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# Heavy Episodic Drinking Among Post-secondary Students: Influencing Factors and Implications

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## **Conflict of Interest**

The authors have no conflict of interests to declare.



# Executive Summary

## Introduction

Heavy episodic drinking (HED) poses potentially serious health and safety risks to young adults (Sloan, Grossman, & Platt, 2011). Also referred to as high-risk drinking, excessive drinking or hazardous drinking, for the purposes of this exploratory study, HED is defined as consuming more than three (females) or four (males) standard drinks on a single occasion (see [Canada's Low Risk Alcohol Drinking Guidelines](#)). Post-secondary students make up one sub-population of young adults at particularly high risk of HED. Studies have shown that post-secondary students drink more frequently and consume greater quantities of alcohol than their non-student peers (Carter, Brandon, & Goldman, 2010; Hingson, Zha, Simons-Morton, & White, 2016; Slutske, 2005). The negative consequences can be severe. In the short term, HED has been associated with blacking out, impaired driving, injuries, and physical and sexual violence (Butt, Beirness, Gliksman, Paradis, & Stockwell, 2011; Caudwell, Mullan, & Hagger, 2016; Park & Grant, 2005; White & Hingson, 2014), while long-term consequences can include significant cognitive, structural and functional brain changes in young adults, as well as potential health issues such as liver disease or cancer (Canadian Centre on Substance Abuse, 2014; Ewing, Sakhardande, & Blakemore, 2014; Lisdahl, Gilbert, Wright, & Shollenbarger, 2013).

## Factors Influencing Student HED

The reasons underlying HED among students are complex. Studies have shown that a wide range of factors interact to varying degrees to influence student drinking behaviour (Haas, Smith, Kagan, & Jacob, 2012; Ham & Hope, 2003; Kuntsche, Knibbe, Gmel, & Engels, 2005; LaBrie, Hummer, Kenney, Lac, & Pedersen, 2011; Mallett, Lee, Neighbors, Larimer, & Turrise, 2006; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Among these factors, some of the more frequently studied are student perceptions and attitudes about alcohol, their expectations about what will happen if they consume alcohol, their reasons or motivations for consuming alcohol, the positive and negative consequences they experience as a result of consuming alcohol, and other factors such as personal characteristics and environmental features.

## High-risk Drinking Behaviours

A wide range of drinking behaviours exist, but for this exploratory study it was only possible to examine a selection of key behaviours. In addition to examining factors that influence student HED, the study sought to learn more about factors associated with three high-risk drinking behaviours often associated with HED: alcohol-induced blackouts, pre-drinking (to consume alcohol in one place, such as a private residence, before going to another activity, such as a bar or main event), and drinking to cope. These behaviours were examined to determine reasons behind HED related to them and to better understand the positive and negative consequences associated with them.

## Objectives and Scope

The purpose of this exploratory study was to better understand some of the key factors that influence post-secondary students to drink to excess in order to fill gaps in knowledge and to help develop strategies, tools and resources to reduce problems associated with this behaviour. To the best of our knowledge, this study is the first to conduct focus groups on this issue in Canada. The bulk of studies that examine HED among students have been conducted at campuses in the United



States, but there could be important differences between the Canadian and American contexts, such as the different legal drinking ages or the different levels of Greek affiliation. The four primary objectives of this study were:

1. To further knowledge and understanding about post-secondary student perceptions and attitudes, expectations, reasons and consequences related to HED;
2. To collect student ideas and recommendations to address the issue;
3. To examine three high-risk drinking behaviours: alcohol-induced blackouts, pre-drinking and drinking to cope; and
4. To fill gaps in research on HED among students, particularly with respect to qualitative data and the Canadian context.

The findings from this study are exploratory and intended to assist post-secondary institutions in addressing HED. The findings will be relevant to anyone working with post-secondary students, such as health and safety personnel, administrative and managerial staff, faculty, security personnel, coaches and club leaders, as well as to students and parents.

## Method

This study investigated student HED using focus groups. Given that this type of study does not appear to have been previously conducted in Canada, the approach used was exploratory and intended to obtain initial data and insights on the issue. Participants were recruited from post-secondary students attending one of five universities across Canada. Potential participants completed a screening questionnaire and qualified for the focus groups if they were a post-secondary student and reported exceeding Canada's Low-Risk Alcohol Drinking Guidelines for special occasions (i.e., three standard drinks for women and four drinks for men). Focus group questions were developed based on factors that influence HED among students, as identified through a review of the research on the subject.

In total, 110 students participated, 27 males and 83 females, ranging in age from 17 to 30 years old, with about 20–25 students from each of the five universities. As an exploratory study, the sample was not meant to be representative of Canadian post-secondary students, but rather to provide a basis for initial understanding and future research. The Canadian Centre on Substance Use and Addiction collaborated with members of the Postsecondary Education Partnership – Alcohol Harms (PEP-AH) and university faculty and health professionals to conduct the focus groups. Ethics approval was obtained from each of the universities. Discussions lasted between 30 and 90 minutes, depending on the size of the group, and were audio recorded. The recordings were transcribed and any potentially identifying information removed. The resulting data were analyzed using NVivo 11 for Windows, Pro edition, based on the HED factors and behaviours identified in the literature.

