

The Relationship Between Motives and Peer Drinking Norms in Undergraduates

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Abstract

This study investigated the relationship between motives for drinking (i.e., enhancement, social, coping-anxiety, coping-depression, and conformity) and perceived peer drinking norms (i.e., descriptive and injunctive) in undergraduate students. It was hypothesized that social, enhancement, and coping-anxiety motives would have a significant positive relationship with both descriptive and injunctive norms, while conformity would have a significant positive relationship with descriptive norms, but not injunctive norms. The sample consisted of 196 undergraduate students (84% female, mean age = 21.6 years) from Lakehead University. Social and enhancement motives were found to have a significant positive relationship with both descriptive and injunctive norms. Coping-anxiety was significantly related to descriptive and injunctive norms. Conformity and coping-depression did not have a significant relationship with either type of norm. These findings suggest that peer-drinking norms are differentially related to motives for alcohol use and may provide an area for exploration of intervention strategies.

Keywords: alcohol use, motives, norms, undergraduates

The Relationship Between Motives and Peer Drinking Norms in Undergraduates

Consuming alcohol is a common behaviour among undergraduate students in Canada, with 86% reporting having drunk alcohol at least once in the past year (Adlaf, Demers, & Gliksman, 2004). Patterns of drinking vary considerably throughout this population. Of the 86% who reported consuming alcohol, 35.8% were categorized as light, infrequent drinkers that drank less than once a week and consumed less than five drinks per drinking occasion. Twenty-two percent of the students were found to be light, frequent drinkers in that they drank once a week, but consumed less than five drinks per occasion (Adlaf et al., 2004). While light drinkers make up over 50% of undergraduate drinkers, a quarter of the drinking population drinks heavily. Approximately 10% consumed more than five drinks per drinking occasion, but less than once per week (heavy infrequent drinking), while a little over 15% were found to drink more than five drinks at least once per week (heavy frequent drinking; Adlaf et al., 2004). Regardless of drinking pattern, 45% reported negative consequences as a result of their drinking (Centre for Addiction and Mental Health, 2008). Although the population of undergraduates that drinks heavily (more than five drinks per occasion, frequently or infrequently) is smaller than the rest of the undergraduate population that drinks, this heavy-drinking population is placed at a higher risk of experiencing negative consequences.

A heavy drinking pattern identified by the consumption of five or more drinks in a two-hour period for males has been defined as “binge drinking” and more recently as “heavy episodic drinking” (Wechsler & et al., 2000). The same definition applies to females, but the quantity of drinks is reduced to four (Wechsler & et al., 2000). Wechsler and colleagues (2000) also found that regardless of frequency, those who binged experienced more alcohol-related problems (negative consequences) in comparison to those who only drank occasionally. Adlaf and

colleagues (2004) found that students who drank alcohol reported a range of problems as a result of their behaviour. The most frequently reported problem was experiencing hangover (53%). Other common problems that students reported were memory loss (25%), unsafe sex (6%), and drinking and driving (3.8%). Additional problems that students have experienced as a result of drinking are academic impairment (e.g., performing poorly on a test, missing class), injury to themselves or others, engaging in fights or arguments, partaking in vandalism or property damage, sexual violence, and death (Perkins, 2002). Those who occasionally engage in heavy episodic drinking are five times as likely as those who do not to report negative consequences as a result of their drinking behaviour, while frequent heavy episodic drinkers are 21 times as likely (Wechsler & Lee, 2000). Since undergraduate students face many negative consequences as a result of their drinking, understanding why students engage in heavy episodic drinking is important for education, prevention, and treatment with undergraduate populations.

Social Influence and Norms

Social influence plays a role in undergraduate student alcohol consumption and it has been separated into two different mechanisms that influence a student's decision to drink. Active social influence involves offering or being offered a drink, while passive social influence is differentiated further into social modeling and the misperception of peer norms (Graham, Marks, & Hansen, 1991; Wood, Read, Palfai, & Stevenson, 2001). Social modeling is the process by which an individual copies the behaviour of those around them (Graham et al., 1991). The misperception of peer norms affects drinking behaviour when an individual perceives that the people around them drink more than they do and thus feel the need to drink more as well (Graham et al., 1991).

