THE INFLUENCE OF SOCIAL NORMS ON ATHLETES’ ALCOHOL-RELATED DECISION MAKING FOR OTHERS

BY

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The goal of the current study was to examine alcohol-related decision making for others in a sample of athletes, with a focus on the effect of injunctive norms on decision making. Based on social values theory, it was expected that decisions made for others would align more closely with the injunctive norms in comparison to self-decisions. Online surveys were administered to 285 college student-athletes from Wake Forest University and the United States Air Force Academy. In particular, hypothetical scenarios asked participants to indicate whether they would decide to drink heavily in certain situations, as well as whether they would decide for their teammate to drink heavily in those same situations. Results showed an effect of injunctive norms on decisions to drink heavily, as well as an interactive effect on decisions to drink heavily between the injunctive norms and social identity of the athletes. Although no self-other differences in decisions to drink heavily were identified in the current study, several explanations are provided for this outcome.
INTRODUCTION

The purpose of this study is to examine how athletes make decisions for others in alcohol-related situations, focusing specifically on the influence of social norms on this decision making. College student-athletes are commonly faced with the dilemma of whether to drink or not to drink in a variety of situations. With numerous factors that should be considered when making a decision, such as whether to attend a party, there are many situations when the “right” decision may be unclear to an individual. When faced with this uncertainty, a college student-athlete may seek the advice of a peer (i.e., a teammate) to help them make this decision. Based on that teammate’s advice, the wavering college student may now decide to go to the party and get drunk, when they may not have made this decision otherwise.

Understanding the factors that influence an alcohol-related decision is extremely important given the potential implications of these kinds of decisions. In the athletic domain, a poor decision concerning alcohol may directly impact the person who made the decision, as well as indirectly impact their team. For example, if a player has decided to drink underage and is caught, that player will likely be suspended from the team. The consequences of this player’s suspension may include hurting the team morale and overall team dynamics, as well as punishments for the entire team. Given the potential impact of alcohol-related decisions for athletes, a better understanding of the factors that influence this decision making is necessary for future interventions, since targeting these factors may facilitate a more effective alcohol intervention campaign. Furthermore, if similar factors influence both decision making for the self and decision making for others, then future interventions may be able to impact both of these decisions.
There is a considerable amount of alcohol-related research examining the factors that have an impact on the prevalence of drinking among college students. This research suggests that several social influences may impact the prevalence of drinking in this population. One such influence on drinking behaviors has been identified as social norms, such that an individual’s personal drinking behaviors and attitudes about drinking are influenced by social cues about others’ behaviors and attitudes about drinking. Additionally, other factors such as individuals’ social identity with their athletic team and personal reasons to drink seem to have an influence on alcohol-related decision making.

**Alcohol Consumption by Athletes during College**

For some time, alcohol consumption by college students has been an important research topic due to the prevalence of this problem throughout college campuses (Leichliter, Meilman, Presley, & Cashin, 1998). As students move away from parental supervision and approach the legal drinking age, social relationships and environmental influences (i.e., offers to drink alcohol) increase in their impact on college students’ behaviors (Berkowitz & Perkins, 1986; Turrisi, Mastroleo, Mallett, Larimer, & Kilmer, 2007). Although college students in general are at risk of heavy drinking, college groups such as fraternities, sororities and athletic teams have been identified as groups that may be at even higher risk than average for heavy drinking (Alva, 1998; Bosari & Carey, 2003; Leichliter et al., 1998; Martens, Dams-O’Connor, & Beck, 2006). Research has supported differences in alcohol consumption based on one’s athletic status, such that athletes tend to drink more than nonathletes (Leichliter et al., 1998; Martens et al., 2006; Turrisi et al., 2007). With many athletes still being under the legal drinking age and the potential negative consequences of alcohol consumption on athletic performance, understanding the reasons for heavy alcohol consumption by athletes is an important
Drinking by college student-athletes may be influenced by several factors that have been identified by researchers as reasons for drinking. For example, Berkowitz and Perkins (1986) found that college students report drinking to enhance their sociability, to help them escape from negative feelings, and to obtain the feeling of being drunk. Other research has also found that Greek members report drinking because it helps social interactions and bonding, in addition to making the opposite sex more attractive (Alva, 1998). Furthermore, members of fraternities and sororities that drink more, tend to perceive their house as wealthier, more attractive, and more popular than the members of houses that drink less (Larimer, Irvine, Klimer, & Marlatt, 1997). Although this research assessed Greek organizations, it seems likely that the drinking behavior of athletic team members may also be influenced by desires of social enhancement. For athletes specifically, researchers have suggested that the “work-hard, play-hard” mentality for athletes and a general association between alcohol and sporting events may be related to the heavy alcohol consumption by athletes (Leichliter et al., 1998).

Another possible reason that college athletes may drink could be due to the influence of social norms. Social norms are defined by Cialdini and Trost (1998) as “rules and standards that are understood by members of a group, and that guide and/or constrain social behavior without the force of laws” (p. 152). In other words, unspoken and implicit rules among an athletic team may guide an individual athlete’s drinking behaviors. Assuming that athletes seek the acceptance of their team, they should be motivated to abide by the social norms of that group when deciding how to behave in certain situations (Stark, 2009). In general, college students are motivated to comply
with peer expectations in alcohol-related situations (Stark, 2009; Wood, Reed, Palfai, & Stevenson, 2001). Athletes may be even more motivated to comply with the norms of their athletic team compared to peers in general given the expected importance and relevance of an athletic team to a college student-athlete (Borsari & Carey, 2003; Terry & Hogg, 1996).

Types of Social Norms

Within the literature on social norms, there are two different types of social norms commonly discussed and researched: descriptive and injunctive norms. Descriptive norms are an individual’s perceptions about others’ behaviors or what others do in certain situations (Berkowitz, 2004; Cialdini & Trost, 1998). In the context of alcohol consumption, descriptive norms are how much college students believe that other students are drinking in certain situations, such as at parties. In comparison, injunctive norms are an individual’s perceptions about others’ approval and attitudes towards certain behaviors (Berkowitz, 2004; Cialdini & Trost, 1998). For example, injunctive norms include how much college students perceive that other students approve of drinking or heavy drinking. Both of these types of social norms seem to be context-specific, influencing an individual’s behavior only in relevant situations (Terry & Hogg, 2001). In other words, team social norms referring to getting drunk at a party will influence an individual’s drinking behavior in that specific situation, but not necessarily in other situations, such as drinking at a bar. For a better understanding of how descriptive and injunctive norms may influence alcohol-related behaviors, these social norms will now be discussed separately.

Descriptive norms. One issue that often arises when discussing descriptive norms is the accuracy of an individual’s perceptions. According to the social norms
theory, an individual may misperceive others’ behaviors, which will have an effect on that individual’s actions and beliefs (Berkowitz, 2004). A misperception has been supported for alcohol-related behaviors, such that both college students and athletes tend to overestimate how much their peers typically drink (Baer, Stacy, & Larimer, 1991; Dams-O’Connor et al., 2007; Martens et al., 2006; Perkins & Wechsler, 1996). Perceiving that others frequently engage in problematic behaviors such as drinking tends to be associated with increases in that problematic behaviors for that individual (Berkowitz, 2004). Therefore, an individual’s perception that other college students are typically heavy drinking (even if they are not in reality) may result in heavier drinking behaviors for that individual according to social norms theory (Hummer et al., 2009; Perkins & Wechsler, 1996). Overestimations in how much others are drinking may reflect the fact that individuals tend to perceive others as more generally risk seeking than they are themselves (Hsee & Weber, 1997). Regardless of how overestimations are formed, these perceptions of others behaviors have been empirically shown to have an effect on one’s own alcohol consumption.

Many studies have focused on perceived descriptive norms as predictors of personal alcohol consumption and related problems in college students, whereby a student’s perception of how much other students are drinking has been found to significantly predict one’s own alcohol consumption and alcohol-related problems (Grossbard, Giesner et al., 2009; Grossbard, Hummer, LaBrie, Pederson, & Neighbors, 2009; Hummer et al., 2009; Wood et al., 2001). In support of Berkowitz’s social norm theory, research has found that students tend to overestimate how much other students are drinking and those overestimations are associated with greater personal alcohol consumption (Dams-O’Connor et al., 2007). Overall, the research on descriptive norms
suggests that perceptions about how much others are drinking have an effect on one’s own drinking behaviors.

**Injunctive norms.** There is a considerable amount of research that has found that injunctive norms, in addition to descriptive norms, are associated with alcohol use for college students (Hummer et al., 2009; Nagoshi, 1999; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007; Neighbors et al., 2008; Turrisi et al., 2007; Wood et al., 2001). For example, Hummer and colleagues (2009) found that when statistically controlling for other potentially important factors, injunctive norms were the strongest predictor of personal attitudes about drinking and a significant predictor of personal alcohol use in a sample of collegiate athletes. The significant predictive power of injunctive norms for both current drinking behavior and future drinking behavior has also been supported, demonstrating predictive strength above and beyond that of other predictors such as gender and descriptive norms (Hummer et al., 2009; Larimer, Turner, Mallett, & Geisner, 2004). In addition to being predictive of alcohol-related behaviors, perceived approval of drinking behaviors by friends and parents has also been found to significantly predict alcohol-related problems (LaBrie, Hummer, Neighbors, & Larimer, 2010). This research suggests that injunctive norms may be more influential than descriptive norms on long-term behaviors, given that injunctive norms were a stronger predictor of future drinking behaviors in comparison to descriptive norms. Due to the strong predictive power of injunctive norms on drinking behaviors, the focus for the remainder of this paper will be on injunctive norms.

With the literature suggesting that injunctive norms may be stronger predictors of drinking behavior than are descriptive norms, it is relevant to question why injunctive norms may have such strong predictive power. One reason may include the anticipated
social rewards that may come out of complying with a group’s injunctive norms (Cialdini & Trost, 1998). Similarly, injunctive norms may help individuals to maintain good relationships and cohesion within their social group, as well as maintaining their group identity (Cialdini, Reno, & Kallgren, 1990). Therefore, it may be that the influence of injunctive norms is related to an individual’s desire to be socially accepted, a desire that may be especially strong for the members of an athletic team. To further understand how injunctive norms and the motivation to abide by these social norms influence behavior, a discussion of the Theories of Reasoned Action and Planned Behavior is beneficial.

**Theories of Reasoned Action and Planned Behavior.**

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) and the Theory of Planned Behavior (Ajzen, 1991) may help explain the cognitive underpinnings of how injunctive norms have an effect on behaviors. Both theories propose that behavior is derived from intentions, which are essentially an individual’s drive to behave in a certain manner. The Theory of Reasoned Action, which was the first of the two theories to be developed, outlines behavioral intentions as being influenced by an individual’s attitudes and beliefs (i.e., social norms) (Fishbein & Ajzen, 1975). Within this theory, attitudes involve an evaluative component and are derived from beliefs, or one’s actual information about an object. For the Theory of Planned Behavior, perceived behavioral control was added as a third factor that may influence an individual’s intentions and behaviors (Ajzen, 1991; Sheppard, Hartwick, & Warshaw, 1988). Given that the Theory of Planned Behavior is just an updated version of the Theory of Reasoned Action, only the Theory of Planned Behavior will be referred to during the remainder of this paper but both theories do apply to the following discussion.
As shown in a model of these theories in Figure 1 (Stark, 2009), a group’s social norms are their expectations of how an individual should behave in a given situation (Azjen, 1991; Fishbein & Azjen, 1975). For example, there may be an athletic team social norm that going to parties and getting drunk is expected on the weekends. Normative beliefs, which are one’s personal beliefs about what the group expects individuals to do in certain situations, are derived out of a group’s social norms (Fishbein & Ajzen, 1975; Stark, 2009). With respect to the social norm example given, a normative belief example is the athletes’ perception that their teammates expect them to go to parties and get drunk on the weekends. These normative beliefs are derived from social groups that an individual considers important (Cialdini & Trost, 1998) and these beliefs give rise to subjective norms, which are characterized as one’s feelings of social pressure to behave in a certain manner (Fishbein & Ajzen, 1975; Stark, 2009). An example of a subjective norm is the pressure an individual athlete feels from their team to go to parties and get drunk. Finally, subjective norms then influence one’s behavioral-intentions and subsequent behaviors (Fishbein & Azjen, 1975). With respect to our current example, an individual athlete may decide to go out to parties and get drunk on the weekends. Injunctive norms, as they are used in the literature, are most closely related to the group’s social norms in the Theory of Planned Behavior.

