Sport-Type Differences in Drinking Behaviors and Motives Among St. John Fisher College Student Athletes

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Abstract
In lieu of an abstract, here is the paper's first paragraph: It is known that alcohol abuse among college students has been, and remains, a very prevalent issue in our society today; however, some may not know the extent to which student athletes consume alcohol. Green, Uryasz, Petr and Bray (2008) conducted a study for the National Collegiate Athletic Association (NCAA) in 2001 and found that approximately 80% of collegiate student athletes consumed alcohol on an annual basis, and that number has only risen. Not only are a large percentage of student athletes consuming alcohol, they are doing so much more than nonathletes (Wilson, Pritchard, & Schaffer, 2004; Leichliter, Meilman, Presley, & Cashin, 1998). Also, student athletes are much more prone to engage in hazardous binge drinking than nonathletes and this is concerning to school administrators and NCAA officials (Winters et al., 2011; Nelson & Wesccher, 2001; Tewksbury, Higgins, & Mustaine, 2008). Winters et al. (2011) defined binge drinking as five or more drinks in one sitting for males or four or more drinks in one sitting for females. It was revealed by Green et al. (2001) through their research that the likelihood of alcohol use is highest among Division III athletes as well.
Sport-Type Differences in Drinking Behaviors and Motives Among St. John Fisher College Student Athletes

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SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS

Introduction

It is known that alcohol abuse among college students has been, and remains, a very prevalent issue in our society today; however, some may not know the extent to which student athletes consume alcohol. Green, Uryasz, Petr and Bray (2008) conducted a study for the National Collegiate Athletic Association (NCAA) in 2001 and found that approximately 80% of collegiate student athletes consumed alcohol on an annual basis, and that number has only risen. Not only are a large percentage of student athletes consuming alcohol, they are doing so much more than nonathletes (Wilson, Pritchard, & Schaffer, 2004; Leichliter, Meilman, Presley, & Cashin, 1998). Also, student athletes are much more prone to engage in hazardous binge drinking than nonathletes and this is concerning to school administrators and NCAA officials (Winters et al., 2011; Nelson & Weschler, 2001; Tewksbury, Higgins, & Mustaine, 2008). Winters et al. (2011) defined binge drinking as five or more drinks in one sitting for males or four or more drinks in one sitting for females. It was revealed by Green et al. (2001) through their research that the likelihood of alcohol use is highest among Division III athletes as well.

Although there is a plethora of research stating the fact that student athletes participate in alcohol consumption, and specifically binge drinking, more frequently than the average college population, there is limited research that investigates the reason why (Ford, 2007; Durkin, Wolfe, & Clark, 2005; Grossbard, Geisner, Neighbors, Kilmer, & Larimer, 2007; Yusko, Buckman, White, & Pandina, 2008). There are several instruments that can be used to determine the motivations behind student athletes and their reasons for engaging in risky drinking behaviors (Martens, LaBrie, Hummer, & Pederson, 2008). Some motivating factors that may lead student athletes to drink more heavily than nonathletes are coping with stress or depression, to adhere to social or perceived norms, to celebrate or to feel like they are a part of their team or social group...
There are currently very few studies that relate alcohol consumption among intercollegiate athletes and the sports teams to which these athletes belong. Looking at the sport-type differences and the variations in drinking behaviors and drinking motives among collegiate sports can provide important information to college administrators and the NCAA. Therefore, my research question is: What are the observed sport-type differences in drinking behaviors and drinking motives among intercollegiate athletes at the Division III level, specifically here at St. John Fisher College?

This research will benefit the academic community because, as the few researchers who have looked at topics similar to mine have stated, there is not a lot of information out there on this topic already. I was only able to find one article that was modeled almost exactly how I was visioning carrying out my research (Martens, Watson, & Beck, 2006). Once I collect and analyze my data, the administrators here at St. John Fisher could use it to identify which sports teams are at risk for high-risk alcohol use. If they are able to also know what the motivating factors are behind their drinking behaviors, the college can tailor intervention programs or educational programs to specific teams. Colleges should have educational programs about alcohol use and researchers Brenner and Swanik (2007) found that a majority of athletes want more education on substance use than they are currently receiving. Alcohol use can lead to engagement in other risky behaviors and colleges need to address this problem before more arise (Weiss, 2010).
Risky Behaviors Among College Athletes and Nonathletes

Alcohol consumption behaviors.

It has been found that athletes are more susceptible to participate in binge drinking when compared to their nonathlete peers (Ford, 2007). In a study carried out by Ford (2007) looking at substance abuse among college athletes, 54% of male athletes reported binge drinking compared to 49% of male nonathletes and 39% of female athletes reported binge drinking compared to 29% of female nonathletes. These were significant findings, which portrayed that there is a problem among the college student athlete population that needs to be addressed when it comes to high-risk drinking behaviors (Ford, 2007). The social environment and cohesiveness a sports team provides for athletes to participate in these drinking behaviors is one strong explanation for these observed differences between athletes and nonathletes (Durkin, Wolfe, & Clarke, 2005; Nelson & Wechsler, 2001; Ward & Gryczynski, 2007; Zamboanga, Rodriguez, & Horton, 2008).

The fact that the student athlete population contributes significantly more to the alcohol abuse problem on college campuses than the nonathlete population was further proved by research performed by Hildebrand, Johnson, and Bogle (2001). The purpose of their study was to look into and compare patterns of alcohol use and the involvement in alcohol-related behaviors by college athletes, college students who were athletes in high school, and college students who were never athletes (Hildebrand et al., 2001). They broke down their sample of 1,287 college students into college athletes (students who were athletes in high school and college), high school athletes (students who were athletes in high school and not college), and nonathletes (Hildebrand et al., 2001). The results of the study carried out by Hildebrand et al. (2001) indicated that those college students who were previously involved in high school...
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athletics or current athletes in college who were also athletes in high school consumed more alcohol, began drinking earlier, and were also involved in risky behaviors significantly more frequently than nonathletes. This means that even individuals who were student athletes in high school, but not student athletes in college may contribute significantly more to alcohol abuse problems on college campuses than individuals who were never involved in athletics (Hildebrand et al., 2001). This provides evidence that athletics, at any level and age, can influence one’s involvement and engagement in risky drinking behaviors (Hildebrand et al., 2001). Hildebrand et al. (2001) pointed out that this can create a problem for college administrators because they may not know how to target the student population who were once athletes in high school, but are no longer athletes in college when it comes to constructing drinking intervention programs.

Not only are intercollegiate athletes a particular area of interest to researchers, so are intramural athletes (Ward & Gryczynski, 2007). Ward and Gryczynski (2008) found that those students who were involved in organized recreational sports in their study tended to drink at a greater frequency and were more likely to binge drink than those who did not participate in them, similar to intercollegiate athlete drinking behaviors. Researchers Andes, Poet, and McWilliams (2012) found similar results in a study investigating the intramural athlete population on college campuses. They discovered in their data analyses that a positive relationship existed between high-risk drinking and intramural sport participation (Andes, Poet, & McWilliams, 2012). Ward and Gryczynski (2007) cited the social environment provided by being part of a team to be a factor in the increased alcohol use among those who participated in organized recreational programs (Durkin, Wolfe, & Clark, 2005; Nelson & Wechsler, 2001; Zamboanga, Rodriguez, & Horton, 2008).
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Grossbard, Geisner, Neighbors, Killmer and Larimer (2007) were also interested in looking into intramural athletes and compared this group with intercollegiate and nonathletes. These researchers used drinking games as a mediating factor between athletic status and alcohol consumption (Grossbard et al., 2007). Their hypothesis was proven to be true when they found that there was a greater amount of alcohol consumption, drinking game participation and negative related consequences among both intercollegiate athletes and intramural athletes compared with nonathletes (Grossbard et al., 2007). Researchers Johnson and Sheets (2004) also looked into college student participation in drinking games and their findings may explain why student athletes participate in drinking games at a higher rate than nonathletes. They found that students participate in the games largely because of the competition involved and this may be why athletes are more prone to participate in drinking games than nonathletes because they have a competitive drive (Johnson & Sheets, 2004). Although intramural athletes are not considered intercollegiate athletes, they are a large social group worth considering on college campuses.

