use and abuse of alcohol consumption, focusing specifically on NCAA Division and type of sport during the off season.

You as a student-athlete are invited to participate in the study by completing the attached survey. We realize that your time is valuable and have attempted to keep the requested information as brief and concise as possible. It will take you approximately 10 minutes to complete this survey. Your participation in this project is voluntary. You may withdraw from the study at any time without consequence.

There are no known risks to you for participating in this study. You have the option of only answering questions you feel comfortable answering. Your responses are anonymous and strictly confidential. When the data and analysis are presented, you will not be linked to the data by your name, title or any other identifying item.

There are no direct benefits to completing the survey but you will have the opportunity to have the results of the study shared with you.

Please assist us in our research by clicking on the link and completing the online survey.

Your consent is implied by the return of the completed questionnaire. Please keep this letter for your information. If you have any questions, now or later, you may contact us at the number below. Thank you very much for your time and assistance. If you have any questions regarding your rights as a research participant in this study, you may contact the SDSU Research Compliance Coordinator at 605-688-6975, SDSU.IRB@sdstate.edu.

Sincerely,  
Nicole Gertken  
College of General Studies  
Medary Commons 120, Box 511  
Brookings, SD 57007-0298  
Nicole.Gertken@sdstate.edu  
(605) 688-4155

Dr. Patty Hacker  
SDSU Department of HNS  
patty.hacker@sdstate.edu  
(605) 688-5218

This project has been approved by the SDSU Institutional Review Board, Approval No.:

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## Appendix D

Dear, \_\_\_\_\_:

My name is Nicole Gertken and I am a graduate student at South Dakota State University completing a Master's Degree in Sport and Recreation Studies. As a part of my program, I am examining the use and abuse of alcohol by college athletes at various NCAA divisions and sports. (*Institution's name and sport*) has been selected to participate in the study.

In order for data to be obtained from (*Institution's name*) I will need your help in providing your student-athletes with an e-mail with a consent cover letter and survey link. All responses will be completely anonymous and strictly confidential.

After the completion of the data collection and analysis, I will send the selected institutions the results from the study.

I look forward to hearing from you. If you have any additional concerns or questions please feel free to call or e-mail. You will find my contact information below.

Sincerely,

Nicole Gertken  
College of General Studies  
Medary Commons 120, Box 511  
Brookings, SD 57007-0298  
Nicole.Gertken@sdstate.edu  
Work: (605) 688-4155  
Cell: (320) 290-8055

Dr. Patty Hacker  
SDSU Department of HNS  
patty.hacker@sdstate.edu  
(605) 688-5218

## Appendix E

Dear, \_\_\_\_\_:

My name is Nicole Gertken and I am a graduate student at South Dakota State University completing a Master's Degree in Sport and Recreation Studies. As a part of my program, I am examining the use and abuse of alcohol by college athletes at various NCAA divisions and sports. (*Institution's name*) has been selected to participate in the study.

In order for data to be obtained from (*Institution's name*) I will need your help in encouraging your coaches to send the consent cover letter and survey link to their student-athletes. The sports I plan to survey include men's and women's track, baseball and softball. The survey focuses on alcohol use, demographics, campus involvement and campus connection. All responses will be completely anonymous and strictly confidential.

After the completion of the data collection and analysis, I will send the selected institutions the results from the study.

I look forward to hearing from you. If you have any additional concerns or questions please feel free to call or e-mail. You will find my contact information below.

Sincerely,

Nicole Gertken  
College of General Studies  
Medary Commons 120, Box 511  
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