In general, a norm is “a principle of right action binding upon the members of a group and serving to guide, control, or regulate proper and acceptable behaviour” (“Norm”, 2014). In the literature that examines the perceived peer norms of drinking behaviour, many different definitions of “norms” exist, which results in the difficulty of the accurate interpretation of results. The differences in definition exist because of the reference groups that are identified to measure the norms and thus the results carry slightly different meanings (e.g., whether the perceived norms are based on the behaviour of close friends, other peers on campus, or the general public; Borsari & Carey 2001). Regardless of the definition and reference group of the peer norms, undergraduate students generally overestimate the amount of alcohol people around them drink; when perceived norms are overestimated, students may consume more alcohol than their own personal attitudes about drinking would normally allow (Borsari & Carey 2001, 2003; Perkins & Wechsler, 1996).

In 2008, Rimal proposed a definition of perceived peer norms that clarifies the different perceptions that can affect an individual’s decision to drink. *Descriptive norms* refer to the perceived amount of alcohol consumed by others. Asking an individual how much they think the people around them drink would be an indication of their descriptive norms. Rimal (2008) also identified *injunctive norms*, which are an individual’s perception of the approval and opinion of the drinking behaviour of those around them. Injunctive norms help an individual make a decision about how to act in a given situation (e.g., when excessive amounts of alcohol are present). Descriptive and injunctive norms provide a more stable definition of the different factors that appear to influence the misperception of norms and demonstrate that they affect an individual’s behaviour in different ways (Rimal, 2008).

Regardless of the operational definition of the norm, research has demonstrated that the approval and values of friends and those close to the individual have a greater impact on subsequent beliefs and actual drinking levels than those of groups with a more distant relationship to the individual (e.g., friends versus on-campus peers; Baer, Stacey, & Larimer, 1991; Halim, Hasking, & Allen, 2012; Kypri & Langely, 2003; Lee, Geisner, Lewis, Neighbors, & Larimer, 2007). However, it has been found that an individual will still overestimate the frequency of their friends' drinking behaviours in comparison to their own drinking behaviour (Baer et al., 1991).

Norms are a passive influence on behaviour, therefore other factors influence how an individual reacts to and interprets the norms that are present (Wood et al., 2001). Other external factors influence the magnitude of the norm misrepresentation (Borsari & Carey, 2003). These factors include the defined reference group, question specificity, campus size, and gender. The relationship between descriptive norms and drinking behaviour is moderated by injunctive norms, outcome expectations, group identity, and behavioural identity (Rimal, 2008). Individuals with high descriptive norms also have elevated perceptions of injunctive norms and outcome expectations of drinking, which affect their intention to consume alcohol (Rimal, 2008).

Motives for Drinking

Since factors like reference group size and the relationship with other factors (e.g., outcome expectations) have been found to influence drinking norms, it is worthwhile to investigate an individual's motive for drinking and whether the norm misperception is affected by the reason an individual chooses to drink. A model of drinking motives was created by Cooper (1994), which was based on Cox and Klinger's (1988) research on motivation and incentives. Cox and Klinger's (1988) model for drinking is centered on an individual's incentive

to drink and their affect. They defined an incentive as “any object or event that has the capacity to produce an affective change” (p. 169) and affect as “the psychological, or experiential component of an emotional response,” (Cox & Klinger, 1988, p. 169). From these definitions, they theorized that a person’s decision to drink is based on whether consuming alcohol will result in a positive affective change. Nonchemical rewards, such as peer approval, also influence a person’s motivation to drink. Cox and Klinger (1988) concluded that if this motivation to drink to achieve a nonchemical reward outweighs other factors that may deter a person from drinking, then the individual would choose to consume alcohol.