One factor that may have an impact on part of this model is one’s motivation to comply with the group’s expectations, which may have an effect on the relationship between normative beliefs and subjective norms (see Figure 1; Stark, 2009). Motivation may have an effect such that the more motivated individuals feel to comply with a group’s expectations, the more social pressure they will feel to act in alignment with the group’s normative behavior. In other words, as an individual’s motivation is increased,
the link between normative beliefs and subjective norms will become stronger, resulting in a behavior that aligns more closely with the group social norm in that situation. 

Although social norms have been questioned as a significant predictor of one’s behavioral intentions (Azjen, 1991), a review of research supported that social norms influence behavior, especially when situations are uncertain, when the source is similar to oneself, and when and individual is worried about maintaining a relationship with an important social group (Cialdini & Trost, 1998). Group relationship variables, such as concern about maintaining the approval of a social group and avoiding rejection by that group, are predictive of an individual’s compliance with a group’s expectations in many situations (Stark, 2009). Motivation to maintain positive group relationships, as it applies

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**Figure 1.** Model from Stark (2009) Displaying the Effect of Norms on Behavior via the Theory of Planned Behavior (Ajzen, 1988; Ajzen & Madden, 1986; Fishbein & Ajzen, 1975; as cited in Stark, 2009).
to the Theory of Planned Behavior, is similar to the previous discussion about how desires to be socially accepted by one’s group may be associated with the strong predictive strength of injunctive norms on drinking behaviors. Overall, the Theory of Planned Behavior helps to explain how injunctive norms may have an effect on individuals’ behaviors.

**Decision Making for Others**

The research on injunctive norms and the Theory of Planned Behavior suggests that individuals’ perceived expectations of their social group, as well as the motivation and pressure they feel towards behaving in alignment with those expectations, all have a large effect on their own personal behaviors. However, in many daily situations, one is often asked to advise or decide what another person should do in a certain situation. When put in these situations of deciding for another person, the question becomes what factors will influence that decision. Although it seems intuitive to expect that some of the same factors will influence both self-decisions as well as decisions for others, there are also some proposed differences in these decision-making processes as is described by social values theory.

**Social values theory.** Social values theory extends previous work by Kray and Gonzalez (1999), who describe decision making as a process of weighing relevant factors, whereby important factors are taken into greater consideration when deciding for others in comparison to when deciding for the self. In other words, when making a decision for others, individuals will base their decision on the factor that is most important, but when deciding for the self, they will also consider several additional factors. Giving greater weight to more important factors in decision making for others seems to hold for variety of situations from job choices to selecting an academic major (Kray & Gonzalez, 1999).
Social values theory is based on the idea that when risk is valued in a given situation, there are self-other differences that are shown for decision making (Stone & Allgaier, 2008). Conversely, self-other differences in decision making are not found in situations where risk is not valued (i.e., similar decisions are made for both the self and others). Social values, as it is used in this theory, are defined as perceptions of what is important to other people (Rohan, 2000). In situations where risk is valued, self-other difference in decision making arise out of differential weighing of the factors that are considered in the subsequent decision-making (Stone & Allgaier, 2008). This is such that during decision making for others, the most important factor considered arises out of the socially-valued behavior for that particular situation (see Figure 2a). The socially-valued behavior is what is expected by one’s social group in a particular situation. Out of this expected behavior arises an injunctive norm, the general approval of one’s social group for the socially-valued behavior. Injunctive norms then have a large impact on the perceived socially-sanctioned advice, which is an individual’s perception about what the social group would deem as the appropriate advice, or decision, to be given to others in a certain situation (Stone & Allgaier, 2008). Perceived socially-sanctioned advice then influences the decisions made for others. Therefore, decisions made for others are largely influenced by what the socially-valued behavior is in that situation, which we can get a sense of through measuring the injunctive norms.

An additional aspect of social values theory, depicted in Figure 2a, is that other factors may influence perceived socially-sanctioned advice. Other factors include any additional considerations that may be taken into account in a situation, such as particularly dire consequences of a decision (i.e., if it’s known that a person is allergic to alcohol). However, as represented in the model, other factors typically have only a
minimal influence on the perceived socially-sanctioned advice and subsequent decision making, whereas the injunctive norms have a large influence on perceived socially-sanctioned advice.

For a better understanding of social values theory, consider an athletic team that values risk-taking behaviors in situations dealing with alcohol (i.e., the socially-valued behavior). In other words, the perceived injunctive norm of this group is high approval for drinking at parties. Therefore, individuals are expected by their team to tell their teammate to drink at parties (i.e., the perceived socially-sanctioned advice), which leads
to the advice to drink at a party when asked by one’s teammate (i.e., decision making for others). Furthermore, other factors, such as the possible consequences of drinking at the party underage or the big game the next day are not considered much during the decision making process for others.

According to social values theory, decision making for the self is also influenced by the socially-valued behavior and injunctive norms; however, other factors are considered more in self-decisions, which results in relatively less emphasis on a group’s perceived injunctive norms (see Figure 2b) (Kray & Gonzalez, 1999; Stone & Allgaier, 2008). Therefore, an individual is more likely to consider other factors, such as the consequences of drinking at the party underage or the big game the next day when making alcohol-related decisions for the self. This aspect of social values theory aligns with past research by Ahadi and Diener (1989), suggesting that when there is an increase in the psychological factors influencing an individual’s behavior, the correlation between any one factor and the behavior must decrease. For social values theory, a difference in the factors considered for self-decisions and other-decisions ultimately results in self-other differences in decision making for situations where risk is valued.

There are many aspects of social values theory that are related to aspects of the Theory of Planned Behavior. For example, similar to the Theory of Planned Behavior, the social values that are influential in decision making are derived from one’s social group (Stone & Allgaier, 2008), which may be defined by groups such as one’s peers, fraternity group, or athletic team for college students. Additionally, the socially-valued behavior and the injunctive norms in social values theory are by definition closely related to the normative beliefs and subjective norms of the Theory of Planned Behavior. Similar to the misperceptions that are discussed with respect to the Theory of Planned
Behavior, one’s perceptions about what others believe may also not align with others’ actual beliefs or values (Stone & Allgaier, 2008). In other words, individuals’ perceptions that their teammates are highly accepting of getting drunk at a party may be accurate (i.e., the team may actually be very accepting of this behavior) or their perceptions may be inaccurate (i.e., the team may actually be less accepting of drinking than this individual perceives). However, the accuracy of these perceptions is irrelevant to the social values theory since it is the perception of others’ beliefs that has an influence on decision making, regardless of the accuracy of this perception.

Although some aspects of the social values theory relate back to the Theory of Planned Behavior, social values theory extends this theory by recognizing that there are self-other differences in the weighing of factors on decision making, which has been supported empirically. A series of studies by Stone and colleagues have found self-other differences in situations where risk is valued (Beisswanger, Stone, Hupp, & Allgaier, 2003; Choi & Stone, 2010; Stone & Allgaier, 2008). For example, Choi and Stone (2010) found that participants made more risk-taking decisions for a friend in comparison to the self in relationship scenarios, where risk-taking was socially-valued. Conversely, for scenarios involving physical safety (i.e., in situations where risk-taking is not valued), participants made more risk-averse decisions for others in comparison to self-decisions. The findings from this study suggest that the social value placed on risk in a given situation is considered more in decisions made for others compared to the self.

When considering these results, one concern is that perhaps self-other differences in decision making are due to perceived personal differences between the participant and the person for whom they are deciding. In other words, perhaps self-other differences are due to believing that the person for whom one is deciding for is actually quite risk
seeking in alcohol-related situations; therefore, one decides for the other person to drink while deciding not to personally drink. In testing this possibility of perceived value differences, research on social values theory has shown that participants do not report differences in what they expect others to decide to do and what they decide for themselves (Choi & Stone, 2010; Stone & Allgaier, 2008). Therefore, self-other differences in decision making are attributed to differences in how individuals make decisions for others, not due to differences in each person’s values (Choi & Stone, 2010).

Another solution to this concern about personal values is to tell participants to consider a concrete individual (i.e., the person sitting next to them) in comparison to an abstract individual (i.e., someone in the United States), since participants report that a concrete individual will be similar in risk taking to themselves (Hsee & Weber, 1997). The technique of thinking of a specific individual that is believed to have similar values to oneself before beginning the survey has been used in previous research to minimize possible differences in personal values (Beisswanger et al., 2003; Stark, 2009).

**Moderators of the Interaction between Norms and Behaviors**

With an understanding of the relationship between norms and alcohol consumption among college students, factors that may moderate this relationship can then be assessed. In other words, does the strength of the relationship between norms and alcohol consumption vary by any other factor? One’s attraction to the team has been analyzed in past studies as moderating the relationship between norms and behaviors, whereby attraction measures one’s desire to be affiliated with the team and accepted by them (Evans & Jarvis, 1986). Grossbard, Hummer, and colleagues (2009), for example, found that when athletes had a stronger attraction to their team, they also showed a
stronger relationship between descriptive norms and alcohol consumption than when athletes had a weaker attraction to their team.

Closely related to an individual’s attraction to the team, one’s social identity defines the self with respect to the qualities of one’s in-group. Within social identity there is a group prototype, whereby differences among individuals within the group are minimized, whereas differences from out-groups are maximized (Terry & Hogg, 1996, 2001). The group prototype describes beliefs and attitudes of the groups, which over time may redefine individuals in terms of the group prototype versus their own personal beliefs and attitudes. Abiding by the group norm allows an individual to feel less uncertainty about their decision (Mullin & Hogg, 1999) while also enforcing one’s identity as a member of that group (Terry & Hogg, 2001). With this rationale, identification with a group or team has the potential to moderate the influence between injunctive social norms and an individual’s decisions in alcohol-related situations.

Research on attitude-behavior consistency found that norms have a greater influence on behavioral intentions than previously documented when the reference group is salient to one’s social-identity (Terry & Hogg, 1996). As mentioned previously, motivation to comply with a group’s expectations moderates the influence of perceived expectations on an individual’s social pressures to abide by that expectation (Fishbein & Ajzen, 1975; Stark, 2009). Accordingly, a significant relationship between social norms and behavioral intentions has been supported for individuals who strongly identify with a salient reference group (Terry & Hogg, 1996; Wellen, Hogg, & Terry, 1998) such that individuals who identify more with the group tend to abide by the group’s expectations. This is supported in a study on alcohol by Reed and colleagues (2007), which suggested that individual tends to drink more when others approve of drinking (i.e., injunctive norm)
and when an individual identifies strongly with those people (including friends, peers, or one’s Greek organization). Athletic identity as a moderator of the relationship between athletic team norms and drinking behaviors has been found in past research, whereby those who reported the strongest athletic identity showed a positive relationship between descriptive norms about athletes and drinking behaviors (Grossbard, Geisner et al., 2009). In comparison, individuals reporting low athletic identity showed a negative relationship between descriptive norms and drinking behaviors.

The research suggesting that social and athletic identity moderate the influence of social norms on drinking behavior can also be related back to the Theory of Planned Behavior. As previously mentioned, within the Theory of Planned Behavior, motivation to comply may have an effect on the link between perceived expectations (i.e., normative beliefs) and subjective norms (Stark, 2009). It seems that social and athletic identity may have an effect on an individual’s motivation to comply, whereby individuals who report strong identification with their peers or athletic teams may be more motivated to behave in alignment with the expectations of their respective group compared to individuals who report weak identification with those groups.