## Results

A number of important findings were identified about student perceptions and attitudes towards alcohol, expectations about HED, reasons for HED, positive and negative consequences experienced from drinking heavily, and student ideas and recommendations for reducing the prevalence of HED. Interpretation of the results should take into consideration the higher representation of females in this exploratory study. Alcohol-induced blackouts, pre-drinking and drinking to cope were explored with respect to reasons for HED, and positive and negative consequences of HED. The following paragraphs present some of the key findings.



## ***Perceptions and Attitudes Towards Alcohol***

Students frequently reported that the average maximum number of drinks a student could consume without experiencing negative consequences was five, followed by four drinks and seven drinks, and as many as 10 drinks. Students reported gauging the negative consequences of alcohol use on the basis of strong physical responses to alcohol consumption (e.g., vomiting or blacking out), while the majority appeared to be unaware of other negative consequences (e.g., potential for cognitive damage). With respect to attitudes, the majority of students did not see HED as an issue in the post-secondary context; instead, they thought it was a part of the culture and expected.

## ***Expectations about Consuming Alcohol***

The majority of students expected positive outcomes as a result of consuming alcohol (e.g., having fun, increased confidence) or a mixture of more positive and fewer negative outcomes (e.g., being hung over, injuries). The most frequent comment was that they expected to have fun or a good time, relax and be less stressed.

## ***Student Reasons for HED and Three High-risk Drinking Behaviours***

Students reported a large number of reasons for engaging in HED or drinking more than they planned. These included peer pressure, wanting to have fun, to socialize, to be drunk, being bored or lacking alternatives to drinking, or to make up for times when they could not drink (e.g., exam period).

Drinking to the point of experiencing alcohol-induced blackouts was primarily reported as accidental and usually associated with inexperience, being a first-year student, drinking games, not monitoring alcohol consumption and pre-drinking.

Pre-drinking was the most common drinking behaviour engaged in by students. Some of the reasons for HED associated with pre-drinking included wanting to become drunk or buzzed without spending a lot of money at the main event, socializing with friends, feeling peer pressure, playing drinking games and not measuring alcohol intake.

Reasons for HED associated with drinking to cope included both social and academic stress and pressure. Some students reported drinking to avoid studying or assignments, to lower anxiety when writing a paper or to help them fall asleep. Other students reported drinking to be more outgoing, increase their confidence and deal with social anxiety.

## ***Positive and Negative Consequences and Three High-risk Drinking Behaviours***

Participants described numerous negative consequences and a few positive consequences associated with HED. Some negative consequences included being hung over or vomiting, memory loss, dealing with drunk friends and regretting their behaviour. Positive consequences included having fun, being more outgoing or confident and meeting new people.

Consequences associated with alcohol-induced blackouts beyond blacking out included more extreme negative experiences and risks, such as physical injury, hospitalization or non-consensual sex.

Pre-drinking was often reported in connection with or leading to negative consequences such as blacking out, passing out, regrettable actions, becoming sick or being hung over. The majority of students reported saving money or socializing with friends as positive consequences of pre-drinking.



Negative consequences associated with drinking to cope included becoming very emotional and interference with other aspects of life (e.g., school). Positive consequences included reduced stressor feeling more relaxed.

### ***Student Ideas for Campuses and Other Students***

The two most common suggestions from students for campuses to address HED were to deliver messages from respected peers and to normalize drinking. For the former, most students said that they were more likely to respond to messages, information and education on the risks of alcohol if they were delivered by a respected peer. For the latter, students frequently recommended normalizing the consumption of alcohol, such as responsible drinking, rather than condemning it or banning it. Participant recommendations for students included providing students with ways to deal with peer pressure and educating them on alcohol consumption, standard drink sizes and associated harms.

## **Discussion**

This exploratory study examined four factors that influence HED among post-secondary students: student perceptions and attitudes, expectations, reasons and consequences. It also examined three high-risk drinking behaviours: alcohol-induced blackouts, pre-drinking and drinking to cope. The findings from this study are important to understand better what influences HED among students, particularly in Canada. The following paragraphs discuss some of the key implications.

The majority of students appeared to hold a mix of inaccurate perceptions and knowledge about alcohol consumption, which influences their decisions to engage in HED. A key implication from these findings is that education about alcohol consumption and its effects appears to be sporadic (e.g., short talks here and there), narrowly focused (e.g., emphasis on impaired driving), non-existent, not carried out early enough (i.e., prior to arriving at post-secondary institutions) or not engaging or memorable (e.g., delivery of messages through older adults). In this regard, PEP-AH is an important partner for post-secondary institutions to engage with to explore existing resources and share best practices in this area. The Canadian Centre on Substance Use and Addiction will use the findings from this study to work with PEP-AH members, consult with students and engage institutions to explore options for educational tools and resources to help address some of these gaps in processes and education.