Cooper’s (1994) four-factor model for drinking outlines specific motives for drinking that are classified by their valence and source. The valence is the positive or negative reinforcement that results from drinking. The source can be internal or external; an internal source results in a change in affect, while an external source results in a social reward. By crossing these two dimensions, Cooper (1994) found four factors (social, enhancement, coping, and conformity) that are significantly different sources of motivation for drinking.

Social motives for drinking are endorsed by those that drink for external reasons and for positive reinforcement (i.e., for a social reward; Cooper, 1994). Social motives are positively associated with quantity and frequency of consumption and with drinking in social-celebratory settings (Cooper, 1994). People that drink for social motives generally do not experience problem drinking or negative consequences. Social motives generally do not lead to heavy episodic drinking or negative consequences because they do not directly lead to alcohol use; the external environment involved in social motives usually only leads to casual drinking (Kuntsche, Knibbe, Gmel, & Engels, 2005). This is because social motives are not driven by an internal desire for a change in affect (Cooper, 1994; Merrill & Read, 2010).

Enhancement motives for drinking are internally generated and positively reinforced (Cooper, 1994). Someone who drinks for enhancement motives would drink to improve their mood and also to enjoy themselves in a social setting (Cooper, 1994; Merrill & Read, 2010). Enhancement motives predict a heavy pattern of alcohol use and are related indirectly to alcohol-related problems and alcohol dependence (Cooper 1994; Grant, Stewart, O'Connor, Blackwell, & Conrod, 2007; Merrill & Read 2010).

Coping motives for drinking are internally generated and motivated by negative reinforcement (Cooper, 1994). People drink to cope, to make their mood better, and to forget about negative experiences. This type of drinking is directly associated with alcohol-related problems and can lead to dependence or problems such as academic impairment and engaging in risky behaviours (Merrill & Read, 2010). Drinking to cope is also positively associated with drinking alone (Cooper, 1994).

Drinking to cope has been further classified into coping-depression and coping-anxiety motives (Grant et al., 2007). Those who drink for a coping-depression motive likely experience daily depressed moods and this type of drinking is predictive of a higher typical quantity of drinks per occasion and, via the level of consumption, indirectly predictive of alcohol-related problems (Grant et al., 2007). Coping-anxiety is endorsed by those who experience anxiety symptoms and use alcohol to dampen these symptoms. It is directly predictive of alcohol problems and also shows a positive relationship with alcohol dependence (based on DSM-IV-TR dependence criteria; Grant et al., 2007).

Finally, conformity motives are generated by external factors and negative reinforcement (Cooper, 1994). Those that drink to conform drink to avoid social rejection (Cooper, 1994). Conformity motives are usually unrelated to heavy episodic drinking and negatively associated

with quantity and frequency of consumption, but are however, positively associated with drinking at parties where social pressure from peers would be most apparent (Cooper, 1994). This social pressure may motivate an individual to consume alcohol and drink to conform, placing them at an increased risk for negative consequences such as diminished self-perception and impaired control as compared to those who drink for positive reinforcement reasons (i.e., enhancement or social motives; Lewis et al., 2008; Merrill & Read, 2010).

Gaps in the Literature

Little research has investigated the relationship between norms and motives for drinking and the research that has been done has focused on social motives for drinking. Lee and colleagues (2007) examined the effect of descriptive and injunctive norms of students' friends' drinking habits and found a strong positive relationship between a student's perception of their closest friends' drinking behaviour (descriptive norms) and the students' own drinking behaviour. This relationship was especially apparent if the student also believed that their friends approved highly of drinking (injunctive norms) and drank for social reasons. Social motives for drinking have also been found to mediate the relationship between injunctive norms and drinking behaviour, as well as the relationship between descriptive norms and drinking (Halim et al., 2012). Furthermore, a student's perceived perception of approval (their injunctive norm) is high only if their social motive for drinking is also high (Halim et al., 2012). Neighbors, Lee, Lewis, Fossos, and Larimer (2007) found that the variance between drinking behaviours and demographics, drinking expectancies, and motives was due to the perceived descriptive and injunctive norms; however, motive-specific variance or norm-motive relationships were not noted. Since a relationship has been found between social motives for drinking and perceived drinking norms, it may also be useful to examine the relationship between norms and other

motives for drinking as well to determine whether different motives have different relationships with norms.