Greek life and its comparability to student athletes.

Another large social group who has faced and continues to face heavy alcohol consumption issues on college campuses, like student athletes, are students with Greek affiliation (Hutching, Lac, Hummer, & LaBrie, 2011). Hutching et al. (2011) performed research comparing Greek-affiliated students and student athletes because these two student populations are considered to be at the highest risk for alcohol consumption when compared to the general college population. Their study looked at Greek-affiliated and student-athlete students’ reasons for drinking and intentions to drink (Hutching et al., 2011). When comparing the two populations, it was found that Greek students drank more frequently than athletes and athletes drank more heavily than Greek students (Hutching et al., 2011). Hutching et al., 2011 also found
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in their research comparing Greek-affiliated students and student athletes that group influence was stronger among athletes. This means athletes may be more influenced by pressure from their athlete peers to drink than Greek students are (Hutching et al., 2011). It is known that student athletes are more prone to conform under pressure and take part in binge drinking when being influenced to do so by their peers (Hutching et al., 2011; Perkins & Craig, 2012). This data is consistent with findings by Grossbard, Hummer, LaBrie, Pederson, and Neighbors (2009), which will be discussed.

Cashin, Meilman, and Presley (1998) also looked into the Greek student population, noting they have significant alcohol abuse problems, similar to that of student athletes. They administered the Core Alcohol and Drug Survey to 25,411 students to collect data on the beliefs about drinking according to students’ level of involvement in fraternities and sororities (Cashin et al., 1998). It was found that, like student athletes, students involved in Greek life “averaged more drinks per week, engaged in heavy drinking more often and, with minor exceptions, suffered more negative consequences than non-Greeks” (Cashin et al., 1998). These are very similar findings when comparing student athletes to nonathletes, making the Greek student population similar in many ways to the student athlete population when it comes to their alcohol consumption behaviors.

Researchers Meilman, Leichliter, and Presley (1999) delved deeper into comparing the student populations of athletes and Greeks in an attempt to find out which group of students drinks the most on campus. Their study used secondary data, which included data on 45,871 students who completed a survey with items regarding participation in intercollegiate athletics and Greek life (Meilman, Leichliter, & Presley, 1999). The findings of this study suggested that students who participated in both Greek life and intercollegiate athletics consumed the most
alcohol and engaged in the most binge drinking than any other group of students (Meilman, Leichliter, & Presley, 1999). The other comparable groups were Greek nonathletes, non-Greek athletes, and non-Greek nonathletes. Greek athletes reported the highest rates for both average weekly alcohol consumption and binge drinking and the high risk was associated with the combination of being involved in Greek life and a student athlete (Meilman, Leichliter, & Presley, 1999).

**Relationship between alcohol use and gambling.**

Along with dangerous drinking habits among college students and student athletes, researchers have discovered a relationship between alcohol consumption and an increased prevalence of gambling on college campuses (Weiss, 2010). Weiss (2010) stated gambling may rival the prevalence of alcohol use among college students in the near future. Through his research, he looked at the relationship between gambling and alcohol use among student athletes with the use of the Michigan Alcohol Screening Test (MAST) and the South Oaks Gambling Screen (SOGS) (Weiss, 2010).

Weiss (2010) discovered a significant correlation between scores on the MAST and SOGS for student athletes and no correlation for nonathletes, which means student athletes are facing alcohol and gambling addiction issues. He stated that this is most likely because their engagements in high-risk drinking behaviors are leading them to participate in other risky behaviors like gambling (Weiss, 2010). Bhullar, Simmons, Joshi, and Amoroso (2012) also looked into this phenomenon among college students and found that binge drinking directly related to gambling in terms of the frequency and severity of gambling. Binge drinking leads students and student athletes to make other high-risk decisions and if colleges can intervene now, they can stop a slew of problems from occurring in the near future (Weiss, 2010).
There are many reasons a college student or a student athlete may decide to participate in alcohol consumption, but many wonder why student athletes drink higher quantities and at a much higher frequency than the average college student. Grossbard et al. (2009) examined the roles that athletic identity and perceived social norms play in alcohol consumption among student athletes. In their research it was found that athletes perceived their peers to drink much more than they actually do and that is one reason why student athletes drink much more and more often than their nonathlete peers (Grossbard et al., 2009). In a similarly designed study, researchers Perkins, Haines, and Rice (2005) found that perceived drinking norms are the strongest predictor of the amount of alcohol personally consumed by student athletes on college campuses. By thinking that their student athlete peers binge drink, athletes feel the need to do to the same and live up to this social norm. With a constant cycle of a skewed perception of alcohol use among student athletes, there will always be a problem with heavy drinking among this population (Grossbard et al., 2009).

Similar findings were also found in research performed by Grossbard, Hummer, LaBrie, Pederson, and Neighbors (2009), in which they found that college athletes overestimated the substance use of other athletes and this put them at greater risk for binge drinking because of the feeling of the need to conform. Also, a positive correlation was found between athletic identity and alcohol consumption (Grossbard et al., 2009). Athletes have it in their minds that they need to participate in these dangerous drinking behaviors because they believe their peers are but in reality their perception is distorted (Grossbard et al., 2009). Therefore, athletes are feeling the need to conform to a social norm that doesn’t actually exist. The higher an athletes’ athletic identity, the more likely they are to feel the need to conform and take part in binge drinking
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(Grossbard et al., 2009). Athletic identity can go along with being a team leader and it has been found through research performed by Leichliter, Meilman, Presley, and Cashin (1998) and Lewis (2008) that a positive relationship exists between being a team leader and heavy alcohol consumption and negative consequences. Therefore, the variables of athletic identity, holding a leadership position on a sports team, and alcohol consumption behaviors are all interrelated (Leichliter, Meilman, Presley, & Cashin, 1998; Lewis, 2008).

Researchers O’Connor, Martin, and Martens (2007) looked into a similar phenomenon among college student athletes. In their research they investigated intercollegiate athletes’ perceived drinking norms of their close nonathlete and athlete friends as well as their seasonal status and observed how both affected the athletes’ alcohol consumption behaviors (O’Connor et al., 2007). They found, like Grossbard et al. (2009), Grossbard, Hummer, Labrie, Pederson, and Neighbors (2009), and Perkins, Haines, and Rice (2005) that during the off-season and in-season athletes overestimated the amount that both their athlete and nonathlete peers drank. This caused the athletes to feel the need to conform and drink heavily (O’Connor et al., 2007). O’Connor, Martens, and Martin (2007) also found that during the off-season, athletes related their drinking behaviors to their nonathlete friends and during their athletic season, they related their alcohol consumption to their closest athlete friend (O’Connor et al., 2007). This means that athletes may change their perception of alcohol norms depending on their seasonal status, which may in turn change their drinking behaviors (O’Connor et al., 2007). Either way, they tend to overestimate the drinking behaviors of their friends no matter if they are an athlete or not, which causes them to drink more frequently and at higher quantities (O’Connor et al., 2007). It is largely agreed upon by researchers that perceived social norms play an important and impactful role in the drinking behaviors of student athletes (Grossbard et al., 2009; Grossbard, Hummer, Labrie,
Researchers Martens, Dams-O’Connor, and Duffy-Paiment (2006) performed similar research looking into off-season and in-season alcohol consumption behaviors among intercollegiate athletes. In their survey, which included 160 student athletes, they found that student athletes’ drinking and negative alcohol-related consequences decreased during their competitive season. The researchers also found, contrary to the findings of O’Connor, Martin, and Martens (2007), that the student athletes perceived other athletes to drink less during the competitive season and this altered their drinking behaviors (Martens, Dams-O’Connor, & Duffy-Paiment, 2006). These findings are consistent with the social norms theory which suggests that individuals conform to their perceived behaviors of others and this explains why the athletes tended to drink less alcohol in-season because they perceived their teammates to drink less as well (Martens, Dams-O’Connor, & Duffy-Paiment, 2006).