**The Current Study**

The current study focuses on assessing alcohol-related decision making for others, which to the best of my knowledge has not been assessed previously. The previously discussed literature on social norms is based on the fact that social groups have their own norms or expectations for certain situations by which group members feel pressured to abide (Fishbein & Azjen, 1975). The college student population at any particular school comprises one social group whose norms may be influential on all the students. For example, at a school that is known for having a high prevalence of alcohol consumption,
students may feel more pressured to drink given that they believe all the other students are highly accepting of heavy drinking. These students may therefore be personally influenced by the alcohol-related injunctive norms of their respective school, but in accordance with social values theory, they will also consider other factors (i.e., their big exam tomorrow, the consequences of being caught drinking underage, etc.) when making personal decisions drink. Students may also be influenced by the injunctive norms of their school when making alcohol-related decisions for another person. According to social values theory, in this situation we would expect individuals to make a decision for their friend that is based almost solely on the socially-valued behavior. In this same example of a college with a perceived injunctive norm that is accepting of drinking, we would expect an individual to decide for a friend to drink because that is the socially-valued behavior at that college. We are not aware of any previous research that looks at this question of how college student-athletes make decisions for others concerning alcohol. If injunctive norms are able to influence students in both self and other decision making, then the influence of norms on alcohol-related behaviors is even more powerful than suggested previously.

The effects of norms. One approach to determining if there is an influence of the school’s injunctive norms on student’s alcohol-related behaviors is to first assess these influences in a smaller group of college students who are expected to have even stronger social norms than the student population in general. This approach may be beneficial since students may be able to easily dismiss the norms of a large group, such as an entire college population, in comparison to the norms of smaller, more relevant social groups (Borsari & Carey, 2003). Given this approach to studying the influence of injunctive norms, intercollegiate athletes were the focus of the current study as a specific, small
group of college students. The first reason for studying athletes is because they have been identified as one group of college students who are at risk of heavy alcohol consumption and related problems (Leichliter et al., 1998; Martens et al., 2006; Turrisi et al., 2007). The second reason for studying athletes was based on the expectation that social norm strength for this group of students would be especially strong given strong team bonds, a desire to be accepted by the team and an abundance of hours spent with the team during practice, competitions and social events. Therefore, we assessed the influence of athletic team norms, expecting that this group would have strong social norms which may have an effect on decision making. Finding an influence of social norms on alcohol-related decision making for others in the athletic domain where injunctive norms are expected to be strong is a key first step before exploring this possible influence of norms in other groups of college students where the norms may not be as strong but still influential. This information will expand the current literature by investigating the influence of injunctive norms about alcohol, specifically addressing if these norms have an effect on decision making for others.

The final reason that athletic teams were investigated in the current study is based on previous literature that suggests injunctive norms of proximal groups (i.e., friend’s approval) are stronger predictors of personal drinking behaviors compared to the injunctive norms of more distal groups (Baer et al., 1991; Borsari & Carey, 2003; Neighbors et al., 2007; Neighbors et al., 2008; Turrisi et al., 2007). Researchers speculate that the strength of proximal group injunctive norms in predicting drinking behaviors could be the result of social events with close friends being especially memorable and salient for individuals (Baer et al., 1991). In other words, when at a party with close friends, an individual may have more fun compared to other parties without
their close friends around; therefore, they will remember their experiences with their close friends better than experiences with more distal friends. Friends’ approval has also been found to significantly predict alcohol-related problems in other studies, showing predictive strength greater than that of distal groups such as a typical student’s approval (LaBrie et al., 2010; Reed, Lange, Ketchie, & Clapp, 2007). In general, past research recommends the use of proximal group norms for predicting alcohol-related behaviors and alcohol-related problems because of the strength of these predictors (Hummer et al., 2009). Given these findings, our study focused on assessing individuals’ perceptions of a proximal group (i.e., their team) and evaluating the influence of that group’s injunctive norms on decision making for others and decision making for the self.

**Self-other differences in decisions to drink.** This study investigated differences in decision making for the self and others. However, inherently these two decisions are not exactly the same in their behavioral impact given that individuals have the ability to make a decision for themselves, which is expected to result in that behavior. In comparison, a decision or advice given to another person may not result in the advised behavior (Choi, 2007). Throughout our project we refer to decisions made for others, although these decisions may also be classified as advice about what another person should do. Past research has found no difference between asking participants to “make a decision” or “provide advice” to others (Beisswagner et al., 2008). Therefore, it is relevant to note that making decisions for others as it is used in this study may be a closely related concept to providing advice for others, but this concept will be consistently referred to as decision making for others throughout this paper.

The concern of possible differences in decision making for self and others may also be evaluated with respect to the Theory of Planned Behavior. According to social
values theory, we would expect the relationship between injunctive norms and decision making to be larger for other-decisions in comparison to self-decisions. However, the Theory of Planned Behavior also addresses the fact that an individual has intentions to behave, which then guide their subsequent behaviors. Therefore, the relationship between the subjective norm (i.e., injunctive norms) and intentions (i.e., decisions) may be greater in decision making for others based on social values theory, but the relationship between intentions and behavior may be much smaller in decision making for others compared to self-decisions (see Figure 3a). This is because what an individual decides for another to do (i.e., their intentions for someone else) may not be strongly associated with another person’s actual behavior. In other words, an individual deciding that their teammate should drink may show only a weak to moderate relationship with that teammate’s behaviors, since the intentions for that behavior were externally derived by someone else.

**Figure 3a.** Diagram of the Relationships between Variables for Decision Making for Others

![Diagram of the Relationships between Variables for Decision Making for Others](image)

Conversely, according to social values theory, decisions (i.e., intentions) made for the self will be less influenced by injunctive norms. However, according to the Theory of Planned Behavior model, the link between intentions to behave (i.e., decisions) and

![Diagram of the Relationships between Variables for Decision Making for the Self](image)
behavior should be much stronger for the self compared to that link for others, because both intentions and behaviors are personally derived (see Figure 3b). Actual behavior was not measured in the current study and thus our research cannot fully address this question; however, by assessing the relationships between several of these variables we can provide insight into whether this topic should be researched more in the future.

**Interaction between injunctive norms and the person being decided for.** The current study sought to extend the literature in this field for both decision making for the self and decision making for others. As previously mentioned, past research has found a significant relationship between injunctive norms and personal alcohol use among college students, as well as identifying athletes at risk for heavy alcohol consumption. Therefore, we wanted to investigate the influence of injunctive norms concerning heavy drinking on self-decisions and other-decisions. We expected a main effect of injunctive norms, such that scenarios with pro-heavy drinking norms should be associated with more decisions to drink heavily than scenarios with anti-heavy drinking norms. Furthermore, based on social values theory, we expected an interaction between injunctive norms and the person being decided for. This effect was expected to be such that the injunctive norms would have a greater effect on decisions for others in comparison to decisions made for the self. In other words, there should be a greater percentage of decisions to drink heavily made for others in situations with pro-heavy drinking norms and fewer decisions to drink heavily for others in situations with anti-heavy drinking norms in comparison to decisions made for self.

**Interaction between injunctive norms and social identity.** Social identity seems to be related to injunctive norms since reported feelings of social identification with one’s athletic group may indicate the importance of maintaining good relationships with those
group members (Cialdini et al., 1990). In other words, individuals that feel the strongest identification with their athletic team (i.e., high identifiers) should be more motivated to maintain their good relationships with the team and therefore should be more influenced by injunctive norms in comparison to low identifiers. As previously mentioned, research has shown that individuals that strongly identify with a group will also show the greatest influence of group norms on their behavioral intentions (Grossbard, Geisner et al., 2009; Grossbard, Hummer et al., 2009; Reed et al., 2007; Terry & Hogg, 1996, 2001).

Similarly, we anticipated a moderating effect of social identity in our current study, whereby the effect of injunctive norms on decision making would be greater for high identifiers in comparison to low identifiers (i.e., the difference between the slopes would be greater for high than low identifiers; see Figure 4). Individuals who have a weaker identification with their athletic team were expected to show the same trend of a positive relationship between injunctive norms and decision making, but the effect of norms were expected to be less than that seen for high identifiers (see Figure 4). We expected to find this effect for decision making in general, collapsed across decisions for the self and decisions for others.

Figure 4. Diagram of Expected Relationship between Injunctive Norms and Social Identity
**Interaction between injunctive norms, social identity, and the person being decided for.** The previously discussed relationship between injunctive norms and social identity was expected to vary depending on the person being decided for. This interaction was expected to be such that the effect of injunctive norms would be stronger in decision making for others because of the anticipated strong relationship between injunctive norms and decision making for others in comparison to decision making for the self. Thus, we predicted a three-way interaction between injunctive norms (mild norm vs. strong norm) and social identity (low vs. high) and person being decided for (self vs. other) on the percentage of drinking choices, whereby high identifiers should make decisions that strongly align with the injunctive norms especially when deciding for others. Conversely, low identifiers should make decisions that have a weak alignment with injunctive norms for both self and others. However, there were not strong predictions for this 3-way interaction based on social values theory; therefore, we acknowledged that other trends seem plausible as well.

**Reasons to drink.** For alcohol-related decision making, one factor that may be an important predictor is the decider’s reasons for drinking. Past research has found that motives and reasons for drinking, as measured through the Athlete Drinking Scale, explained a significant amount of variance in a model for predicting personal attitudes towards drinking (Hummer et al., 2009), as well as explaining a significant amount of variance in personal alcohol consumption and alcohol-related problems for intercollegiate athletes (Hummer et al., 2009; Martens, Watson, Roylan, & Beck, 2005). The Athlete Drinking Scale developed by Martens and colleagues (2005) measures athletes’ reasons to drink based on three categories: positive reinforcement (i.e., “Because I work so hard at my sport, I should be able to drink to have a good time.”), team/group (i.e., “I drink
because my teammates expect me to drink with them.”) and sport-related coping (i.e., “I drink to help me deal with poor performances.”). In past research, the positive reinforcement subscale was found to be the strongest predictor among the three subscales in predicting personal alcohol consumption, whereas the team/group subscale showed a counter-intuitive significant, negative predictive relationship with personal alcohol consumption (Hummer et al., 2009).

Within the current study, we also expected to find an association between reasons to drink and decision making. However, we anticipated slightly different associations between the three subscales of reasons to drink (positive reinforcement, team/group, and sport-related coping) and decision making for the self and others. Recall that social values theory asserts more weight to injunctive norms when deciding for others and more consideration of additional factors when deciding for the self (Kray & Gonzalez, 1999; Stone & Allgaier, 2008). Therefore, reasons to drink may show self-other differences in their influence on decisions made for oneself and for others. The team/group subscale seems to be closely related to injunctive norms; therefore, we expect a strong correlation between the team/group subscale and the decisions for others to drink heavily. Also, we predicted that correlations between both the positive reinforcement and sport-related coping subscales to show greater associations with decisions for the self in comparison to decisions for others.

**Model for predicting decisions for the self and others.** The previously discussed analyses will be used to determine how decisions to drink heavily are influenced by injunctive norms, averaged across participants. However, a related question of interest is how individuals who perceive the strength of the norm as greater than others’ perception of the norm then make decisions to heavy drink. In other words,
if an individual perceives a strong norm to drink heavily in general (across all scenarios), does that individual then make more decisions to drink heavily on average? Furthermore, does this predictive strength of perceived injunctive norm interact with an individual’s social identity to predict decisions to drink heavily? To answer these questions, a hierarchical multiple regression analysis was utilized, as has been done in previous research to predict alcohol-related behaviors (Hummer et al., 2009). This regression analysis allowed us to control for the demographic features of participants that may have an effect (i.e., gender, class year, sport, season of sport and interaction with the team), as well as for reasons to drink. Therefore, we were able to focus our assessment on the effects of injunctive norms and social identity on decisions to drink heavily while controlling for other factors.

Two hierarchical multiple regression analyses were used to predict decisions to drink heavily for the self and others separately. This allowed us to determine if the effects of injunctive norms and social identity on decisions to drink heavily were similar for both self-decisions and other-decisions. Results from these analyses allowed us to determine how the effects of these factors may vary between decisions for the self and others. To the best of our knowledge, these analyses have not been done previously and provide important insight to the field on the effect of norms and social identity on alcohol-related decisions.
METHOD

Participant Recruitment

Eligible participants for the current study included intercollegiate athletes from Wake Forest University and the upper three classes of intercollegiate athletes from the United States Air Force Academy. Upon receiving Institutional Review Board approval, the researchers contacted the athletic director at each school. Emails to athletic directors briefly described the purpose of the study and asked their approval for the athletic department to participate. Once the athletic directors gave their permission, coaches were contacted via an email, describing the study and asking for their team’s participation. Upon request or if contact could not be established through emails, personal visits were made to Wake Forest coaches to discuss the study and ask for their permission. With the coach’s permission, a list of email addresses for the student-athletes on the team were acquired and participants were contacted via email. Within the email to participants, the study was described and the link to the online survey was provided.