The relationship between motives for drinking and perceived descriptive and injunctive norms remains to be fully investigated. Thus far, focus has only been placed on the social motives for drinking (Halim et al., 2012; Lee et al., 2007; Neighbors et al., 2007). In these three studies (Halim et al., 2012; Lee et al., 2007; Neighbors et al., 2007), the motives for drinking are all measured by the same scale, Cooper's Drinking Motive Questionnaire (DMQ; Cooper, 1994), but all three define and measure descriptive and injunctive norms differently. Halim and colleagues (2012) measured descriptive norms based only on the "typical student," while injunctive norms were measured based on both the "typical student" and "close friend." They also stated that while measures for the social, enhancement, and coping motives for drinking were included, focus remained solely on the social motives. Lee and colleagues (2007) defined the reference groups for both descriptive and injunctive norms as "close friends"; however, they only included the items measuring social motives in their research. Furthermore, they only used first-year undergraduates in their research. Neighbors and colleagues (2007) defined the descriptive norm reference group as a "typical student" and the injunctive norm reference group as "close friends." The relationships between enhancement, coping, and conformity motives and norms were not presented. Additionally, their study examined relationships between social motives and norms among first-year undergraduates.

The Current Study

The current study examined the relationship between the five motives for drinking and descriptive and injunctive norms. Since research has shown that descriptive and injunctive norms that have reference groups defined by "close friends" are more useful when examining perceived

norms, norm perceptions were assessed based on the behaviour of close friends (Baer et al., 1991; Halim et al., 2012; Kypri & Langley, 2003; Lee et al., 2007).

It was hypothesized that descriptive and injunctive norms will have a significant positive relationship with social motives for drinking as in previous research. It is also predicted that enhancement motives will have a significant positive relationship with both descriptive and injunctive norms because enhancement motives are endorsed in situations where consuming copious amounts of alcohol is accepted (Cooper, 1994). The relationship between descriptive norms and coping-anxiety motives was predicted to be positive. It was predicted that injunctive norms, however, will not have such a strong relationship with coping-anxiety, since friends' approval of the individual's drinking behaviour may not be as important to the person as their need to improve their affective state. Finally, descriptive norms were also predicted to have a positive relationship with those who endorse drinking for conformity reasons, because the perception of the prevalence of the drinking behaviour might be heightened for someone who feels the need to fit in with those that are drinking around them. Their injunctive norms were hypothesized not to be as important to them and thus not have a significant positive relationship, as fitting in may overrule the approval of their friends in an individual's decision to drink.

Method

Participants

The sample consisted of 196 undergraduate students (84.7% female) from the Lakehead University population. Ages ranged from 18 to 48 years old, and the mean age of the sample was 21.61 ($SD = 4.96$). The mean year of study was third year. One hundred and ninety students reported drinking in their life (three of those students reported drinking "just a sip"), and the mean age of students' first drink was 14.88 ($SD = 2.18$).

Measures

Demographic information was collected from participants, including age, sex, and ethnicity. Relationship, employment, and financial statuses, as well as education level, were also collected.