Feelings of connectedness and attraction to one’s team may also be a motivating factor behind why athletes tend to drink more than nonathletes (Grossbard et al., 2009). The more connected and the more one’s team condones and promotes the use of alcohol, the more an athlete is going to use alcohol and the more at risk they are for binge drinking (Grossbard et al., 2009). Another drinking motive often seen by researchers within the student athlete population is “drinking to cope” (Wilson, Pritchard, & Schaffer, 2004). They take on a dual role as a student and an athlete, with performance expectations in both areas, and this may serve as a reason to drink alcohol at higher quantities and rates than nonathletes (Yusko, Buckman, White, & Pandina, 2008). This is why when researchers Martens and Martin (2010) used the Athlete Drinking Scale to measure athlete alcohol consumption in the competitive season versus the off-
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season; they found that although athletes’ rates of drinking decreased during the season their drinking motives increased due to stress.

While athletes do drink to cope with the stress they face, many participate in drinking to celebrate and to be social with their teammates (Halim, Hasking, & Allen, 2012; Martens, LaBrie, Hummer, & Pederson, 2008; Martens, Pedersen, Smith, Stewart, & O’Brien, 2010). Although the “coping” motive has been shown in many studies to have the strongest relationship with alcohol-related problems among athletes, sports do provide a social environment for student athletes to celebrate their victories and hang out and drink with their friends (Martens et al., 2008). Cashin et al. (1998) found comparable drinking motives when examining Greek students and their heavy drinking behaviors. They noted drinking to be a vehicle for friendship and a social activity (Cashin et al., 1998).

The Athlete Drinking Scale provides three measures and sport-related motives for why student athletes may be at risk for drinking more than the average college student and they are: Positive Reinforcement (celebration), Team/Group (social), and Sport-Related Coping (Martens et al., 2008). The Drinking Motives Measure is another instrument used by researchers that provides another set of sport-related drinking motives which are: Social Motives, Enhancement Motives, Coping Motives, and Conformity Motives (Martens, Cox, Beck, & Heppner, 2003). It was found in a study performed by researchers O’Brien, Hunter, Kypri, and Ali (2008) that male athletes chose enhancement and conformity most frequently as their drinking motivations when the Drinking Motives Measure was used as a research instrument and that females reported drinking for social, enhancement, and coping reasons. Researchers Martens, Cox, and Beck (2003) also found that the drinking motives included on the Drinking Motives Measure in general do predict negative alcohol-related consequences among intercollegiate athletes. This
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means the motives athletes are report, in general, are related to their drinking behaviors and are negatively impacting their lives, which is something administrators need to be concerned with (Martens, Cox, & Beck 2003).

Researchers Serrao, Martens, Martin, and Rocha (2008) investigated another possible risk factor for the heavy drinking patterns seen among the student athlete population. This risk factor is competitiveness or “striving to increase or maintain one’s level of capability in all activities in which a standard of excellence is thought to exist and where the execution of such activities can either succeed or fail” (Serrao, Martens, Martin, & Rocha, 2008). The researchers predicted before performing their study that student athletes may transfer their competitive behaviors to the realm of drinking and later found out their predictions to be true (Serrao, Martens, Martin, & Rocha, 2008). Through the use of a survey, it was found that competitiveness was positively correlated with peak and heavy episodic drinking for student athletes (Serrao, Martens, Martin, & Rocha, 2008). This means that athletes with high levels of competitiveness may be more prone to drinking large quantities of alcohol in single sittings (Serrao, Martens, Martin, & Rocha, 2008).

A factor, which researchers found to decrease student athlete engagement in heavy drinking behavior, is campus involvement (Brenner, Metz, & Brenner, 2009). Researchers Brenner, Metz, and Brenner (2009) performed a study in which they looked into campus involvement, perceived campus connection, and alcohol use in college athletes. Their study consisted of 720 Division I, III, and III athletes who took a self-report survey, which included the Campus Student Experience Questionnaire and quantity-frequency measures related to alcohol use (Brenner, Metz, & Brenner, 2009). It was found that student athletes who had higher levels of campus involvement were lower-risk alcohol users (Brenner, Metz, & Brenner, 2009). This
meant that the more involved student athletes were on campus, engaging in activities to keep them busy during their free time, the less likely they were to drink (Brenner, Metz, & Brenner, 2009). Campus involvement does indeed, according to this study, have an effect on the drinking behaviors of student athletes (Brenner, Metz, & Brenner, 2009).

**Sport-type Differences in Drinking Behaviors**

Few researchers have carried out studies on specific universities, looking at differences in drinking behaviors among their student athlete population and comparing sports. Brenner and Swanik (2007) found, in their study looking at Division I, II and III athletes, that of their 720 participants, 75% of them had participated in binge drinking at least once in a two week period. Lacrosse was found to be the most susceptible sport when it came to binge drinking for both males and females, with 90% of men’s lacrosse and 86% of women’s lacrosse players reporting binge drinking at least once over a two week period (Brenner & Swanik, 2007). Brenner and Swanik (2007) also found in their study that team sport athletes reported binge drinking more often than individual sport athletes.

Ford (2007) wanted to find out which individual sports or teams are at the greatest risk for alcohol abuse at the collegiate level and used secondary data from the Harvard School of Public Health College Alcohol Study in order to do so. He found that male athletes are significantly more likely to report binge drinking than female athletes and that male hockey players and female soccer players are the most susceptible to alcohol abuse (Ford, 2007). These are obviously different findings from Brenner and Swanik (2007), but Ford’s (2007) research involved 14,000 students compared to 720.

Another group of researchers, Martens, Watson, and Beck (2006) had a similar goal as Ford (2007). They wanted to look at which athletes and sports were at the most risk for high
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levels of alcohol consumption, as well as motivating factors (Martens et al., 2006). They discovered in their research that swimmers and divers are at the most risk for greater amounts of alcohol consumption, which is very interesting (Martens et al., 2006). Brenner and Swanik (2007) reported that individual sport athletes were less likely to participate in binge drinking than team sport athletes, and many would consider swimmers and divers to be individual sport athletes. This further proves more research needs to be done in this area.

Physiological Effects of Alcohol on the Student Athlete

Binge drinking not only puts student athletes in danger of participating in risky behaviors, such as drunk driving, drug use and gambling, but it also can have an effect on their athletic performance (Dziedzicki et al., 2013). Research has shown that even a very low level of alcohol in the liver can influence the re-synthesis of glycogen in the body, which can negatively affect the athlete’s ability to recover after exercise (Dziedzicki et al., 2013). Also, alcohol can have a negative effect on the immune system, which can put athletes at risk for illness and cause them not to be able to perform (Dziedzicki et al., 2013).

It is known that alcohol is a depressant and this can slow the ability of the student athlete’s central nervous system to process information (Dziedzicki et al., 2013). It has been shown through prior research that football players who “habitually consume alcohol increase risk for sport related injury up to 50%” (Dziedzicki et al., 2013). Alcohol use can even have an effect on the student athlete’s cardiac system, negatively affecting heart rhythm (Dziedzicki et al., 2013). Hydration is also extremely important in sport performance and student athletes who practice with hangovers, or veisalgia, are at risk for poor performance (Dziedzicki et al., 2013). All available water in the body is delivered to critical organs, limiting muscle performance capabilities and the student athlete may become fatigued easily (Dziedzicki et al., 2013).
It is clear that besides all of the negative behavior consequences associated with binge drinking, there are plenty of physiological factors which need to be addressed when looking at alcohol consumption behaviors among athletes. When deciding to binge drink, whether for coping, celebration or social reasons, student athletes are putting their performance level on the line (Dziedzicki et al., 2013). Alcohol consumption negatively affects liver, brain and muscle function and these are all vital functions athletes need to be successful in any sport activity (Dziedzicki et al., 2013). Athletic directors, trainers and coaches need to educate student athletes of these risks associated with alcohol.

Alcohol Screening Tools and Intervention Programs Used by Universities

There is a need for universities and colleges to screen their student and student athlete populations for alcohol consumption problems in order to address and eventually, reduce binge drinking rates among college students. Winters et al. (2011) surveyed 333 colleges and universities across the United States to see what is currently being done. The Directors of Health Services at the colleges and universities polled responded to the survey and only 199 of them reported using screening tools (Winters et al., 2011). Only 148 of these tools were reported as formal, recognized tools, and less than half of those formal tools were 1 of 4 of the most favorable tools scientists and researchers have suggested that colleges and universities use (Winters et al., 2011).