Participants

Participants were 285 student-athletes (197 males, 85 females, 3 who did not indicate their gender) from Wake Forest University and the United States Air Force Academy. This was considered to be a representative sample of these two schools given the high male to female ratio at the Air Force Academy. Upperclassmen from the intercollegiate teams at both schools were eligible for the study, and freshmen were eligible for participation at Wake Forest University. Freshmen from the Air Force Academy were not allowed to participate in the current study given that there are restrictions placed on them by the school that may not allow for sufficient exposure to the
group norms of their athletic teams. The number of upperclassmen that participated was comparable for each class year and there was a much lower representation of freshmen in the sample compared to upperclassmen, which was expected based on the exclusion of Air Force Academy freshmen (7.4% freshmen, 34.4% sophomores, 30.9% juniors, 25.6% seniors, 1.8% who did not report their class year). Participants at both universities were offered a $10 gift certificate to Starbucks, Target or Subway in return for their participation.

The total number of athletes invited to participate in the study was 491, which included 315 Air Force Academy athletes and 176 Wake Forest athletes. The participation rate from the athletes at the Air Force Academy was 60.3% (190 athletes participated) and 50.6% for Wake Forest athletes (89 athletes participated). The breakdown of sport representation in our sample is displayed in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Sport</th>
<th>%</th>
<th>Sport</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>7.7</td>
<td>Rifle</td>
<td>2.1</td>
</tr>
<tr>
<td>Basketball</td>
<td>0.7</td>
<td>Soccer</td>
<td>9.5</td>
</tr>
<tr>
<td>Boxing</td>
<td>6.0</td>
<td>Swimming &amp; Diving</td>
<td>5.6</td>
</tr>
<tr>
<td>Cross-Country/Track &amp; Field</td>
<td>14.4</td>
<td>Tennis</td>
<td>4.2</td>
</tr>
<tr>
<td>Field Hockey</td>
<td>3.2</td>
<td>Volleyball</td>
<td>2.1</td>
</tr>
<tr>
<td>Football</td>
<td>12.6</td>
<td>Water Polo</td>
<td>5.6</td>
</tr>
<tr>
<td>Golf</td>
<td>3.9</td>
<td>Wrestling</td>
<td>8.4</td>
</tr>
<tr>
<td>Gymnastics</td>
<td>6.0</td>
<td>Did not indicate sport</td>
<td>8.1</td>
</tr>
</tbody>
</table>
Materials

**Decision making scenarios.** Participants were presented with four scenarios, each of which described a common situation for the typical student-athlete (see Appendix A). Scenarios were based on expected social norms within athletic teams to either drink heavily or not to drink, with two scenarios of each norm. In other words, when there is a team social norm to drink heavily in a given situation, participants were expected to make more decisions to drink given the high acceptability of this decision. Ideas for two of the four scenarios were based the injunctive norms among student-athletes as previously researched by Hummer and colleagues (2009).

**Pro-heavy drinking norm scenarios.** Research suggests that there is an expectation by peers for individuals to go to parties, which is related to increased intentions to attend parties and increased party attendance (Stark, 2009). Furthermore, Hummer and colleagues (2009) found strong acceptability amongst athletes for becoming intoxicated at a party. Therefore, the first pro-heavy drinking norm scenario used in the current study involved deciding whether to get drunk at a typical weekend party as adapted from the work by Hummer and colleagues (2009). One other scenario was developed for the current study based on another situation that an athlete might experience while on an intercollegiate athletic team. This second scenario involved a party being thrown by one’s teammates where attending and getting drunk was expected to be the social norm.

**Anti-heavy drinking norm scenarios.** In previous work by Hummer and colleagues (2009), it was found that drinking three nights before a big game is relatively acceptable by college athletes. Therefore, this situation was modified for the current study to be about drinking the night before a big game, which was expected to make
drinking in this scenario highly unacceptable. Although, this scenario did not explicitly ask participants about getting drunk like the other scenarios, “drinking to celebrate” as used in this scenario is likely to include heavy drinking. Additionally, another scenario was developed for the current study, which included violating a strict team diet for championships to get drunk. Deciding to get drunk and violate a team diet was also expected to be highly unacceptable.

Each of the four scenarios described a hypothetical situation in detail so participants were able to visualize themselves in that situation (see Appendix A). The first scenario described a teammate contemplating getting drunk at a party and is as follows:

*It's the weekend. There is a large party, and lots of students from school are there dancing and having a good time. Many members of your team are at the party, playing beer pong and drinking.*

During the party, your **teammate** is trying to decide whether to get drunk tonight. He/she says it sounds fun, but hadn't been planning on getting drunk tonight, and asks you what to do.

Each scenario contained a similar ending, whereby participants were told one of their teammates is unsure what to do in the current situation and asks the participant for advice. The indecisiveness of the teammate in the scenario is an essential element of these scenarios because it makes the advice given by participants more influential, given that it appears their teammate could be swayed into either decision. Participants are then asked to make a decision for their teammate: “Get drunk at the party” or “Do not get drunk at the party.” This same scenario was then repeated with the second part of the scenario being adapted to now reference the participant in the scenario, such that participants should imagine themselves in that situation and decided what they would do in that alcohol-related situation. The use of hypothetical scenarios and subsequent decision
making for the self and others has been used in past research on the social values theory (Beisswagner et al., 2003; Choi & Stone, 2010; Dore, Buchanan, & Stone, 2009; Stone & Allgaier, 2008).

**Injunctive norms for each scenario.** The scenarios for the injunctive norm evaluations were the same situations as used for the decision making questions (see Appendix B). However, for the injunctive norm questions, participants were told that two different teammates are contemplating what to do in each situation. Then, one teammate makes the decision to drink heavily and the other makes the decision not to drink heavily. Participants are then asked to rate their other teammates’ perceived acceptability for the decision to drink heavily (the risk-taking decision) and the decision not to drink heavily (the risk-averse decision) for that particular situation. For example, in the first scenario, participants were told that Teammate A decides *to get drunk at the party*. Participants were then asked to rate how acceptable they think other members of their team would find this decision. Next, participants were told that Teammate B decides *not to get drunk at the party* and are asked to rate how acceptable they think their other teammates would find this decision. Therefore, participants rated the perceived acceptability of both the risk-taking and risk-averse decision for each scenario.

The perceived acceptability by other teammates in each scenario was used to determine if our assumptions about the social norms (i.e., norm to drink heavily or not to drink heavily) are accurate in each situation. It is relevant to note that previous research about drinking norms in college was measured by asking participants about the approval or acceptance of a drinking behavior (Hummer et al., 2009; Nagoshi, 1999; Neighbors et al., 2007; Neighbors et al., 2008; Turrisi et al., 2007; Wood et al., 2001). Therefore, high acceptance of drinking in a certain situation was equated with a norm to drink.
Conversely, the current study subtracts the acceptance of not drinking from the acceptance of drinking. Our measurement of norm strength is advantageous because it provides an indication of the injunctive norm, relative to the counter-norm behavior. For example, if it is reported as highly acceptable for an athlete to get drunk at a party and not very acceptable to not get drunk at the party, then we can confidently conclude there is an injunctive norm for heavy drinking at parties. However, if there is high acceptability for getting drunk at a party, but also high acceptability for not getting drunk at a party, then it does not appear there is a strong injunctive norm to drink heavily or not to drink heavily in this situation. Given our measurement of injunctive norms, we expected that the strength of norms in our study may differ from that reported in previous research on the injunctive norms for drinking in college.

As previously mentioned, perceived injunctive norms are measured for teammates because past research has shown proximal group norms are a strong predictor of personal drinking behavior (Baer et al., 1991; Borsari & Carey, 2003; LaBrie et al., 2010; Neighbors et al., 2008; Reed et al., 2007), which we also expected for decision making in alcohol-related situations. Answers to these questions were indicated on a seven point Likert-type scale from 1 (not acceptable) to 7 (very acceptable).

In addition to asking participants to rate the perceived acceptability of risk-taking and risk-averse decisions by their teammates, questions later in the survey asked participants to also rate the perceived acceptability by typical athletes from their school as well as their own personal acceptability. These questions were included for exploratory reasons and to replicate differences between self-approval and approval by other typical athletes of alcohol-related decisions that have been found in past studies.
(Borsari and Carey, 2003; Hummer et al., 2009), but these results will not be discussed in this paper.

**Social identity scale.** Social identity was assessed by four items developed by Terry and Hogg (1996), which were modified from their original use by Brown, Condor, Mathews, Wade, and Williams (1986). This modified scale showed good reliability in past studies when evaluating identity with friends, $\alpha = .87$, other university peers, $\alpha = .82$ and Fraternity/Sorority members, $\alpha = .80$ (Terry & Hogg, 1996; Reed et al., 2010). In the current study, these four items measured the degree to which participants felt they identify with their team, similar to the use of these questions in past studies for identification with different reference groups (see Appendix C). One such item is: “How much do you feel you identify with your team?” Answers to these questions were indicated on a seven point Likert-type scale from 1 (do not identify) to 7 (strongly identify). A factor analysis revealed that all four items loaded onto one factor; therefore, responses on these questions were averaged together for an overall measure of one’s feelings of identity with their athletic team (Cronbach’s $\alpha = .82$).

**Reasons to drink.** Athletes’ reasons to drink were assessed by nineteen items from the athlete drinking scale (see Appendix D; Martens et al., 2005). As previously mentioned, the Athlete Drinking Scale (ADS) has three subscales, including: positive reinforcement (i.e., “Because I work so hard at my sport, I should be able to drink to have a good time.”), team/group (i.e., “I drink because my teammates expect me to drink with them.”) and sport-related coping (i.e., “I drink to help me deal with poor performances.”). Answers to these questions were indicated on a six point Likert-type scale from 1 (strongly disagree) to 6 (strongly agree). Previous research has shown good reliability for each of these subscales, ranging from Cronbach’s $\alpha = .78$ to Cronbach’s $\alpha = .89$ for
positive reinforcement and team/group (Martens et al., 2005). Factor analysis of these items revealed a three-factor structure that aligned with the three subscales identified by previous research by Martens and colleagues (2005). Scores for each subscale was formed by aggregating its respective items and each subscale showed good reliability in the current study (positive reinforcement Cronbach’s α = .93, team/group Cronbach’s α = .89, sport-related coping Cronbach’s α = .86).

**Demographics.** Five items asked participants general questions about their gender, class year in college, sport in which they are involved, current season of their sport (i.e., in-season or out of season) and approximate amount of interaction with teammates (see Appendix E). Athletes’ interaction with their respective team was dichotomized by if they had interacted with their team for less or more than a month.

**Procedure**

The first screen of the study informed the athletes that only those personally invited to take part in the study were eligible to participate, which was followed by a screen including an informed consent. The informed consent described the voluntary nature of the study and the expectation of no significant risks to participants. A button at the bottom of the informed consent page redirected participants to the survey and participants were informed that they consented to participate in the study by clicking that button. The next screen asked participants to think of a specific teammate who is similar to themselves in values, at which point they could press the button to continue onto the survey.

To counterbalance any possible effects of ordering the questions, four different versions of the scenarios were randomly assigned to participants. In each version of the study, participants were given each of the four scenarios, but the order of the scenarios
and decisions being made (either for the self or other) were changed amongst the different versions. For example, in the first version of the survey, participants were asked to first make a decision for their teammate. After deciding for a teammate, participants were shown that same scenario again and were asked what decision they would make for themselves under the same circumstances. This process was then repeated for each of the scenarios (starting with the Party scenario and ending with the Big Game Scenario; see Appendix A), with participants first making a decision for their teammate and then for themselves in each scenario. A second version of the survey kept the scenarios in the same order, but asked participants to instead make a decision for themselves first and make a decision for a teammate second. The third version switched the order of the scenarios (scenarios now went in reverse order from the Big Game Scenario to the Party Scenario) and asked for a teammate-decision first and a self-decision second. Finally, the fourth version had the same order of scenarios as the third version, but asked for a self-decision first and a teammate-decision second. The survey version to which participants were given the link was assigned through a randomized block design.