Alcohol Use and Heavy Episodic Drinking Frequency (HED-F; National Institute on Alcohol Abuse and Alcoholism). The National Institute on Alcohol Abuse and Alcoholism survey was used to collect information about drinking behaviours and habits. The self-report questions examine participants' age of first drink, frequency of drinking, and amount of consumption. Frequency questions asked "During the last 12 months, how often did you usually have any kind of drink containing alcohol?" and was rated on an 11-point scale, (1 = "every day" and 11 = "I never drank any alcohol in my life"). The maximum number of drinks was assessed by asking "During your lifetime, what is the maximum number of drinks containing alcohol that you drank within a 24-hour period?" and was rated on a 10-point scale (1 = "36 drinks or more" and 10 = "1 drink"). The typical amount of drinks was measured by asking "During the last 12 months, how many alcoholic drinks did you have on a typical day when you drank alcohol?" and was ranked on a 10-point scale (1 = "25 or more drinks" and 10 = "1 drink"). Finally, the rate of heavy episodic drinking was assessed by asking "During the last 12 months, how often did you have 5 or more (IF YOU ARE MALE) or 4 or more (IF YOU ARE FEMALE) drinks containing any kind of alcohol within a two-hour period?" and was ranked on a nine-point scale (1 = "every day" and 9 = "1 or 2 days in the past year"). Preceding the questions, one alcoholic drink was defined as one 12-ounce bottle or can of beer or cooler, a four-ounce glass of wine, or a drink containing one ounce of hard liquor.

Peer Drinking Norms (PDN; Turrisi et al., 2007). Norms were measured using the four item Peer Drinking Norms scale. Descriptive norms were measured using three questions rated on a scale from 0 (*none*) to 4 (*nearly all*). Descriptive norm questions asked (1) “How many of your friends drink alcohol?” (2) “How many of your friends get drunk on a regular basis?” and (3) “How many of your close friends drink primarily to get drunk?” One item was used to measure injunctive norms, and it asked “How would your close friends feel if you had 5 or more drinks once or twice each weekend?” This question was rated on a seven-point scale from 1 (*strongly disapprove*) to 7 (*strongly approve*). Initial testing of this scale by Turrisi and colleagues (2007) utilizing a sample of undergraduate athletes found good internal consistency within the descriptive norms subscale ($\alpha = .91$).

Modified Drinking Motives Questionnaire – Revised (M-DMQ-R; Blackwell & Conrod, 2003). Motives were measured using the Modified Drinking Motives Questionnaire – Revised (Blackwell & Conrod, 2003). The M-DMQ-R examines reasons why people choose to drink and scores five different subscales: social (e.g., “as a way to celebrate;” five items), enhancement (e.g., “because I like the feeling;” five items), coping-anxiety (e.g., “to relax;” four items), coping-depression (e.g., “to forget my worries;” nine items), and conformity (e.g., “to be liked;” five items). All questions were measured using a five-point scale, ranging from almost never/never to almost always/always (1-5). The M-DMQ-R was found to be both a valid and reliable measure of undergraduate drinking motives (Grant et al., 2007).

Procedure

Recruitment was facilitated through posters placed on bulletin boards around campus, as well as emails that were sent to relevant classes advertising the online SurveyMonkey study. In exchange for participation, participants were awarded a bonus point in an undergraduate

psychology course, or alternatively, entered into a \$100 draw. Participants were required to be fluent in English and be at least 18 years old. Before consenting, those who chose to participate were made aware that their information would remain anonymous and not be linked to their survey responses. Participants were also made aware that they could withdraw from the study at any time. Upon completion of the study participants were debriefed and linked to a separate page to obtain their contact information to be awarded a bonus point or draw entry.

Results

Heavy Episodic Drinking

One hundred and ninety-six people responded to the survey; 166 of those responders were female (84.7%). The average age of a respondent's first drink of alcohol was 14.88 ($SD = 2.18$), ranging from two to 19 years old; however, only 116 people reported their age of first drink. The reported average amount of times any type of alcohol was consumed was two to three times per month. The average maximum amount of drinks consumed within a 24-hour period reported was eight to 11 drinks, ranked on a 10-point scale; this result, however, was based on a very small sample size ($N = 8$) and is not generalizable. Within the last 12 months, the mean number of drinks consumed during a typical day of drinking reported was five to six drinks. Students reported engaging in heavy episodic drinking an average of one day per month.