If this is a representative sample of all colleges and universities across our country, this is an enormous issue. If colleges are not using formal screening tools to keep track of alcohol usage among their student body and student athletes, there is no way to know if a problem exists (Winters et al., 2011). When many athletes and students are drinking to cope, this is something that needs to be addressed.
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Once the student athlete population is screened and a problem is discovered, colleges and universities need to be able to implement efficient intervention programs for their athletes. Researchers Doumas and Haustveit (2008) looked into a web-based personalized feedback program which could be easily implemented and used by schools across the country to address alcohol abuse problems among their student athlete populations. They found that after administering the web-based personalized feedback program to freshman Division I intercollegiate athletes, these athletes reported greater reductions in weekly drinking, peak alcohol consumption, and frequency of drinking to intoxication when compared to the control group (Doumas & Haustveit, 2008). This is why it is imperative for colleges and universities to screen for alcohol abuse problems among their student athlete populations because they have tools readily available to them that they can use to intervene and help (Doumas & Haustveit, 2008).

Methods

Research Tradition

The research tradition I utilized while conducting my research was interpretivism. The data I collected is subjective data and although it is quantitative, numerical data, the numbers describe behaviors or feelings. The interpretivist approach was most appropriate for my research examining the drinking behaviors and drinking motives of student athletes at St. John Fisher College because I was searching for an understanding, not one single truth or answer (Gratton & Jones, 2012). By surveying the athletes, I was able to examine their binge drinking and alcohol consumption behaviors and then I looked into the drinking motivations of the athletes (Gratton & Jones, 2012).
I was not searching for an answer, but instead was trying to understand the athletes’ motives and feelings (Gratton & Jones, 2012). The interpretivist approach focuses on the researcher having “an exploratory orientation, one that tries to learn what is going in particular situations…” (“Engaging with educational”, 2011). This is exactly what I attempted to do through my research by examining drinking behaviors among the St. John Fisher College student athlete population. I believe knowledge is created in this way and my study exemplifies this. The drinking motives of the student athletes I examined through my survey are intangible and help describe their drinking behaviors and this further supports why interpretivism was the appropriate research tradition to utilize for my study (Gratton & Jones, 2012).

The subjective data I collected was all self-assessment data, which was provided to me by the athletes and the answers were not right or wrong or true or false, instead they helped me to understand why student athletes decide to partake in risky drinking behaviors (Gratton & Jones, 2012). There is not one single truth and their answers are not generalizable and this is why my research was performed from an interpretivist perspective (Gratton & Jones, 2012).

**Conceptual Framework**

My research study looked at sport-type differences in drinking behaviors and drinking motivations among Division III student athletes at St. John Fisher College. The research was primarily focused on examining and comparing team drinking behaviors to first, see if significant drinking problems existed among student athletes at St. John Fisher and then, to figure out drinking motivations. When completing my survey, student athletes indicated how many heavy episodic drinking or “binge drinking” episodes they experienced in a certain period of time. Binge drinking is defined as having five or more drinks in one sitting for a male or four or more drinks in one sitting as a female (Winters et al., 2011). Problem drinking arises when binge
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drinking occurs on a regular basis, when one begins to drink in order to cope with their life
situations, and when one suffers from academic difficulties related to their drinking behaviors
(Bowles Center for Alcohol Studies, 2013). When completing my data analysis, I looked for
teams which had a high frequency pattern of binge drinking episodes in a short period of time
and also a large quantity of alcoholic beverages consumed per week.

I targeted all of the Division III sports offered at St. John Fisher College when I sent out
my surveys. Division III sports are defined by the NCAA as “where the true student-athlete
studies and competes” (“What is D3?” , 2007). Division III institutions, such as St. John Fisher
College, are unique because they do not offer athletic scholarships and are often known for their
academic excellence (“What is D3?” , 2007). The sports teams I targeted in my research at St.
John Fisher are as follows: men’s and women’s basketball, cross country, golf, rowing, soccer,
lacrosse, track & field, and tennis. I also surveyed women’s field hockey, softball, and
volleyball athletes as well as men’s baseball and football participants.

I looked at several variables in my study and my survey consisted of three measures:
questions about student athletes’ demographics, quantity-frequency measures regarding drinking
behaviors, and the Drinking Motives Measure. The main goal of the demographics questionnaire
was to find out basic information about my sample. The quantity-frequency measures included
questions used to assess alcohol consumption among the student athletes here at St. John Fisher
College. I used the quantity-frequency measures to find out about student athlete involvement in
binge drinking episodes and to compare in-season drinking behaviors with out-of-season
drinking behaviors among athletes. Binge drinking episodes are described as having five or
more drinks in one sitting. The Drinking Motives Measure (DMM) is a research instrument
often used in studies to investigate why individuals decide to take part in risky drinking
behaviors. For my study, I utilized the DMM to ask student athletes whether they drink for social, enhancement, coping or conformity reasons.

There are many variables I needed to be aware of and control for in my study comparing sport type differences in drinking behaviors and motivations among student athletes at St. John Fisher. First of all, it was important for me to control for the time of year because the drinking behaviors of student athletes most likely change depending on whether they are in season or out of season. To control for this variable, I included a question on my survey asking the athletes to compare their drinking behaviors when their sport is in season versus out of season. I also needed to control for student athletes who took my study, but may not participate in alcohol consumption. This certainly had a chance of influencing my research. I also needed to watch for skewed data and misreporting due to individuals not being honest when answering my survey.

When it came to variables in my research it was also important to address when the student athletes first began drinking. If some student athletes began drinking earlier than others, they may have developed different drinking behaviors and this could have had an influence on my research. It has been found in previous research that student athletes who begin drinking in high school and transition into college have a highly skewed perception of alcohol use among their student athlete peers and tend to binge drink at higher rates than those student athletes who did not drink in high school (Grossbard et al., 2009). Also, it may have been of concern to individuals taking the survey that they were reporting illegal behavior. Most of the student athletes here at St. John Fisher College are under the age of 21, so it was important for them to know their identities would remain confidential.

When looking at my data and attempting to make comparisons, I utilized a study performed by Martens, Watson, and Beck (2006) to assist me. They examined sport-type
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differences in alcohol use among Division I intercollegiate athletes from baseball, softball, basketball, volleyball, soccer, swimming, diving, track, and cross country. I modeled my survey after theirs, using quantity-frequency measures and the Drinking Motives Measure, so this way I had guidance when interpreting my results. In their study, they found swimming and diving athletes to be at the highest risk for alcohol consumption than any other student athletes on campus (Martens, Watson, & Beck, 2006). The student athletes’ mean responses for binge drinking episodes in the past two weeks were 2.36 and their mean responses for average number of drinks per week were 7.06 (Martens, Watson, & Beck, 2006). This level of alcohol consumption is considered problem drinking.

Theoretical Framework

When interpreting the results of my statistical analyses, I used the Social Learning Theory as my theoretical framework. Plenty of researchers have established that the social environment is one factor that influences student athlete drinking behaviors and based on this theory, it makes sense that student athletes tend to drink more than the average college student (Durkin, Wolfe, & Clarke, 2005; Zamboanga, Rodriguez, & Horton, 2008). The studies performed by these researchers confirm that student athletes being part of a team influences both the drinking behaviors and the drinking motives of the athletes (Durkin, Wolfe, & Clarke, 2005; Zamboanga, Rodriguez, & Horton, 2008).

The social environment influence has proven to be a strong and consistent theme in research and has been able to predict the drinking behavior of student athletes in numerous studies (Durkin, Wolfe, & Clarke, 2005; Nelson & Wechsler, 2001; Ward & Gryczynski, 2007; Zamboanga, Rodriguez, & Horton, 2008). It was found in many of the studies conducted on alcohol consumption behavior among student athletes that the social environment and the
perceived drinking behaviors of their student athlete peers influenced their decision to take part in binge drinking (Durkin, Wolfe, & Clarke, 2005; Nelson & Wechsler, 2001; Ward & Gryczynski, 2007; Zamboanga, Rodriguez, & Horton, 2008). Student athletes are more prone to be around others who drink and if their peers are consuming alcohol, they are going to drink too. It is a learned behavior through social interaction with others and this influenced my research.