After decisions were made for all four scenarios, participants then rated their other teammate’s perceived acceptability of risk-taking and risk-averse decisions in each situation. After teammate’s perceived acceptability was rated for each situation, perceived acceptability for other typical athletes and for the self were also noted for exploratory reasons not of interest in the current study. Participants then answered the four social identity questions and the nineteen items from the Athlete Drinking Scale. Finally, athletes answered the five demographic questions.

Following the survey, participants were redirected to another page requesting their personal information. This information was used to request their gift certificate
preference and the address to which the gift certificate should be sent. Additionally, email addresses were used to confirm that participants had been invited to participate and were currently intercollegiate athletes at their respective school. Participants had a choice between a $10 gift certificate to Starbucks, Subway, or Target for their participation in the study. All the personal information collected was kept separate from their survey responses at all times by being saved in two different documents, with no potential to be linked together. Furthermore, personal information was reorganized by a research assistant who had no access to any of the survey information and was not involved in any other part of the experiment. The reorganization of this data ensured that the data in the two files could not be compared to each other based on their order in the data file. Following their participation, athletes were sent the gift certificate of their choice in the mail.
RESULTS

Missing Data

Since participants were not required to respond to every question, there were 38 participants that did not have a complete set of data. However, these participants were included in analyses for which they did have complete data (i.e., analyses concerning just self-decisions if they had missing data only on decisions for their teammates).

Demographics

The gender, sport and class year distribution for our sample was previously reported in the method section. Additionally, 209 athletes reported being in-season, 64 reported being out of season and 12 did not provide a response to this question. Athletes seem to have interacted with their team sufficiently prior to participating in our study, only 7 participants reported interacting with their team for less than a month (276 athletes reported longer than one month of interaction, 2 did not answer this question). Zero-order correlations among the variables may be found in Appendix F.

Manipulation Check of the Scenario Norms

As previously mentioned, the scenarios presented to participants were designed to include two scenarios where heavy drinking would be highly acceptable (i.e., there would be a norm to drink heavily) and two other scenarios where not heavy drinking would be highly acceptable (i.e., there would be a norm not to drink heavily). Norm strength was calculated by subtracting the acceptability of a teammate deciding not to drink heavily in a given scenario from the acceptability of a teammate deciding to drink heavily.

Contrary to our expectations, results suggested that the scenarios actually demonstrated two scenarios with a mild anti-heavy drinking norm and two scenarios with a strong anti-
heavy drinking norm. Specifically, the two scenarios we expected to have a norm to
drink heavily actually demonstrated a mild anti-heavy drinking norm, whereby it was
slightly unacceptable to get drunk at a party, $M = -0.67; sd = 1.97,$ and also slightly
unacceptable to get drunk while bonding with teammates, $M = -0.27; sd = 2.46.$ The two
scenarios intended to demonstrate a norm not to drink heavily showed strong anti-heavy
drinking norms as expected, whereby it was very unacceptable to get drunk and violate a
team diet, $M = -3.27; sd = 2.32,$ and also very unacceptable to drink the night before a big
game, $M = -4.61; sd = 2.10.$ Through a series of t-tests, it was found that norm strength
for each of the scenarios with mild anti-heavy drinking norms significantly differed from
the norm strength for each of the two scenarios with strong anti-heavy drinking norms, all
$p < .017.$ Furthermore, there was not a significant difference in the norm strength
between the two scenarios with mild anti-heavy drinking norms, $t(285) = -3.34, p = .001,$
nor was there a difference in the norm strength between the two scenarios with strong
anti-heavy drinking norms, $t(285) = 10.97, p < .01.$ Given these results, several of the
following analyses will combine the scenarios with mild anti-heavy drinking norms and
the scenarios with strong anti-heavy drinking norms. For each of these analyses, the
dependent variable is the percentage of decisions to drink heavily (0%, 50%, or 100%)
reported by the athletes, for either themselves or for a teammate.

**Decisions to Drink Heavily**

Overall, the athletes in our study did not decide to drink heavily in most situations.
Collapsed across the scenarios, teams were relatively homogeneous in decisions to heavy
drink as shown by Table 2. Notice, for this table, teams have been given arbitrary names
that do not correspond in any way to their respective teams and they have been presented
in a random order, to protect the confidentiality of our participants.
Table 2

*Mean Percentages of Decisions to Drink Heavily by Team*

<table>
<thead>
<tr>
<th>Team</th>
<th>Self</th>
<th></th>
<th>Teammate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (sd)</td>
<td></td>
<td>M (sd)</td>
<td></td>
</tr>
<tr>
<td>Team A</td>
<td>23.6% (25.0%)</td>
<td></td>
<td>25.7% (26.1%)</td>
<td></td>
</tr>
<tr>
<td>Team B</td>
<td>20.8% (20.9%)</td>
<td></td>
<td>25.0% (23.8%)</td>
<td></td>
</tr>
<tr>
<td>Team C</td>
<td>21.9% (18.0%)</td>
<td></td>
<td>25.0% (20.4%)</td>
<td></td>
</tr>
<tr>
<td>Team D</td>
<td>17.1% (21.2%)</td>
<td></td>
<td>17.1% (24.6%)</td>
<td></td>
</tr>
<tr>
<td>Team E</td>
<td>30.2% (26.6%)</td>
<td></td>
<td>30.2% (24.4%)</td>
<td></td>
</tr>
<tr>
<td>Team F</td>
<td>12.0% (18.8%)</td>
<td></td>
<td>11.1% (16.0%)</td>
<td></td>
</tr>
<tr>
<td>Team G</td>
<td>25.0% (35.4%)</td>
<td></td>
<td>25.0% (35.4%)</td>
<td></td>
</tr>
<tr>
<td>Team H</td>
<td>31.8% (29.8%)</td>
<td></td>
<td>31.8% (33.7%)</td>
<td></td>
</tr>
<tr>
<td>Team I</td>
<td>18.5% (22.9%)</td>
<td></td>
<td>18.5% (25.2%)</td>
<td></td>
</tr>
<tr>
<td>Team J</td>
<td>25.0% (22.4%)</td>
<td></td>
<td>20.8% (24.6%)</td>
<td></td>
</tr>
<tr>
<td>Team K</td>
<td>26.5% (20.7%)</td>
<td></td>
<td>29.4% (18.2%)</td>
<td></td>
</tr>
<tr>
<td>Team L</td>
<td>17.1% (19.5%)</td>
<td></td>
<td>18.8% (25.5%)</td>
<td></td>
</tr>
<tr>
<td>Team M</td>
<td>25.0% (21.7%)</td>
<td></td>
<td>34.4% (32.6%)</td>
<td></td>
</tr>
<tr>
<td>Team N</td>
<td>8.3% (20.4%)</td>
<td></td>
<td>4.2% (10.2%)</td>
<td></td>
</tr>
<tr>
<td>Team O</td>
<td>32.4% (30.3%)</td>
<td></td>
<td>25.0% (26.5%)</td>
<td></td>
</tr>
<tr>
<td>Team P</td>
<td>20.3% (27.7%)</td>
<td></td>
<td>17.2% (25.4%)</td>
<td></td>
</tr>
</tbody>
</table>
Self-Other Differences in Decisions to Drink Heavily

In general, the athletes tended to decide not to drink heavily in most of the scenarios for both themselves and a teammate (see Table 3). In all four situations, under half of the participants decided to drink heavily or decided for their teammate to drink heavily. The most reported decisions to drink heavily for both the self and a teammate were observed for the two scenarios with mild anti-heavy drinking norms, including the party and bonding scenarios. Decisions to drink heavily were much lower for the two scenarios with strong anti-heavy drinking norms including the diet and the big game scenarios.

A 2 x 2 x 2 ANOVA assessed the effect of injunctive norms (mild norm vs. strong norm) and social identity (low vs. high) and person being decided for (self vs. other) on the percentage of drinking choices. These effects will be discussed as they relate to the specific hypotheses outlined in the introduction.

Table 3

Mean Percentages of Decisions to Heavy Drink for Self and Other

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Decisions to Heavy Drink</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self</td>
</tr>
<tr>
<td>Party (Mild Norm)</td>
<td>41.8%</td>
</tr>
<tr>
<td>Bonding (Mild Norm)</td>
<td>33.3%</td>
</tr>
<tr>
<td>Diet (Strong Norm)</td>
<td>8.8%</td>
</tr>
<tr>
<td>Big Game (Strong Norm)</td>
<td>2.5%</td>
</tr>
</tbody>
</table>
Interaction between injunctive norms and the person being decided for.

There was no main effect of the person being decided for, such that athletes were equally apt to tell their teammate to drink heavily ($M = 23.5\%$) as they were to drink heavily themselves ($M = 22.4\%$), $F(1, 246) = 1.74, p = .19$. There was a main effect of the injunctive norms, $F(1, 246) = 199.36, p < .001$, whereby the mild anti-heavy drinking norms were associated with significantly more decisions to drink (i.e., decided to drink 39.5\% of the time) in comparison to the strong anti-heavy drinking norms (i.e., decided to drink 6.4\% of the time). Finally, there was no interaction between the injunctive norms and person being decided for, such that the self-other difference was approximately equal when there was a mild anti-heavy drinking norm ($M$ difference = 1.01\%) and when there was a strong anti-heavy drinking norm ($M$ difference = 1.81\%), $F(1, 246) = .133, p = .72$. In other words, there do not seem to be self-other differences in decisions to drink heavily, regardless of the injunctive norm for a given situation.

Interaction between Injunctive Norms and Social Identity

In general, the athletes reported relatively high identification with their athletic team ($M = 5.62; sd = 1.14$; on a seven-point scale where higher scores indicate greater identification). Individuals’ scores on social identity were dichotomized into either a high or low categorization using a median split, such that participants reporting an average social identity of less than six were categorized as displaying low social identity ($n = 140$) and participants with scores of six or above were categorized as displaying high social identity ($n = 145$). There was a main effect of social identity, such that high identifiers tended to make more decisions to heavy drink ($M = 26.0\%$) in comparison to the low identifiers ($M = 20.0\%$), $F(1, 246) = 4.47, p = .036$. There was also a significant interaction between injunctive norms and social identity, $F(1, 246) = 5.63, p = .018$, such
that the effect of injunctive norms was stronger for high identifiers ($M \text{ difference} = 37.5\%$) in comparison to low identifiers ($M \text{ difference} = 26.6\%$) (see Figure 5).

![Figure 5. Interaction between Injunctive Norm and Social Identity](image)

**Interaction between Injunctive Norms, Social Identity and the Person Being Decided For**

As previously discussed, the effect of injunctive norms was stronger for high identifiers in comparison to low identifiers; however, this interaction was stronger for decisions for the self compared to decisions for others as shown in a marginally significant 3-way interaction, $F(1, 246) = 2.75, p = .098$. The interaction between injunctive norms and social identity showed the same trend as previously discussed, for both self and other decisions (see Figure 6a and 6b). The simple 2-way interaction between injunctive norms and social identity for self-decisions was significant, such that the effect of injunctive norms is greater on high identifiers ($M \text{ difference} = 39.9\%$) in comparison to low identifiers ($M \text{ difference} = 25.7\%$), $F(1, 266) = 8.90, p = .003$. This same trend was found for the simple 2-way interaction between injunctive norms and social identity for other-decisions, but this effect did not quite reach significance. This simple interaction was such that the effect of injunctive norms was greater for high
identifiers ($M_{\text{difference}} = 35.5\%$) in comparison to low identifiers ($M_{\text{difference}} = 27.9\%$), $F(1, 251) = 1.96, p = .163$. Therefore, although the form of the 2-way interaction was similar for self and other decisions, the interaction for self-decisions was stronger (i.e., greater difference between the effects on high and low identifiers) in comparison to the interaction for other-decisions. In other words, the effect of injunctive
norms on high and low identifiers was more similar for others-decisions in comparison to that same effect for self-decisions.