Norms

Seventy-two percent of participants responded that nearly all of their close friends drink alcohol. Forty-two percent of participants also reported that nearly all of their friends get drunk on a regular basis, which was the highest endorsed answer. Twenty-six percent of participants perceive nearly all of their friends as drinking primarily to get drunk and 35% of participants responded that their friends "wouldn't care" if they had five or more drinks once or twice each

weekend. The mean descriptive norms subscale score for the sample was 11.62 ($SD = 3.25$), while the mean injunctive norms subscale score was 3.91 ($SD = 1.65$).

Motives

Social, enhancement, coping-depression, coping-anxiety, and conformity motives were measured among participants. The mean score of the social motive subscale for the sample was 3.08 ($SD = 0.84$) making it the most prevalent of the drinking motives in the sample. The mean enhancement score was 2.36 ($SD = 0.92$). The mean coping-anxiety and coping-depression motives were 1.86 ($SD = 0.79$) and 1.43 ($SD = 0.67$) respectively. Finally, the mean score for the conformity motive was 1.40 ($SD = 0.67$) making it the least endorsed motive of the sample.

Norm Relationships with Motives

Linear regression analyses were performed to predict the relationship between each motive and both descriptive and injunctive norms. For the models, each individual motive, along with sex, was entered and compared to each individual norm measure. Results of the analyses are displayed in Table 1. Social and enhancement motives were found to significantly predict both descriptive and injunctive norms. Coping-anxiety was also found to significantly predict both descriptive and injunctive norms, although the prediction was not as significant as the social and enhancement motives. The coping-depression and conformity motives were not found to have a significant relationship with any norm.

Since the hypothesis that the conformity motive would have a significant relationship with descriptive norms was not supported an exploratory linear regression analysis was performed. This analysis attempted to determine whether those participants that scored higher than the mean conformity score of the sample differed in their predicted relationship with the norms. The sample consisted of 51 individuals and the mean subscale score was 2.22 ($SD =$

0.81). The mean descriptive and injunctive norm scores also changed in this smaller sample ($M = 12.37$, $SD = 3.03$; $M = 4.22$, $SD = 1.69$, respectively). The analysis revealed a trending relationship between the conformity scale and descriptive norms scores ($R^2 = .09$, $F(2,48) = 2.44$, $p = .09$) and also predicted a significant relationship with injunctive norms ($R^2 = .13$, $F(2,48) = 3.64$, $p < .05$).

Discussion

Research on the relationship between motives for drinking and perceived peer drinking norms has been limited. In the published literature, the work that has been done has focused only on the social motives for drinking (Halim et al., 2012; Lee et al., 2007; Neighbors et al., 2007). The present study aimed to determine the relationships between each of the five motives for drinking (social, enhancement, coping-anxiety, coping-depression, and conformity) and descriptive and injunctive norms. Social and enhancement motives were found to have the most significant positive relationships with both types of norms, while coping-anxiety also had a significant relationship with both norms, although the relationship was not as strong. The hypothesis that conformity motives would have a significant relationship with descriptive motives was not supported; conformity also did display a significant relationship with injunctive norms. Although not hypothesized a priori, coping-depression was not found to have a significant relationship with either type of norm.

The sample in the present study consisted of participants that drank mainly for social motives, as evident by the mean social motive subscale score having the highest of the subscale scores. This finding is an encouraging one as social motives are the least related to heavy episodic drinking, as well as alcohol related consequences (Cooper, 1994; Merrill & Read, 2010). Individuals that drink for social motives have been found to drink mainly for celebratory

reasons or in places that are customary to do so, and thus social motives for drinking are not a central pathway for consuming alcohol placing them at a reduced risk for subsequent harms (Merrill & Read, 2010).