Although the Social Learning Theory has proven to be a strong predictor of drinking behaviors among student athletes, I took into consideration other drinking motivations student athletes would be reporting on my survey. I knew the social environment would have a huge impact on my research however, on top of the team and social influence causing student athletes to drink more heavily than the average college student, I was aware there would be other factors involved. The other factors which could influence my research were student athletes reporting drinking heavily due to coping reasons, enhancement reasons, or conformity reasons. Because not all student athletes solely drink just because of the influence of the social environment they are in, I was not looking at the Social Learning framework as an absolute truth when interpreting my results, but rather as a consistent theme. I realized I would be receiving various responses for the motivations behind the drinking behaviors of student athletes here at St. John Fisher College and these would have an impact on my results as well.

Participants

The sample for this research based on sport-type differences in alcohol consumption behaviors and drinking motivators among Division III student athletes came from student athletes at St. John Fisher College. The sports teams I targeted in my research at St. John Fisher were as follows: men’s and women’s basketball, cross country, golf, rowing, soccer, lacrosse, track & field, and tennis. I also surveyed women’s field hockey, softball, and volleyball athletes.
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as well as men’s baseball and football participants. I obtained IRB approval before sending out my survey in order to use St. John Fisher student athletes as human subjects in my research study.

I used stratified random sampling for my method of sampling because this was the best-fit method to collect a random, well-represented sample of student athletes on this campus (Gratton & Jones, 2012). I broke down each team into groups by position and then randomly selected athletes that I polled from each sports team, which I planned to compare, and this ended up being my sample. This way I ensured that my sample appropriately reflected the subgroups of athletes of the entire student athlete population here at St. John Fisher College (Gratton & Jones, 2012). The more student athletes I included in my study, the more data I was able to collect.

Research Design and Measures

Data for this study examining the alcohol consumption behaviors and drinking motives of student athletes at St. John Fisher College was collected through cross-sectional research design and the use of an online survey (See Appendix A). I obtained data about these student athletes at a specific point in time, as this research was not ongoing. I collected primary and qualitative data through this research, although the athletes reported mostly numerical data. To the naked eye the data looks quantitative however, the numbers the student athletes reported describe feelings and behaviors making it subjective data.

Quantity-Frequency Measures

In order to assess the alcohol consumption behaviors of the participants in my study, I asked questions regarding how often they participate in these behaviors through an online survey, which I sent out through an email. This research was modeled after two groups of
SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS

researchers Martens, Watson, and Beck (2006) and Martens, Dams-O’Connor, and Duffy-Paiment (2006). Martens, Watson, and Beck (2006) started off their survey by asking their participants how many heavy episodic drinking episodes they experienced in the past two weeks. Heavy episodic drinking episodes were defined as having five or more drinks in one sitting (Martens et al., 2006). They also asked in their survey the average amount of drinks the student athletes consumed in the past week (Martens et al., 2006). It was also important for me to evaluate student athlete drinking in and out of their sport-specific seasons (Martens, Dams-O’Connor, & Duffy-Paiment, 2006). I asked the student athletes to provide me with information about their drinking habits while their sport is in season and comparatively, when it is out of season (Martens, Dams-O’Connor, & Duffy-Paiment, 2006). To do this, I asked the average amount of drinks student athletes consume in a week while their sport is in season and the average amount of drinks student athletes consume in a week while out of the competitive season (Martens, Dams-O’Connor, & Duffy-Paiment, 2006). Martens et al. (2006) pointed out that prior research “has indicated that these types of measures are reliable and valid among college students” (p. 139).

Drinking Motives Measure

The Drinking Motives Measure is an instrument I used in the online survey given to St. John Fisher student athletes as well. The Drinking Motives Measure (DDM) is a 20-item survey designed to assess an individual’s motivations for alcohol use (Martens et al., 2006). It has four subscales or motivators for alcohol use: Social (“to celebrate with friends”), Enhancement (“because it gives you a pleasant feeling”), Coping (“to forget about your problems), and Conformity (“so you won’t feel left out”) (Martens et al., 2006). Each of these subscales contains five items and the student athletes will be asked “Thinking of all the times you drink,
how often would you say you drink for the following reasons?” (Martens et al., 2006).

Responses are then scored on a five-point likert scale with 1 being almost never/never to 5 being almost always/always (Martens et al., 2006).

**Demographics Questionnaire**

The demographics questionnaire included in the online survey consisted of information about the participants’ age, gender, school year status, and if they are a resident or a commuter. Also included were questions about the student athletes’ sport type and level, season status, if they hold a leadership role on their team, and age at the consumption of their first full drink.

**Procedure**

My survey consisted of the measures described in the “Research Design and Measures” portion of this paper. It was estimated to take participants anywhere from 15 to 20 minutes to complete and was straightforward and simple. To make sure my survey was effective and worked properly before I sent it out to my research participants, I pilot tested it. My pilot test participants included between five and ten close friends and family members who took my survey and gave me feedback. I made sure I could properly collect data once they submitted the survey and I listened to their criticism to gauge if any changes needed to be made. Once the pilot test was completed, I was able to move on to collecting my sample and sending out the introductory email and then the survey.

I used stratified random sampling, as I stated before, to obtain my sample of student athletes at St. John Fisher College. I was able to begin my sampling method as soon as I completed my pilot test, as I already had IRB approval to use human subjects on the St. John Fisher College campus. Once I obtained my sample, I planned to get their email address and send out an introductory email to the participants letting them know they would be receiving a
survey in the following days (See Appendix B). In the email, the athletes received a description of the research and were informed that their identities would remain confidential if they decided to participate. The confidentiality was extremely important as many of the student athletes may not have been 21 years old and legally allowed to consume alcohol at the time of taking the survey. Also, the student athletes were explained the protocol of the survey in the email and that it would only take a few minutes of their time to complete. Participants were also told that the overall data regarding alcohol would in no way be linked to an individual when presented as results. The email was sent out three days before the actual survey.

Three days later, I proceeded to send out the survey via email and in the body of the email I made sure to include that if the student athletes submitted the survey, they consented to the parameters of the study (See Appendix C). In each of the emails there was a link to the online survey, which included all of the measures described above. Two weeks later, I sent out a follow-up email to all of the athletes thanking those who completed the survey and reminding those who did not yet respond to take the survey (See Appendix D).

**Data analysis.**

In order to compare the differences in drinking behaviors and drinking motives among sport teams at St. John Fisher College, it was imperative to use one-way ANOVA tests. This enabled me to determine if there were significant differences between the groups (teams) of student athletes I was examining when it came to both drinking motives and behaviors. To compare drinking motives, I found the grand mean for each drinking motive for each response I received. The motives were reported on a likert scale. After finding the grand means for the social, coping, conformity and enhancement motives I ran one-way ANOVA tests for each motive across all sport teams to determine significant differences. For the quantity-frequency
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measures, I once again used one-way ANOVA tests to test for significant differences across sport-types in binge drinking and weekly drinking behaviors.

It is important to note that not every survey and every piece of data I received could be used in the data analysis process. I had to throw out data that seemed to be skewed or misreported by individuals who did not take the survey seriously. To judge if the data was skewed, I determined if I had any outliers in my sample when analyzing the data I collected and removed these responses. This is the strategy Martens, Watson, and Beck (2006) used in their study on intercollegiate athlete drinking behaviors and this worked best for my research. Also, if an individual did not answer what sport team they were on, I was not be able to use the data included in the survey because this one piece of information was crucial to my research. The cut off point for throwing out data was if an individual submitted a survey with less than 50% of the survey filled out or data missing on the drinking behaviors and drinking motives items. I was not able to use the data from a survey with such an immense amount of imperative data missing. However, for those surveys submitted with more than 50% of the questions filled out but still had data missing, I was be able to code for this missing data. In order to not have a non-entry be counted, I set a variable to indicate a participant omission rather than the software thinking it was a data entry error.