**Reasons to Drink**

Overall, athletes did not tend to report strongly agreeing with positive reinforcement, team/group or sport-related coping reasons to drink. Athletes’ reasons to drink were reported as the greatest for positive reinforcement ($M = 3.29; sd = 1.71$; on a 6-point scale where higher scores indicate strongly agreeing with that reason to drink). Athletes agreed slightly less with team/group reasons to drink ($M = 2.26; sd = 1.43$) and even less with sports-related coping reasons to drink ($M = 2.00; sd = 1.58$). Zero-order correlations were examined to assess the relationship between athletes’ reasons to drink and their decision making for alcohol-related decisions across all four situations. For these analyses, decisions to drink heavily were collapsed across all situations for an overall average of self-decisions and other-decisions to drink heavily. For both self and other decisions, endorsing each of the reasons to drink was positively related to making decisions to heavy drink. As evident in Table 3, however, positive reinforcement reasons to drink had a much stronger association with decisions to drink heavily compared to the other two reasons to drink.

Although this general pattern in correlations held for both decisions for the self and for a teammate, there were some differences that aligned with the predicted direction. Specifically, the association between positive reinforcement reasons to drink and self-decisions to drink heavily was greater than the association between positive reinforcement reasons to drink and other-decisions to drink heavily, $t(280) = 1.82, p = .07$ (see Table 4) (Weaver, 2005). The association between team/group reasons and decisions to drink heavily was slightly greater for others in comparison to that same
association for self-decisions, \( t(280) = -.23, p = .82 \). Although nonsignificant, the
difference in associations was in the direction predicted, such that there was a greater
association between team/group reasons to drink heavily and other-decisions in
comparison to that association for self-decisions. Finally, the difference in the

Table 4

Zero-Order Correlations between Reasons to Drink and Decisions to Drink Heavily

<table>
<thead>
<tr>
<th>Reasons for Drinking</th>
<th>Decisions to Drink Heavily</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Self</td>
<td>Teammate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( r )</td>
<td>( r )</td>
<td></td>
</tr>
<tr>
<td>Positive Reinforcement</td>
<td>.53***</td>
<td>.46***</td>
<td></td>
</tr>
<tr>
<td>Team/Group</td>
<td>.19**</td>
<td>.20**</td>
<td></td>
</tr>
<tr>
<td>Sport-Related Coping</td>
<td>.21***</td>
<td>.15*</td>
<td></td>
</tr>
</tbody>
</table>

Note. \( *p < .05, **p < .01, ***p < .001 \) (testing correlation size against zero)

association between sport-related coping reasons to drink and decisions to drink heavily
for the self was not significantly different from decisions for others to drink heavily,
\( t(280) = 1.29, p = .20 \). Again, it is worth recognizing that the associations were in the
predicted direction, such that the association between sport-related coping reasons to
drink and self-decisions was greater than the same association with other-decisions.

Model for Predicting Decisions for the Self

A hierarchical multiple regression model predicting percentage of decisions to
drink heavily for the self was assessed first. Hierarchical multiple regression allowed us
to control for the predictors earlier in the model, to determine the effect of social identity,
injunctive norms, and the interaction between these two predictors. The following two regression analyses differ from the previous ANOVAs in that for the regression analysis, norm strength and decisions to drink heavily for the self were collapsed across all four scenarios. As previously mentioned in the introduction, we used these analyses to determine if individuals who perceive stronger drinking norms then make more decisions to drink heavily and if this perception of injunctive norms interacts with individuals’ social identity. The predictors added during each step are shown in Table 5, which displays that each step of the analysis was able to explain a significant amount of variance in self-decisions to drink heavily. It should be recognized that team/group reasons to drink had a significant, negative predictive relationship with self-decisions (β = -.16, p = .025). This aligns with a previous model assessed for predicting personal alcohol use (Hummer et al., 2009), although it does seem to be in opposition of the correlations between team/group reasons to drink and self-decisions to drink previously presented.

Overall, the final model predicted 36% of the variance in self-decisions to drink heavily, $F(11, 248) = 12.45, p < .001$. The results suggest that injunctive norms were a significant predictor of decisions to drink heavily for the self ($β = .19, p = .001$) and that the interaction between injunctive norms and social identity was also a significant predictor of decisions to drink heavily ($β = .15, p = .007$). However, social identity did not show a significant predictive relationship for self-decisions to drink heavily ($β = .046, p = .419$).

The findings from this regression analysis suggest that individuals who perceive the injunctive norms as stronger tend to experience stronger effects from those norms. In other words, when individuals perceive a strong norm not to drink heavily, they are more
likely to abstain from heavy drinking in that situation. This effect also interacts with social identity, such that the effect of the perceived norm is stronger for the high identifiers in comparison to the low identifiers.

Table 5

*Hierarchical Multiple Regression Predicting Self-Decisions to Drink Heavily*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>( R^2 ) change</th>
<th>( R^2 ) total</th>
<th>( B )</th>
<th>SE</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Demographics</td>
<td>.07**</td>
<td>.07**</td>
<td>-.10</td>
<td>.03</td>
<td>-.19**</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class Year</td>
<td>.03</td>
<td>.01</td>
<td>.13*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport (Individual, Team)</td>
<td>-.06</td>
<td>.03</td>
<td>-.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sport Season Status</td>
<td>-.02</td>
<td>.02</td>
<td>-.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction with Team</td>
<td>-.03</td>
<td>.03</td>
<td>-.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2: Reasons to Drink</td>
<td>.25***</td>
<td>.32***</td>
<td>( \text{Positive Reinforcement} )</td>
<td>.08</td>
<td>.01</td>
</tr>
<tr>
<td>( \text{Team/Group} )</td>
<td>-.03</td>
<td>.01</td>
<td>-.16*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \text{Sport-Related Coping} )</td>
<td>.00</td>
<td>.01</td>
<td>-.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 3: Social Identity, Norms and Interaction</td>
<td>.04**</td>
<td>.36***</td>
<td>( \text{Social Identity} )</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>( \text{Norm Strength} )</td>
<td>.03</td>
<td>.01</td>
<td>.19**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Identity x Injunctive Norms</td>
<td>.02</td>
<td>.01</td>
<td>.15**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Gender was inputted into the model as Males = 1 and Females = 2 and Sport was inputted as Individual Sports = 1 and Team Sports = 2.

\*\( p < .05 \), \**\( p < .01 \), \***\( p < .001 \)
Model for Predicting Decisions for Others

A similar hierarchical multiple regression model predicting decisions to drink heavily for others was also assessed. Again, the purpose of this analysis was to determine if individuals who perceived the norm as stronger made decisions for others based on that perception and if these perceptions interacted with social identity to have an effect on decision-making. The predictors added during each step are shown in Table 6, which displays that each step was able to explain a significant amount of variance in decisions for others to drink heavily. Overall, the final model predicted 28% of the variance in other-decisions to drink heavily, $F(11, 245) = 8.76, p < .001$. Similar to the model for decisions made for the self, injunctive norms were a significant predictor of heavy drinking decisions for others ($\beta = .17, p = .007$) and the interaction between injunctive norms and social identity was also a significant predictor ($\beta = .13, p = .027$). However, social identity did not show a predictive relationship with others-decisions to drink heavily ($\beta = .05, p = .410$).

The results from this analysis also supported our predictions that individuals who perceive stronger injunctive norms will be affected more by those norms when making decisions for others to drink heavily in comparison to individuals who perceive weaker norms. Furthermore, high identifiers with their athletic team will be influenced more by this perception of the norms than low identifiers. The predictive power of injunctive norms and the interaction between injunctive norms and social identity was similar in the models for both self and other decisions, suggesting that these factors influence decisions to drink heavily regardless of whether they are for oneself or another person. However, the variance explained by the model for self-decisions was slightly larger than that of other-decisions.
Table 6

Hierarchical Multiple Regression Predicting Other-Decisions to Drink Heavily

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Step Statistics</th>
<th>Final Model Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$R^2_{change}$</td>
<td>$R^2_{total}$</td>
</tr>
<tr>
<td>Step 1: Demographics</td>
<td>.06**</td>
<td>.06**</td>
</tr>
<tr>
<td>Gender</td>
<td>-.09</td>
<td>.03</td>
</tr>
<tr>
<td>Class Year</td>
<td>.04</td>
<td>.01</td>
</tr>
<tr>
<td>Sport (Individual, Team)</td>
<td>-.03</td>
<td>.03</td>
</tr>
<tr>
<td>Sport Season Status</td>
<td>-.01</td>
<td>.02</td>
</tr>
<tr>
<td>Interaction with Team</td>
<td>-.05</td>
<td>.03</td>
</tr>
<tr>
<td>Step 2: Reasons to Drink</td>
<td>.19***</td>
<td>.25***</td>
</tr>
<tr>
<td>Positive Reinforcement</td>
<td>.08</td>
<td>.01</td>
</tr>
<tr>
<td>Team/Group</td>
<td>-.01</td>
<td>.01</td>
</tr>
<tr>
<td>Sport-Related Coping</td>
<td>-.02</td>
<td>.01</td>
</tr>
<tr>
<td>Step 3: Social Identity, Norms and Interaction</td>
<td>.03*</td>
<td>.28***</td>
</tr>
<tr>
<td>Social Identity</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>Norm Strength</td>
<td>.03</td>
<td>.01</td>
</tr>
<tr>
<td>Social Identity x Injunctive Norms</td>
<td>.02</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. Gender was inputted into the model as Males = 1 and Females = 2 and Sport was inputted as Individual Sports = 1 and Team Sports = 2.

*p < .05, **p < .01, ***p < .001
DISCUSSION

The focus of the current study was to investigate possible factors (such as social norms, social identity and reasons to drink) that may be considered when making alcohol-related decisions for oneself and others among college student-athletes. As previously discussed, we had several expectations for how these factors may influence decision-making and found results to support several of these expectations. First, we found an effect of injunctive norms that influence individuals’ decisions to drink heavily or not to drink heavily in certain situations. However, an interaction between injunctive norms and the person being decided for was not found, such that alcohol-related decisions did not vary depending on if the decisions were for the self or a teammate. We did find an interaction between injunctive norms and social identity, such that the effect of injunctive norms was greater for high identifiers in comparison to low identifiers. Additionally, we found a marginally significant three-way interaction between injunctive norms, the person being decided for and social identity, such that the interaction between injunctive norms and social identity was stronger for self-decisions than for other-decisions. The associations between reasons to drink and decisions to drink heavily were in alignment with past research, such that positive reinforcement reasons to drink showed the largest association with decisions to drink heavily for the self and for others. Finally, we found evidence that individuals who perceived the strength of the injunctive norms to be stronger also made decisions that are more in alignment with those norms (for both self and other decisions).
Perception of Norms

Unexpectedly, none of our scenarios were found to have a pro-heavy drinking norm, even though going to a party and getting drunk, as well as getting drunk for team bonding were both expected to be highly acceptable. This finding contradicts previous work by Hummer and colleagues (2009), which suggested that there is a pro-heavy drinking norm (i.e., high acceptability) for “becoming intoxicated at a party”. One reason for this difference in results may be due to differences in the methodology between the current study and previous work by Hummer and colleagues (2009). In the current study, participants were given a detailed hypothetical situation that they were asked to imagine themselves in, make a decision about what to do in that situation, and then later rate the acceptability of a teammate’s decision in that same situation. Conversely, the previous research by Hummer and colleagues (2009) asked participants only to rate the acceptability of a behavior, rather than make a decision about what to do in a given situation. Therefore, differences in the findings may be due to the fact that we asked our participants to first make decisions about whether or not to drink heavily and then later report the acceptability of choices to drink heavily or not to drink heavily, compared to Hummer and colleagues (2009) work that only required ratings of acceptability for drinking behaviors.

A second reason for the differences between our findings and past findings may be due to the fact that we operationalized injunctive norm strength differently than the previous research. Recall that in the current study we calculated norm strength by subtracting the perceived acceptability by other teammates for a decision not to drink heavily from the perceived acceptability for a decision to drink heavily. As previously mentioned, other research operationalized injunctive norm strength as the acceptability of
drinking in situations (Hummer et al., 2009; Nagoshi, 1999; Neighbors et al., 2007; Neighbors et al., 2008; Turrisi et al., 2007; Wood et al., 2001). Therefore, it seems that past research has not taken into account the acceptance of not drinking in alcohol-related situations. Our measure of injunctive norm strength was probably greatly dampened in comparison to past research given that we subtracted acceptability from the typical measure of injunctive norms (i.e., acceptability of heavy drinking). Although we no way of knowing which method of measuring injunctive norm strength represents the actual norm better, future research may be able to compare the methodology of these two approaches to determine the best measure of injunctive norm strength.