Enhancement motives followed as the next most popular motive for drinking, which is consistent with other research that finds the social and enhancement motives as the most popular motives among undergraduates (Kuntsche et al., 2005; Stewart, Loughlin, & Rhyno, 2000; Mohr et al., 2005; Neighbors et al., 2007). Enhancement motives prove to be problematic as individuals who drink for enhancement motives frequently experience higher rates of heavy episodic drinking and problems like memory loss (Cooper, 1994; Merrill & Read 2010). Stewart and colleagues (2001) found that those who drank for enhancement motives were low in self-discipline and irresponsible, and suggested that these factors make the enhancement-motivated individual less likely to consider the long-term repercussions of heavy drinking behaviour. As a result, enhancement motives for drinking are a concern for intervention among undergraduate students.

Coping-anxiety, coping-depression, and conformity motives were not endorsed by the sample very often as the mean scores for all three of these motives were under two. This is also an encouraging finding as both coping motives are conducive to many problems, including future abuse or dependence problems and shows that this undergraduate population is not experiencing alcohol-related problems because they are struggling with their internal problems (e.g., their depression or anxiety; Grant et al., 2007). These findings are consistent with other research that finds that undergraduate samples generally have low levels of drinking to cope or to conform (Cooper 1994; Kuntsche et al., 2005; Merrill & Read, 2010; Stewart et al., 2001).

The hypotheses that social and enhancement motives for drinking would have a significant relationship with both descriptive and injunctive norms were supported, indicating that the higher participants scored on the social or enhancement motive subscales, the higher their scores were on the descriptive and injunctive norm scales as well. If those who drink for social or enhancement motives perceive those around them as drinking a great deal and the behaviour as very acceptable (as evident by their high norm scores), it may lead them to drink more than they originally would have and increase their chances of experiencing negative consequences. Since social motive drinkers are entirely influenced to drink by their external environment (i.e., external valence/ positive reward), one can conclude that this population would be influenced to drink more alcohol by their perception of a high level of alcohol consumption around them; however, since social motives are an indirect path to consumption, it is unclear whether this norm misperception does actually have an effect on their drinking behaviours (Cooper 1994; Merrill & Read, 2010). The significant relationship between enhancement motives and high norm perceptions is understood based on the knowledge that this motive is also driven by positive reinforcement (Cooper, 1994). Although enhancement is internally driven, those that drink for enhancement purposes drink in settings that encourage heavy drinking; coupled with the notion that enhancement motive drinkers have low self-discipline and a lack of foresight, a high perception of peer drinking norms is compatible within this population, as an enhancement drinker probably would not stop to realistically consider how much alcohol their friends actually consume (Cooper, 1994; Stewart et al., 2001).

Coping-anxiety was also found to have significant positive relationships with both types of norms, although the relationships were not as strong as the social or enhancement motives. These results are consistent with the knowledge that people who drink to cope with anxiety are

drinking to ease their internal anxiety. Those drinking to cope with anxiety may be aware of the drinking behaviours and approval of their friends, but these factors are not as important to them as dealing with their own anxious feelings (Grant, Stewart, & Mohr, 2009).

Inconsistent with the hypothesis that descriptive norms would have a positive relationship with conformity motives were the results that descriptive, as well as injunctive norms did not have a significant positive relationship with conformity motives for drinking. This was a surprising result given that people who drink to conform are doing so to fit in with the people around them (Cooper, 1994). This would naturally lead one to believe that the conformity drinker's perceived drinking norms would be very high. However, a closer look at the data revealed that the mean conformity score was very low, meaning that participants in this sample do not usually drink to conform. To determine whether the relationship between norms and conformity would change if the mean score were higher, those participants that scored higher than the mean conformity score were looked at specifically. The results of this analysis indicated a significant relationship with injunctive norms, but not with descriptive norms, although the descriptive norm relationship was trending toward significance. The finding that the injunctive norm relationship was significant could be explained by the fact that those who drink to conform are looking for approval from their friends and not just to appear like everyone else. As for descriptive norms, the mean conformity scale of this group was still lower than the mean social and enhancement scores, so it can be understood that the higher the conformity scale score, the higher the norms scores become as well.