Results

The data set I collected contained a sample of 87 Division III student athletes at St. John Fisher College. The initial sample contained 97 athletes, but 10 surveys had to be eliminated from the analyses because the respondents had less than 50% of the survey filled out or reported missing data on alcohol-consumption and drinking motives items. Table 1 shows a breakdown of the population by sport-type. The unisex sport samples (basketball, cross-country, golf,
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rowing, lacrosse, soccer, track & field, and tennis) were not split up by gender due to the small sample size. Softball, volleyball, and field hockey are female sports, while football and baseball are male sports.

Table 1
*Frequencies and Percentages of Sport-Types in Student Athlete Sample*

<table>
<thead>
<tr>
<th>Sport-Type</th>
<th>Responses</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketball</td>
<td>4</td>
<td>4.6%</td>
</tr>
<tr>
<td>Cross Country</td>
<td>11</td>
<td>12.6%</td>
</tr>
<tr>
<td>Golf</td>
<td>4</td>
<td>4.6%</td>
</tr>
<tr>
<td>Rowing</td>
<td>6</td>
<td>6.9%</td>
</tr>
<tr>
<td>Lacrosse</td>
<td>7</td>
<td>8.0%</td>
</tr>
<tr>
<td>Soccer</td>
<td>13</td>
<td>14.9%</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>2</td>
<td>2.3%</td>
</tr>
<tr>
<td>Softball</td>
<td>6</td>
<td>6.9%</td>
</tr>
<tr>
<td>Track &amp; Field</td>
<td>5</td>
<td>5.7%</td>
</tr>
<tr>
<td>Tennis</td>
<td>2</td>
<td>2.3%</td>
</tr>
<tr>
<td>Volleyball</td>
<td>4</td>
<td>4.6%</td>
</tr>
<tr>
<td>Baseball</td>
<td>8</td>
<td>9.2%</td>
</tr>
<tr>
<td>Football</td>
<td>15</td>
<td>17.2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>87</strong></td>
<td></td>
</tr>
</tbody>
</table>

Of the 87 athletes included in the analysis, 4.6% named basketball, 12.6% named cross-country, 4.6% named golf, 6.9% named rowing, 8.0% named lacrosse, 14.9% named soccer, 2.3% named field hockey, 6.9% named softball, 5.7% named track & field, 2.3% named tennis, 4.6% named volleyball, 9.2% named baseball, and 17.2% named football as their sport. The sample included 45 male and 42 female student athletes. Of the 87 student athletes 14 were freshman, 11 were sophomores, 28 were juniors, and 22 were seniors. 47 of the athletes reported their sport was currently in season, while 40 reported their sport being out of season. Football, soccer, tennis, field hockey, cross-country, rowing, golf, and volleyball were in season at the time of the survey. Basketball, lacrosse, softball, track & field, and baseball were out of season.
when the surveys were distributed. Additionally, 14 of the student athletes participated in Junior Varsity sports, while the remaining 73 were on Varsity sport teams. Four hundred and fifty student athletes were asked to participate in this study and 19.3% responded, so ultimately it is not fair to say 87 athletes are representative of the entire student athlete population at St. John Fisher College.

This study was based on the following research question: What are the observed sport-type differences in drinking behaviors and drinking motives among intercollegiate athletes at the Division III level, specifically here at St. John Fisher College? To assess drinking behaviors among the student athlete sample, the data analysis included comparisons of average binge drinking occurrences and weekly drinking behaviors based on sport-type. One-way ANOVA tests were used to compare binge drinking and weekly drinking behaviors, as well as drinking motivations with a predetermined alpha of \( p<.05 \) to test for significance. Significant results were found when looking at average binge drinking in the past two weeks across sport-types, with the one-way ANOVA test revealing a significance level of \( p<.001 \). Cross-country (\( n=11 \)), which includes male and female athletes, was found to be the least at-risk population reporting an average of 1.1 binge-drinking episodes in the past two weeks. Baseball (\( n=8 \)) was found to be the most at-risk student athlete population at St. John Fisher College, reporting an average of 6.8 binge-drinking episodes over the past two weeks. This level of drinking reported by baseball players is considered to be problem drinking (Martens, Watson, & Beck, 2006). Table 2 displays the reported average binge drinking episodes by sport-type in the past two weeks.
SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS

Table 2

Mean Binge Drinking Episodes in the Past Two Weeks Reported by Sport-Type

<table>
<thead>
<tr>
<th>Sport-Type</th>
<th>Binge Drinking Episodes in Past Two Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketball</td>
<td>2.3</td>
</tr>
<tr>
<td>Cross Country</td>
<td>1.1</td>
</tr>
<tr>
<td>Golf</td>
<td>1.1</td>
</tr>
<tr>
<td>Rowing</td>
<td>2.2</td>
</tr>
<tr>
<td>Lacrosse</td>
<td>2.0</td>
</tr>
<tr>
<td>Soccer</td>
<td>2.3</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>1.5</td>
</tr>
<tr>
<td>Softball</td>
<td>1.3</td>
</tr>
<tr>
<td>Track &amp; Field</td>
<td>1.3</td>
</tr>
<tr>
<td>Tennis</td>
<td>1.5</td>
</tr>
<tr>
<td>Volleyball</td>
<td>1.3</td>
</tr>
<tr>
<td>Baseball*</td>
<td>6.8</td>
</tr>
<tr>
<td>Football</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Note. Alpha level used for comparison was p=.05. Baseball was found to be significantly different across all sport-types for binge drinking episodes in the past two weeks.

Average weekly drinking behaviors were also examined for each sport-type in the sample of 87 student athletes. A one-way ANOVA test was used to compare the average weekly drinking behaviors among sport-types at St. John Fisher College and significant results were found with p=.001. The alpha level used for comparison was p=.05. Tennis (n=2), which included male and female athletes, reported the lowest average weekly drinking behaviors, with zero drinks consumed in the past week. Baseball, again, was deemed to be the most at-risk population reporting an average of 19.1 drinks consumed in the past week. This is considered to be problem drinking because it is above the established problem drinking level of 7.06 drinks consumed in the past week (Martens, Watson, & Beck, 2006). After running Tukey’s post hoc test baseball was found to have significant mean differences in weekly drinking behaviors with
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basketball (p=.036), cross country (p<.001), golf (p<.001), rowing (p=.003), lacrosse (p=.001), softball (p<.001), tennis (.007), and volleyball (p=.002). However, significant differences were not found when comparing baseball with soccer, field hockey, track & field, and football. Cross country was found to have significant differences in mean weekly drinking behaviors with soccer (p=.005), track & field (p=.007), and football (p<.001). Football was found to have moderate significant differences in average weekly drinking behaviors with both golf (p=.029) and softball (.032). Not one sport was significantly different in average weekly drinking behaviors when compared with all other sport-types using a one-way ANOVA test.

Although baseball was found to be the most at-risk population, four sport-types were considered to be at the level of problem drinking (Martens, Watson, & Beck, 2006). These were baseball, soccer, track & field, and football. Soccer players, both male and female, reported consuming 11.3 drinks in the past week, track & field participants, both male and female, reported consuming 14 drinks in the past week, while football players reported consuming 13.4 drinks in the past week. Interestingly, baseball and track & field were out of season when the survey was distributed and soccer and football were in season. Yet, they all reported weekly alcohol consumption behaviors at the level considered to be problem drinking. Table 3 portrays the average number of drinks consumed in the past week by sport-type.
SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS

Table 3

*Average Number of Drinks Consumed in the Past Week by Sport-Type*

<table>
<thead>
<tr>
<th>Sport-Type</th>
<th>Average Number of Drinks Consumed in Past Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketball</td>
<td>6.3</td>
</tr>
<tr>
<td>Cross Country</td>
<td>1.0</td>
</tr>
<tr>
<td>Golf</td>
<td>1.5</td>
</tr>
<tr>
<td>Rowing</td>
<td>5.2</td>
</tr>
<tr>
<td>Lacrosse</td>
<td>3.8</td>
</tr>
<tr>
<td>Soccer</td>
<td>11.3</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>5.5</td>
</tr>
<tr>
<td>Softball</td>
<td>3.4</td>
</tr>
<tr>
<td>Track &amp; Field</td>
<td>14.0</td>
</tr>
<tr>
<td>Tennis</td>
<td>0</td>
</tr>
<tr>
<td>Volleyball</td>
<td>3.0</td>
</tr>
<tr>
<td>Baseball</td>
<td>19.1</td>
</tr>
<tr>
<td>Football</td>
<td>13.4</td>
</tr>
</tbody>
</table>

*Note.* Tukey’s post hoc test was run following the one-way ANOVA analysis, however one sport-type was not found to have significant differences across all sport-types. Baseball had the highest number of significant differences found among sport-types. Alpha level used for comparison was $p=.05$.