One final explanation for the lack of injunctive norms to drink heavily in the current study could be due to the two schools included in our sample. Both Wake Forest and the United States Air Force Academy are similar in undergraduate size (i.e., midsized) and both have Division I athletics. Our sample, therefore, seems relatively similar to the sample used in the work by Hummer and colleagues (2009), due to the fact they sampled Division I athletes from two mid-sized universities as well. However, Wake Forest and the Air Force Academy are rather conservative schools with respect to alcohol consumption. In other words, neither school is known for having heavy alcohol consumption or excessive alcohol-related problems. Therefore, the conservative nature of the schools we sampled may be one reason our participants did not report a norm to drink heavily. If bigger schools or schools known for drinking were examined, a norm to drink heavily may be prevalent. Furthermore, although the Air Force Academy is a military institution, their athletic department does not seem to differ from that of other universities in a manner that could explain our current results.
Decisions to Drink Heavily

Overall, we found evidence of alcohol-related injunctive norms for athletic teams, such that heavy drinking in certain situations is perceived as more acceptable than heavy drinking in other situations. Although we were unable to tap into a situation where there is a high acceptance of heavy drinking, we were able to find evidence for two situations where there is a strong norm not to drink heavily. Heavy drinking in certain situations (i.e., getting drunk and violating a team diet or drinking the night before a big game) is perceived as highly unacceptable and therefore athletes rarely decided to drink in these situations. However, the percentage of decisions to drink heavily in each situation was below 50%, demonstrating that less than half of the participants indicated a decision to drink heavily in any given situation. This low prevalence of decisions to drink heavily in the current study was surprising given past research suggesting that athletes report high levels of alcohol consumption, drinking on average two to four times a month and approximately four drinks each time they drink (Hummer et al., 2009; Leichliter et al., 1998; Martens et al., 2006). Therefore, the low prevalence of decisions to drink heavily in the current study warrants some further discussion. One possible explanation for the low percentage of decisions to drink heavily in the current study may be due to the conservative nature of the schools we sampled with respect to alcohol consumption, as previously discussed.

Based on the feedback from some of the coaches and a handful of participants, there was a general concern about the survey not providing enough options for athletes to feel their answer accurately reflected the decision they would make in the given situation. For example, there was no option for an athlete to decide to go to the party, but decide not to drink heavily or to go to the party and only have one drink. Decisions provided to
participants in the current study were limited due to the fact that we were really concerned only with whether athletes would make the same decisions for themselves and for a fellow teammate. Therefore, for the purposes of this study it did not actually matter if the participant was going to drink one or five drinks at the party, it mattered only if they would make this same decision for another person. However, based on the feedback, it seems possible that by restricting options to either “go and get drunk” or “do not go at all,” participants just chose the more conservative option (do not go at all) because the other option seemed too extreme (go and get drunk).

A third explanation for the low percentage of decisions to drink heavily may be because participants did not take the time to picture themselves in the situations or because they did not feel the situations were realistic. Although it is possible that this procedure was not effective in the present study, other research has found effects when asking participants to take the perspective of hypothetical scenarios presented to them (Beisswagner et al., 2003; Choi & Stone, 2010; Dore, Buchanan, & Stone, 2009; Stone & Allgaier, 2008). Given the success of past studies using similar procedures, this explanation for the results does not seem probable; however, it does seem possible that imagining oneself in alcohol-related situations is just more difficult than the tasks required of participants in previous research.

A fourth possible explanation for the low percentage of decisions to drink heavily may be related to the fact that previous research has suggested that correcting misperceptions about others’ behaviors and attitudes towards those behaviors may be effective in decreasing heavy alcohol consumption by college students (Neighbors et al., 2007). Our study did not assess actual behaviors and therefore we are unable to make conclusions about the accuracy of these perceptions of others’ attitudes. However, it may
be that the athletes in our study reported fewer decisions to drink heavily in the scenarios presented because they more accurately perceived others’ attitudes and behaviors compared to past studies. Due to the high concentration of Air Force Academy athletes, this seems plausible given that drinking at this school is highly restricted and severely disciplined. This explanation is completely speculative, however, since we do not have data to be able to investigate this possibility.

A final possibility for the low percentage of decisions to drink heavily may be due to the sensitive nature of alcohol research. It seems that fear of getting in trouble or giving answers that are socially desirable may be a limiting factor of this line of research. Given that our sample consisted of more conservative schools, participants’ answers may have been influenced by social desirability and a desire to align with the conservative reputation of their respective school. Similar to the current study, research in this domain always reassures participants of their anonymity during surveys; however, it is very difficult to determine if participants are being truthful. Therefore, it seems possible that our data may be more representative of how athletes felt they should answer these questions, but not necessarily the actual decisions they would make if put in these situations.

Self-Other Differences in Decisions to Drink Heavily

The results of the current study do not suggest that there are self-other differences in alcohol-related decision making by athletes. In other words, athletes tended to make similar decisions for themselves and for their teammates across all the scenarios. For the big game scenario, the percentage of choices to drink heavily was exactly equal for self-decisions and other-decisions. Furthermore, from the predictive strength of injunctive norms in the model for self-decisions and other-decisions, it seems that individuals’
perceptions of the norms have a similar predictive role in decisions to drink heavily for both oneself and for others. These findings in the regression analysis seem to complement the lack of self-other differences found in the other analyses. Within the current study, there may be several reasons for the lack of self-other differences in alcohol-related decision making.

One reason for this lack of self-other differences in decision making may be due to a perception that it is socially unacceptable to make a decision for a teammate to get drunk. In other words, because the decision to get drunk in these scenarios could result in potentially severe consequences (i.e., breaking the law, getting sick, making bad choices), it may have been inherently perceived as unacceptable to make this decision for a teammate. Therefore, as a default, the participants may have just decided to make the same decision for their teammate as they would decide for themselves. It seems there could be some comfort in knowing you made the same choice for another person as you would make for yourself. Additionally, it may be that making a decision for a teammate to drink heavily could have negative consequences on oneself, given that the whole team may get in trouble for one team member’s drinking behaviors. Therefore, it may not make sense to decide for fellow teammate to get drunk, since that decision may have negative consequences on the team and oneself. Furthermore, as previously discussed, participants were rather conservative in their decisions to drink heavily, suggesting that making the conservative decision not to drink heavily in these scenarios may have been the more acceptable, safe choice for both themselves and others. However, this explanation does not seem likely based on other social values research that has found self-other differences in decision making even in situations perceived as high-impact.
Although the results of the current study were not exactly what was expected based on social values theory, there are several findings that do align with the theory. For the scenarios with mild anti-heavy drinking norms, social values theory suggests that self-other differences in decision making should be minimal due to the fact that drinking is neither valued nor not valued in these situations. Therefore, the current effects of injunctive norms on decision making in these situations seems to align with social values theory. For the scenarios with strong anti-heavy drinking norms, the results seems to contradict social values theory, since no self-other differences in decision making were detected. However, it is relevant to note that decisions made for others do align with social values theory, such that decisions made for others strongly aligned with the injunctive norms (i.e., decisions not to drink heavily for scenarios with strong anti-heavy drinking norms). Therefore, the lack of self-other differences in decision making may be due to the fact that in general the percentage of decisions to drink heavily was quite low, so no self-other differences were possible. Finally, social values theory predicts self-other differences in decision making when other factors exist that may influence self-decisions, but not other-decisions. Beyond social identity, participants were not given many other factors to take into consideration during their decision making for the self; therefore, decision making for the self and others was more similar than what it may be if there were other factors were present.

Intuitively, it seems that there may be stronger social norms among athletic teams in comparison to other groups of college students, due to the amount of time that athletic teams spend together and the amount of trust that is essential among teammates. However, future research should examine if social norms are actually stronger for athletes in comparison to other college students. Information about norm strength among
different college groups is an essential step to determining if there are self-other differences in alcohol-related decisions in any situations. For example, if fraternities actually have stronger injunctive norm strength than athletic teams, then it is possible that these group members may show self-other differences in decision making that were not detected in our study on athletes.

**The Role of Athletes’ Social Identity**

In the current study, individuals that were high identifiers with their athletic team tended to drink heavily more than low identifiers. This finding warrants further discussion given that both norms present in our study were anti-heavy drinking norms; therefore, we would have expected high identifiers to drink less in comparison to low identifiers overall. Therefore, it seems there might be another factor present in high identifiers that pushes them towards drinking more than low identifiers. Although we have no data to support this, one such factor could be extraversion, whereby high identifiers also tend to be extraverted and therefore decide to drink heavily more often than low identifiers.

Additionally, there was an interaction between injunctive norms and social identity, whereby high identifiers were influenced more by alcohol-related injunctive norms in comparison to the low identifiers. This effect of social identity is in alignment with past research, suggesting that group norms are especially influential for college students when an individual highly identifies with that group (Reed et al., 2007). The current study extends this previous research by looking at the same interaction between social norms and drinking behaviors, but with a sample of athletes. Although previous research has looked at the role of athletic identity using other scales, to the best of our knowledge this is the first study that assesses the role of an athlete’s social identity with
their team. The findings of the current study suggest that the influence of social identity on athlete’s decisions to drink heavily is similar to that of other groups of college students that have been used in previous research (i.e., Greek organizations). This link between athletes and other groups of college students suggests that groups of college students may all be influenced by similar factors, allowing for research on groups of college students to possibly generalize to other students.

As previously discussed, in the current study we found a marginally significant 3-way interaction between injunctive norm, social identity and the person being decided for, such that the effect of injunctive norms was stronger for high identifiers in comparison to low identifiers and this interaction was stronger for self-decisions in comparison to other-decisions. Although, we predicted that the influence of injunctive norms on high identifiers would be greater for other-decisions in comparison to self-decisions, the results from our study still are in alignment with social values theory. This is due to the fact that our results suggest that not heavy drinking may be the socially-valued behavior in the scenarios presented to participants. Therefore, we would expect for individuals to decide for their teammate not to drink heavily in most situations and that their own social identity may not influence that decision for another person. This issue can be related back to the Theory of Planned Behavior in that the normative belief (i.e., perceived expectations) should be the same regardless of the decision being made. One’s motivation to comply with that normative belief may depend on an individual’s social identity for self-decisions, but have a minimal influence on other-decisions. Even though this trend was not initially predicted, it still aligns with social values theory and provides additional insight on the factors that influence alcohol-related decisions.
As previously discussed, one possible explanation for some of the findings of the current study may be due to the fact that Wake Forest and the Air Force Academy are conservative schools with respect to alcohol consumption. However, if less conservative schools (i.e., those known for drinking or heavy alcohol consumption) were assessed, we expect that the trends found in the current study would remain for those schools as well. In other words, we see no reason to expect a different influence of norms or social identity in schools known for drinking, compared to the results of the current study. For example, in a school known for drinking, the high identifiers should show the greatest influence of the school norms, such that they will decide to drink heavily more in situations with pro-heavy drinking norms and decide to drink heavily less in situations with anti-heavy drinking norms compared to low identifiers.

One final consideration related to social identity is that other factors may also impact an individual’s motivation to comply with norms, as discussed with respect to the Theory of Planned Behavior. For example, individuals’ sense of self-worth or self-esteem may impact how much their social identity influences their behaviors. In other words, an individual with high self-esteem may be so sure of their behaviors, they do not feel the need to align their behaviors with the social norm of their group, regardless of their level of social identity. Therefore, there may be other factors, such as self-worth, that need to be investigated to determine their role in one’s motivation to comply with social norms.