Relationships between coping-depression and descriptive and injunctive norms were not initially hypothesized. The resulting data demonstrated that there was not a significant relationship between coping-depression and both norms. People who drink to cope with

depression are mainly concerned with their inner feelings and thus the actions of those around them are not as important, as evident by the insignificant results (Grant et al., 2007).

Limitations and Future Directions

While the current study has provided some insight into the relationships between motives for drinking and the misperception of peer norms, it is limited. The sample in this study consisted mainly of female participants. A more representative sample is needed before results can be generalized to the entire population, as it has been found in the past that males consume more alcohol more frequently, although some research has found that female alcohol consumption rates are becoming just as high (Cooper, 1994; Grant et al., 2007; Mushquash et al., 2013). Additionally, the cross-sectional nature of this study only provided a glimpse into undergraduate behaviour and perceptions at one point in time. Their behaviour and norm perceptions may change depending on whether or not they had recently engaged in drinking. A longitudinal design study is therefore needed to determine whether the motives and norm perception relationships change with drinking behaviour or are constant over time.

The current study only examined the relationship between each of the motives and norms, which is a very basic examination of the relationship. Future research should look into the effects of these relationships on actual drinking levels, as well as the level of the misperception of the norm (i.e., asking participants to estimate how much they think those around them drink and determining whether this number is influenced by their own motives). Since different motives have been found to be driven by different things, further examinations should attempt to determine whether or not an individual's drinking norm misperception actually influences their levels of consumption. For example, a person who drinks for social motives does not experience high frequencies of heavy episodic drinking or alcohol-related problems, yet they have very high

drinking norm levels. An examination of whether this norm misperception influences their levels of alcohol consumption would provide more information on how to shape intervention and prevention programs.

These findings have important implications for intervention and prevention efforts that target norm misperceptions. Programs designed to reduce alcohol consumption and their subsequent negative consequences based on norm misperceptions may benefit from taking individual motives for drinking into account, as it has now been demonstrated that norm misperceptions are different between individuals that drink for different motives. Educating a group of people who drink to cope with their depression on norm misperception may not have as much of an impact on their drinking behaviour as educating a group of people who drink for social reasons. Creating strategies that take both factors into account may be more effective than strategies that focus on either factor individually.

Conclusion

It has been found that individuals who drink for different reasons have different perceptions of alcohol consumption and accepted behaviours regarding drinking. The positively reinforced motives (social and enhancement) predict higher levels of these perceived drinking norms. Drinking to cope with anxiety was also found to significantly predict norm relationships, while coping-depression and conformity motives were not found to significantly predict any relationship. Further research is needed with a more diverse and generalizable population to determine how much these motive-norm relationships affect actual undergraduate drinking levels. These findings have the potential to shape norm education programs and intervention techniques that will aide in targeting the proper populations with motive-relevant information.

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Table 1

Simple linear regression predicting norm scores

<i>Predictors</i>	<i>R²</i>	<i>Adj R²</i>	<i>β</i>	<i>ΔR²</i>	<i>ΔF</i>	<i>df</i>
Social Motives						
criptive norms	.14	.13	.37***	.14	15.02	2, 186
Injunctive Norms	.10	.09	.30***	.10	10.39	2, 185
Enhancement Motives						
Descriptive Norms	.13	.11	.35***	.13	13.25	2, 186
Injunctive Norms	.09	.08	.28***	.09	8.95	2, 185
Coping-Anxiety Motives						
Descriptive Norms	.03	.02	.17*	.03	3.08	2, 186
Injunctive Norms	.03	.02	.15*	.03	3.22	2, 185
Coping-Depression Motives						
Descriptive Norms	.01	-.01	.04	.01	.46	2, 186
Injunctive Norms	.02	.01	.10	.02	2.19	2, 185
Conformity Motives						
Descriptive Norms	.01	-.00	.06	.01	.61	2, 186
Injunctive Norms	.01	.00	-.01	.01	1.18	2, 185

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