To answer the second part of the research question for this study, drinking motives among the student athletes were examined in the data analysis. First, I wanted to look at and compare the different drinking behaviors among sport-types at St. John Fisher College and then look into the drinking motives of the student athletes. The four drinking motives included on the Drinking Motives Measure were as follows: Coping, Conformity, Social, and Enhancement. First, the grand mean for each drinking motive was found and then the grand mean response was compared among sport-types. Moderately significant differences were found for the Coping motive across sport-types ($p=.013$), but no other motive. It is important to note that the significant results for the Coping motive are only slightly significant as the $.013$ $p$ value is not substantially smaller than $.05$. However, significance would indicate there is variation in the
mean responses for the coping motive. It was interesting to see that for all sport-types, the Social motive was scored the highest as being the most influential drinking motive. This means that overall, across sport-types, student athletes report the social environment as their main motive to drink, whether it is being a part of a team, because alcohol makes social gatherings more fun, or because drinking alcohol allows them to be more sociable. Table 4 shows the grand mean responses for each motive for each sport-type.

Table 4

<table>
<thead>
<tr>
<th>Sport-Type</th>
<th>Coping*</th>
<th>Conformity</th>
<th>Social</th>
<th>Enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basketball</td>
<td>2.4</td>
<td>1.5</td>
<td>3.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Cross Country</td>
<td>1.3</td>
<td>1.4</td>
<td>2.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Golf</td>
<td>1.7</td>
<td>1.1</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Rowing</td>
<td>1.5</td>
<td>1.7</td>
<td>2.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Lacrosse</td>
<td>1.2</td>
<td>1.1</td>
<td>2.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Soccer</td>
<td>1.6</td>
<td>1.6</td>
<td>2.8</td>
<td>2.4</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>2.3</td>
<td>1.4</td>
<td>3.2</td>
<td>2.4</td>
</tr>
<tr>
<td>Softball</td>
<td>1.3</td>
<td>1.4</td>
<td>2.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Track &amp; Field</td>
<td>2.3</td>
<td>1.2</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Tennis</td>
<td>2.9</td>
<td>1.8</td>
<td>4.0</td>
<td>3.4</td>
</tr>
<tr>
<td>Volleyball</td>
<td>2.4</td>
<td>2.2</td>
<td>3.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Baseball</td>
<td>2.6</td>
<td>1.9</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Football</td>
<td>1.8</td>
<td>1.2</td>
<td>3.1</td>
<td>2.7</td>
</tr>
</tbody>
</table>

*p=.013, alpha level for comparison was p=.05

Discussion

There is a plethora of research that exists which states student athletes are an at-risk population when it comes to heavy alcohol consumption, but not many researchers look into their motivations (Ford, 2007; Durkin, Wolfe, & Clark, 2005; Grossbard, Geisner, Neighbors, Kilmer, & Larimer, 2007; Yusko, Buckman, White, & Pandina, 2008). This study stands out
because the purpose of it was to not only examine the drinking behaviors of Division III student
athletes at St. John Fisher College, but to also understand the reasons why student athletes
participate in heavy alcohol consumption. The results clearly showed baseball players are the
most at-risk student athlete population at St. John Fisher College when it comes to binge
drinking and weekly alcohol consumption behaviors. Significant differences were found across
all sport-types for binge drinking episodes in the past two weeks (p<.001) and the number of
alcoholic drinks consumed in the past week (p<.001). This indicates student athletes’ drinking
behaviors differ depending on what sport they participate in at St. John Fisher College. Because
of the significant findings, we can say some athletes may be prone to drink more based on their
sport-type and some may drink less. The results also revealed the Social motive to be the most
popularly reported drinking motive among the student athletes at St. John Fisher College. These
findings are consistent with the Social Learning Theory, which I utilized as my theoretical
framework. Baseball players, in particular, were shown through this study to be the most at-risk
student athlete population and their most popularly reported drinking motive was the Social
motive. This means if an athlete is on the baseball team at St. John Fisher College they are more
likely to be prone to heavy drinking behaviors and would be expected to do so because of the
social environment provided by being on a team and because they feel like alcohol enhances a
social gathering.

When comparing this study with previous studies performed looking at sport-type
differences in drinking behaviors among student athletes, there are some similarities and
differences worth noting. Researchers Brenner and Swanik (2007) surveyed 720 Division I, II,
and III athletes and found lacrosse to be the most at-risk population when it came to binge
drinking for both males and females. These findings vary from the results of this study, as I
found baseball to be the most at-risk population at St. John Fisher and both lacrosse and baseball are out-of-season. Brenner and Swanik (2007) also reported that individual sport athletes were less likely to participate in binge drinking than team sport athletes. This was found to be true in this study as well. Track & field, cross country, and golf are all considered to be sport-types comprised of individual sport athletes and reported lower average binge drinking episodes in the past two weeks than all team sports.

Looking at drinking motivations, it was found in this study that the most popular drinking motive among student athletes at St. John Fisher College reported on the Drinking Motives Measure was the Social motive. Many researchers have looked into the social environment provided by being a part of a sports team and how this contributes to alcohol consumption behaviors (Durkin, Wolfe, & Clarke, 2005; Nelson & Wechsler, 2001; Ward & Gryczynski, 2007; Zamboanga, Rodriguez, & Horton, 2008). Many student athletes perceive their peers to consume alcohol on a much more frequent basis than they actually do and this causes them to feel the need to live up to this social norm (Grossbard et al., 2009). These results support prior research that student athletes’ motivations to drink are related to the social aspects of being a member of a sports team.

The impact of this study on practitioners, administrators, and athletic directors is extremely significant. The results add to the limited body of literature regarding alcohol use and drinking motives among intercollegiate athletes. In order to tackle the issue of heavy alcohol consumption among student athletes, we need to understand why they take part in it. Prior research has found that athletes drink heavily due to the social environment provided by being on a team as well as coping with the stress of simultaneously being an athlete and a student (Halim, Hasking, & Allen, 2012; Martens, LaBrie, Hummer, & Pederson, 2008; Martens, Pedersen,
Finding out who the most at-risk groups are and what their drinking motives are could be beneficial for interventions. Therefore, the results of this study could potentially be used on the St. John Fisher College campus for alcohol-related interventions with various teams, targeting the most at-risk teams first (e.g., baseball, football, soccer, and track & field). The counselors or psychologists working with these teams could tailor the programs to the drinking motivations revealed in this study.