**Limitations and Suggestions for Future Research**

In the current study we were able to find evidence that there are injunctive norms within athletic teams that influence the team members’ behaviors. This aligns with previous search suggesting that there are alcohol-related injunctive norms among college
students (Hummer et al., 2009; Nagoshi, 1999; Neighbors et al., 2007; Neighbors et al., 2008; Turrisi et al., 2007; Wood et al., 2001). Future research should continue to examine what social norms (both injunctive and descriptive) may exist among the athletic community. Although we were unable to find evidence of situations with pro-heavy drinking norms in the current study, it seems that there should be some situations where college students find it is highly acceptable to drink heavily. Therefore, future research should try to identify situations with pro-heavy drinking norms. This could be accomplished through interviews with athletes or surveys immediately following the weekend to determine situations where athletes find heavy drinking an acceptable behavior. However, similar to our current study, research on alcohol consumption is a sensitive subject on college campuses making this a difficult topic to research.

Finally, as previously mentioned, more research needs to be done on decision making for others in alcohol-related situations. As college-students move away from home and become more independent, they often seek the advice and approval of their friends. This may be especially important on athletic teams for incoming freshmen, whereby acceptance by the team during that first year may pave the way for individuals’ future experiences on that team. Research on alcohol-related decision making for others should continue to be researched to determine other significant predictors and replicate the results of the current study. As previously mentioned, more research in this field is needed to better understand the factors that influence heavy drinking among college students. These factors may then be targeted in future interventions to make for an effective intervention program.
REFERENCES


APPENDIX A
(Decision Making – One of the four survey versions)

Instructions: For each of the following situations, you will be making a hypothetical decision for one of your teammates, who we will call “your teammate.” For each of these, please imagine a teammate who is similar to you in terms of values, etc.

Please make sure you have a specific teammate in mind right now! Press this button to continue when you are ready.

***“I do not know/do not wish to answer.” was also an option for these questions.**

Party Scenario

It’s the weekend. There is a large party, and lots of students from school are there dancing and having a good time. Many members of your team are at the party, playing beer pong and drinking.

Teammate Version: During the party, your teammate is trying to decide whether to get drunk tonight. He/she says it sounds fun, but hadn’t been planning on getting drunk tonight, and asks you what to do.

What do you tell your teammate to do?

A. Get drunk at the party
B. Do not get drunk at the party

Self Version: Imagine yourself in this same situation. During the party, you are trying to decide whether to get drunk tonight. You think it sounds fun, but hadn’t been planning on getting drunk tonight.

What decision do you make for yourself?

A. Get drunk at the party
B. Do not get drunk at the party
Diet Scenario

The season is about to end, and your team had the best year they’ve had in the past 20 years. Everyone is excited about the upcoming playoffs, and your coach has put everyone on a strict diet to get you in top physical shape for the championships. The diet includes not drinking alcohol.

Teammate Version: While in the weight room, your teammate comes up to you and says he/she is considering violating the diet by getting drunk because of having had a rough week, and asks you what to do.

What do you tell your teammate to do?

A. Get drunk and violate the diet
B. Do not get drunk

Self Version: Imagine yourself in this same situation. While in the weight room, you are thinking about violating the diet by getting drunk because of having had a rough week.

What decision do you make for yourself?

A. Get drunk and violate the diet
B. Do not get drunk

Bonding Scenario

It’s a couple of weeks into the season. Four members of your team live in a house together, and are having a party on Thursday night where the purpose is to get drunk together and bond. Attending is not mandatory and not everyone goes, but they threw the party last year and it was a great bonding experience for everyone who went.

Teammate Version: It’s Thursday afternoon, and your teammate comes up to you and says he/she is not sure what to do. He/she wants to go and be part of the team, but is feeling pretty wiped from the week’s workouts, and asks you what to do.

What do you tell your teammate to do?

A. Go to the party and get drunk
B. Do not go to the party
**Self Version:** Imagine yourself in this same situation. It’s Thursday afternoon, and you are not sure what to do. You want to go and be part of the team, but are feeling pretty wiped from the week’s workouts.

What decision do you make for yourself?

A. Go to the party and get drunk  
B. Do not go to the party

**Big Game Scenario**

Your team has a big game/competition tomorrow evening against a local rivalry school. You and your teammate are both expected to start in tomorrow’s game.

**Teammate Version:** Some of your teammate’s friends (who are not on the team) are going out drinking tonight to celebrate one of their friend’s birthdays. He/she cannot decide whether to go out and drink or not since there is a game tomorrow, and asks you what to do.

What do you tell your teammate to do?

A. Drink with friends the night before the big game/competition  
B. Do not drink with friends the night before the big game/competition

**Self Version:** Imagine yourself in this same situation. Some of your friends (who are not on the team) are going out drinking tonight to celebrate one of their friend’s birthdays. You cannot decide whether to go out and drink or not since there is a game tomorrow.

What decision do you make for yourself?

A. Drink with friends the night before the big game/competition  
B. Do not drink with friends the night before the big game/competition
APPENDIX B
(Injunctive Norms)

Instructions: In this section, you will see the same scenarios you just read, but now you will read about two teammates who made different decisions in those scenarios. Please respond using the following scale.

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</table>

**“I do not know/do not wish to answer.” was also an option for these questions. **

Party Scenario

It’s the weekend. There is a large party, and lots of students from school are there dancing and having a good time. Many members of your team are at the party, playing beer pong and drinking. During the party, two of your teammates are trying to decide whether to get drunk tonight. Both of your teammates say it sounds fun, but hadn’t been planning on getting drunk tonight.

A. **Teammate A decides to get drunk at the party.** How acceptable do you think **other members of your team** would find this decision.

B. **Teammate B decides not to get drunk at the party.** How acceptable do you think **other members of your team** would find this decision.

Diet Scenario

The season is about to end, and your team had the best year they’ve had in the past 20 years. Everyone is excited about the upcoming playoffs, and your coach has put everyone on a strict diet to get you in top physical shape for the championships. The diet includes not drinking alcohol. While in the weight room, two of your teammates come up to you and say they are considering violating the diet by getting drunk because of having had a rough week.

A. **Teammate A decides to get drunk and violate the diet.** How acceptable do you think **other members of your team** would find this decision.
B. Teammate B decides *not to get drunk*. How acceptable do you think *other members of your team* would find this decision.

**Bonding Scenario**

It’s a couple of weeks into the season. Four members of your team live in a house together, and are having a party on Thursday night where the purpose is to get drunk together and bond. Attending is not mandatory and not everyone goes, but they threw the party last year and it was a great bonding experience for everyone who went. It’s Thursday afternoon, and two of your teammates come up to you and say they are not sure what to do. They want to go and be part of the team, but are feeling pretty wiped from the week’s workouts.

A. Teammate A decides *to go to the party and get drunk*. How acceptable do you think *other members of your team* would find this decision.

B. Teammate B decides *not to go to the party*. How acceptable do you think *other members of your team* would find this decision.

**Big Game Scenario**

Your team has a big game/competition tomorrow evening against a local rivalry school. Two of your teammates, who are both expected to start in tomorrow’s game, mention to you that some of their friends (who are not on the team) are going out drinking tonight to celebrate one of their friend’s birthdays. Your teammates cannot decide whether to go out and drink or not since there is a game tomorrow.

A. Teammate A decides *to go drink with friends the night before a big game/competition*. How acceptable do you think *other members of your team* would find this decision.

B. Teammate B decides *not to go drink with friends the night before a big game/competition*. How acceptable do you think *other members of your team* would find this decision.
APPENDIX C
(Social Identity Scale)

How much do you feel you identify with your team?

O O O O O O O O

Do not identify

Neither do not identify nor identify

Strongly identify

How similar do you feel your attitudes and beliefs are to individuals on your team?

O O O O O O O O

Very dissimilar

Neither dissimilar nor similar

Very similar

To what extent do you feel strong bonds to your team?

O O O O O O O O

No strong bond

Neither no strong bond nor strong bond

Very strong bond

How important is your team to your sense of who you are – your self identity?

O O O O O O O O

Not very important

Neither not important nor important

Very important

**"I do not know/do not wish to answer" was also an option for these questions.**
APPENDIX D
(Athlete Drinking Scale)

Instructions: Please use this scale to respond to the following questions.

O O O O O O O

Strongly disagree Strongly agree

**”I do not know/do not wish to answer” was also an option for these questions.**

Positive Reinforcement Reasons to Drink

I enjoy the feeling of getting drunk.

I drink to have a good time with my teammates.

After a game/match/meet, it is important for me to go out and celebrate with alcohol.

Because I work so hard at my sport, I should be able to drink to have a good time.

I drink to celebrate athletic victories.

I get a rush out of becoming drunk.

If I’ve performed well, I feel like I can go out and drink a little more than usual.

Winning or performing well is a good reason to go out and drink.

I drink because I believe in the “work hard-play hard” lifestyle.

Team/Group Reasons to Drink

I drink to “fit in” with my teammates.

When drinking alcohol with teammates, it becomes a competition.

I feel pressure from my teammates to drink alcohol.

Alcohol use is an important part of the athletic culture at this institution.

I drink because it’s part of the culture of being an athlete.
I drink because it helps our team develop cohesion.

I drink because my teammates expect me to drink with them.

**Sport-Related Coping Reasons to Drink**

I drink to help me deal with poor performances.

I drink to deal with sport-related stress.

I tend to drink more when I’m not performing well athletically.
APPENDIX E
(Demographics)

Instructions: Please answer the following questions about yourself.

Are you:
  Male, Female, I do not know/do not wish to answer

What is your class year?
  Freshman, Sophomore, Junior, Senior, I do not know/do not wish to answer

What sport do you play?
  Baseball, Basketball, Boxing, Cross-Country/Track & Field, Fencing, Field Hockey, Football, Golf, Gymnastics, Ice Hockey, Lacrosse, Rifle, Soccer, Swimming & Diving, Tennis, Volleyball, Water Polo, Wrestling, I do not know/do not wish to answer

Currently is your sport:
  In-season, Out of season, I do not know/do not wish to answer

Since coming to your present school, how long have you been interacting with your team?
  Less than one month, More than one month, I do not know/do not wish to answer
### APPENDIX F

(Zero-Order Correlations among Variables)

<table>
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<tr>
<th>Variables</th>
<th>Sport Status</th>
<th>Interaction Time</th>
<th>Social Identity</th>
<th>Norm Strength</th>
<th>Self-Decisions</th>
<th>Other-Decisions</th>
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<td>.178**</td>
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<td></td>
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<td>.717***</td>
</tr>
</tbody>
</table>

Note.  *p < .05, **p < .01, ***p < .001 (testing correlation size against zero)
SCHOLASTIC VITA
Abigail M. Rogers

ACADEMIC HISTORY

2010 M. A., Wake Forest University, Winston-Salem, NC (Psychology, Advisor: Eric R. Stone, Ph. D.)
Thesis Title: The Influence of Social Norms on Athletes’ Alcohol-Related Decision Making for Others

2009 B. S., United States Air Force Academy, Colorado Springs, CO (Major: Behavioral Sciences)

AWARDS AND HONORS

2009 Distinguished 2009 Graduate of the United States Air Force Academy (Top 10% of Graduating Class)

2009 The Outstanding Cadet in Behavioral Sciences and Leadership (Top Graduate in Behavioral Sciences)

2009 Recipient of Mountain-West Conference Female Student-Athlete of the Year Scholarship

2009 Recipient of NCAA Postgraduate Scholarship

2009 & 2008 Academic Ace (Spring Semester GPA of 4.0)

2009 – 2008 Member of Psi Chi (The National Honor Society of Psychology)

2009, 2008 ESPN The Magazine Academic All-District Honors

2009, 2008, 2007 USA Gymnastics All-Academic Team


2009-2005 Dean’s List

2008, 2007 Mountain West Conference Scholar-Athlete

2008, 2007 National Association of Collegiate Gymnastics Coaches/Women All-Academic Team
RESEARCH POSITIONS

2009 – 2010  Graduate Research Assistant, Wake Forest University
Advisor: Eric R. Stone, Ph. D.

2008-2009  Undergraduate Research Assistant, Air Force Academy
Advisor: Jeffrey Dyche, Ph. D.

PRESENTATIONS

Rogers, A. M., Stone, E. R., Bruine de Bruin, W., & MacDonald, J. (2010, March). The effects of graphical displays for communicating the risk of unexploded ammunition. Poster presented at the meeting of Graduate Student/Postdoctoral Fellow Research Day, Wake Forest University, NC.


PROFESSIONAL AFFILIATIONS

Society for Personality and Social Psychology
North American Society for the Psychology of Sport and Physical Activity