There were several limitations to this research. First, by using a survey as the research instrument the data collected was self-reported. By having the student athletes fill out the survey and estimate their drinking behaviors and motives, there was no way to know if they were being honest with their responses. Also, only Division III athletes at St. John Fisher College were used in this study, so the results may not be generalizable. This was a very specific sample of student athletes. With St. John Fisher College being a small, private institution, I ended up with a small sample size of 87 student athletes, which is another limitation of this research. With only 87 respondents, the unisex sport-types could not be separated by gender and gender comparisons could not be made as originally planned. There were simply not enough respondents to make this possible. By using only St. John Fisher College athletes, only sports that are offered at the college were used in this study, therefore not all NCAA sports were included in the comparisons. Another limitation to this study was possibly not being aware of team gatherings that may have occurred at the time the survey was distributed. Teams will often have recruit nights and freshman nights and it is not unusual for teams to entertain these individuals through the use of alcohol and this could have occurred at the time this survey was distributed and may have skewed the results.
SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS

Although there were several limitations to this study, the results add to the literature that already exists on this topic. It is important that researchers continue to look into sport-type differences in drinking behaviors and drinking motives among student athletes at various institutions in the future. Intercollegiate athletes are known to be an at-risk population when it comes to alcohol consumption and it is up to practitioners to keep looking into this problem. I would encourage researchers to use this study to carry out future research and see if these sport-type differences exist on other college campuses as well. In order to gain a deeper understanding, I urge researchers to conduct in-person interviews with student athletes to collect data that is unable to be collected through a survey. Hearing an athlete express their drinking behaviors and motives would be extremely valuable information to gather and interpret. Researchers desperately need to investigate further into the motivations of student athletes and other drinking-related variables in order to truly add valuable knowledge to this growing body of literature.

**Conclusion**

The results of this study provide evidence that there are significant sport-type differences in the drinking behaviors of student athletes at St. John Fisher College. Based on the self-reported data collected using the survey instrument, binge drinking and weekly drinking behaviors differ based on sport-type on the St. John Fisher College Campus. When analyzing drinking motives, the Social motive was the most frequently reported for all sport-types and there were significant differences found among sport-types for the Coping motive. This is an area of research in which researchers need to focus because student athletes are an at-risk population when it comes to heavy alcohol consumption behaviors. This study adds to a growing body of literature on sport-type differences in alcohol consumption behaviors and
drinking motives in intercollegiate athletics and can be used for alcohol intervention programs targeted for specific sport-types on the St. John Fisher College Campus and possibly other campuses around the country.
<table>
<thead>
<tr>
<th>Reference</th>
<th>Details</th>
</tr>
</thead>
</table>
SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS


SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS


SPORT-TYPE DIFFERENCES IN DRINKING BEHAVIORS
AND DRINKING MOTIVES IN INTERCOLLEGIATE ATHLETICS


Appendix A: Survey

Survey: Sport Type Differences in Drinking Behaviors and Drinking Motives Among Student Athletes

Purpose and description: The purpose of this study is to gain an understanding of the drinking behaviors and motives of the student athletes at St. John Fisher College. As a participant in this research, your identity will remain confidential and your individual answers will not be shared. While taking this survey, you will be asked questions about your demographic information, alcohol consumption behaviors and reasons why you may partake in alcohol consumption on or off campus. This survey will take approximately 15-20 minutes to complete.

The information you provide while taking the survey will be used to compare drinking behaviors and motives among the various sport teams here at St. John Fisher College. Prior research has found athletes to be an at-risk population for alcohol abuse and this survey will add to that literature. No contact information or names will be included in the presentation of the results.

Participation in this research is completely voluntary. Risks associated with participating in this survey are that your teammates, coaches or peers may become aware of your participation through observation of you taking the survey or through conversation with others. The information you are providing may be reporting illegal behavior if you are under the age of 21, however all data will be kept anonymous and confidential. If you begin taking the survey and decide you would like to stop, you may withdraw at any time. If you have any questions before filling out the survey, please feel free to contact me personally at ces03887@sjfc.edu.

By completing the questionnaire, you will give me permission for your participation. You may print this form for future reference. If you have any concerns about your selection or treatment as a research participant, please contact me.

Thank you for your participation.

Sincerely,

Carly Szczylowski

Please indicate below that you agree to participate in the survey.

☐ Agree
☐ Disagree

Demographics Questions

What is your gender?

What is your current age?
<table>
<thead>
<tr>
<th>What is your current school year status?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Are you a resident or commuter?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Resident</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What Division III sport do you play at St. John Fisher College?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>What level of sport, JV or Varsity, do you play?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ JV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Do you hold a leadership position on the team? (Ex. team captain)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is your sport currently in season?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>At what age did you consume your first FULL alcoholic beverage? i.e. not a sip of an alcoholic beverage...</th>
</tr>
</thead>
</table>
Quantity Frequency Measures

How many binge drinking episodes have you experienced in the past two weeks? Binge drinking is defined as consuming five or more drinks in one sitting.

How many drinks have you consumed in the past week?

Compare your in-season drinking habits to your off-season drinking habits by reporting your average number of drinks consumed when your sport is in-season versus out-of-season.
## Drinking Motives Questionnaire

**Instructions:** Listed below are 20 reasons people might be inclined to drink alcoholic beverages. Using the scale below, decide how frequently your own drinking is motivated by each of the reasons listed.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Almost Never/Never</th>
<th>Some of the time</th>
<th>Half of the time</th>
<th>Most of the time</th>
<th>Almost Always/Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>To forget your worries.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because your friends pressure you to drink.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because it helps you enjoy a party.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because it helps you when you feel depressed or nervous.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To be sociable.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To cheer up when you are in a bad mood.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because you like the feeling.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>So that others won’t kid you about NOT drinking.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because it’s exciting.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To get high.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because it makes social gatherings more fun.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To fit in with a group you like.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because it gives you a pleasant feeling.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because it improves parties and celebrations.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because you feel more self-confident and sure of yourself.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To celebrate a special occasion with friends.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To forget about your problems.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Because it’s fun.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>To be liked.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>So you won’t feel left out.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Appendix B: Pre-notice Email

Dear __________:

My name is Carly Szydlowski and I am a senior Sport Management major here at St. John Fisher College. I am currently working on completing my senior thesis and am reaching out only to student athletes for my research. The concentration of my study is examining the drinking behaviors and motives of student athletes at St. John Fisher and comparing the responses among the various sport teams at the college.

In approximately three days you will receive another email requesting your participation in a survey. The goal of this research is to understand and compare the drinking behaviors of student athletes on the St. John Fisher College campus, to determine which teams are at risk for binge drinking and to uncover the motives behind why student athletes drink more heavily than the average college student population. A link to the survey will be provided in the next email. It is extremely important for you to know that your responses will be treated confidentially.

This will be a unique and interesting survey to participate in and it is my hope that you will take advantage of that. It will only take you approximately 15-20 minutes to complete and your answers will be greatly appreciated. If you have any initial questions, please email me at ces03867@sjfc.edu.

Thank you,

Carly Szydlowski
Appendix C: Request for Participation Email

Dear ________:

Three days ago you were sent an email notifying you of a study I am conducting for my senior thesis here at St. John Fisher College as part of the Sport Management program. The goal of the study is to understand and compare the drinking behaviors and motives of student athletes and sports teams at St. John Fisher. As a participant in this study, you will be asked to complete a survey, accessible by clicking on the following link:_____________. The survey I have created will take approximately 15-20 minutes to complete and your answers will remain confidential.

Participation in this survey is voluntary, however it is highly encouraged that you participate. There is a recurring pattern of student athletes being at a higher risk of binge drinking than the rest of the student population and the information you provide will help college administrators and athletic directors further determine why this is and help solve the problem.

You may decide not to participate in this study and if you begin participating you can still decide to stop and withdraw at any time. Again, due to the nature of this study it is imperative that you know your responses to this survey will be kept confidential and the results will be presented in a collective form. Names or contact information will not be included in the presentation of results.

If you have any questions or concerns, please feel free to contact me by email at ces03867@sjfc.edu.

Thank you for your participation,

Carly Szydlowski
Dear _________:

Two weeks ago you were sent an email informing you of a study I am conducting for my senior thesis as part of the Sport Management program here at St. John Fisher College. Thank you for your participation if you have already taken the survey. If you have not taken the survey, it is not too late to do so! Your information is important for my research and understanding the drinking behaviors and motives of student athletes on the St. John Fisher college campus.

The survey I have created is accessible by clicking on the following link that will direct you to the survey hosting website: __________. The survey will only take 15-20 minutes of your time to complete and your participation will be greatly appreciated. Due to the nature of the survey, it is important for you to know your responses will be kept confidential and your name and contact information will not be included in the presentation of the results.

If you have any questions or concerns at this point, please feel free to contact me by email at ces03867@sjfc.edu.

Thank you for your participation,

Carly Szydlowski