Most student expectations and views about consequences related to HED emphasized the positive over the negative. Part of this emphasis was due to the broader post-secondary culture, where overall student expectations are to have fun and get drunk. Any efforts to reduce student HED will be directly challenged by these long-standing norms. Changing norms will likely require a multi-institutional approach, which could be leveraged through groups such as PEP-AH.

Peer pressure strongly influenced participant reasons for drinking. It will be useful to help students develop various strategies to counter the different types of peer pressure they report experiencing. It could also be useful to develop methods that help students who do not want to drink heavily to identify like-minded friends earlier on, particularly in their first year.

Given that most students intend to figure out their own limits, regardless of what practices or procedures have been put in place to deter drinking, it could be important to devise strategies to guide students towards safer alcohol experimentation.

Pre-drinking appears to be the riskiest student drinking behaviour because it occurs in an uncontrolled environment, where student decisions are largely dependent upon their own skills (e.g., ability to manage peer pressure, monitor consumption) and knowledge (e.g., knowing safe limits), and are



unimpeded by restrictions found in other environments (e.g., measured drinks in bars). More research is needed to examine methods to address this issue.

Post-secondary institutions might need to balance creating an environment that discourages HED while normalizing moderate drinking with opportunities that help students learn about and practice responsible drinking and drinking in moderation.

It will be important to have both respected peers and respected older adults deliver messaging and education to reduce HED and address related harms.

### **Limitations**

The sample for this exploratory study was predominately female and there were challenges to examining the three drinking behaviours in greater detail, such as drinking to cope. However, as exploratory research, the sample was not meant to be representative of Canadian post-secondary students, but rather to provide a basis for initial understanding and future studies.

### **Conclusion**

This exploratory study expanded on and provided additional support to current understanding of student HED. The study examined student perceptions and attitudes, expectations, reasons and consequences influencing HED. It also explored three high-risk drinking behaviours among students: alcohol-induced blackouts, pre-drinking and drinking to cope. The study's findings indicate there is a need to improve and broaden student education on the issue, develop strategies for both institutions and students to help reduce associated harms, and examine more effective methods to address HED.

This study also helped to fill gaps in the research on HED and students. Research on the issue among Canadian students is limited and, to the best of our knowledge, this study is the first to conduct focus groups on this issue in Canada. The use of focus groups allowed for the collection of nuanced details and provided robust insights into many of the findings seen in the studies that have used surveys. These insights are important to practitioners as well as those working with students in Canadian post-secondary institutions, such as health and safety personnel, administrative and managerial staff, faculty, security personnel, coaches and club leaders, as well as for students themselves. Encouragingly, the PEP-AH group is working to reduce the harms associated with HED. Post-secondary institutions looking to gain insights, best practices and share efforts to help reduce HED may want to consider joining this partnership ([pepah.ca](http://pepah.ca)).

The findings from this research continue to demonstrate the serious nature of HED and the significant risks it poses for students. Given the multiple factors influencing student decisions to drink in excess, this study highlights the need for a variety of approaches to address the issue. No one response will reach all students and post-secondary institutions will need to tailor existing and new approaches to their own needs.



## Introduction

Heavy episodic drinking (HED) poses potentially serious health and safety risks to young adults (Sloan, Grossman, & Platt, 2011). Also referred to as high-risk drinking, excessive drinking or hazardous drinking, for the purposes of this exploratory study HED is defined as consuming more than three (females) or four (males) standard drinks<sup>1</sup> on a single occasion (see [Canada's Low Risk Alcohol Drinking Guidelines \[LRDG\]](#)). Post-secondary students make up one sub-population of young adults at particularly high risk of drinking heavily and to excess. Studies have shown that students drink more frequently and consume greater quantities of alcohol than their non-student peers (Carter, Brandon, & Goldman, 2010; Hingson, Zha, Simons-Morton, & White, 2016; Slutske, 2005). The negative consequences can be severe. In the short term, HED has been associated with blacking out, impaired driving, injuries, and physical and sexual violence (Butt, Beirness, Gliksman, Paradis, & Stockwell, 2011; Caudwell, Mullan, & Hagger, 2016; Park & Grant, 2005; White & Hingson, 2014), while long-term consequences can include significant cognitive, structural and functional brain changes in young adults, as well as potential health issues such as liver disease or cancer (Canadian Centre on Substance Abuse, 2014; Ewing, Sakhardande, & Blakemore, 2014; Lisdahl, Gilbert, Wright, & Shollenbarger, 2013).

To set this risk in the Canadian context, a recent survey conducted with approximately 44,000 Canadian post-secondary students found that 69.3% reported using alcohol within 30 days of the survey (American College Health Association, 2016). Furthermore, 35% reported drinking five or more drinks on at least one occasion within two weeks of the survey, with approximately half of these respondents (17.7%) reporting they drank heavily two or more times within those two weeks. These numbers are concerning when evaluated according to the LRDG, which set out recommended parameters for drinking to reduce long-term associated health risks.<sup>2</sup> The LRDG recommend that females drink no more than two drinks on a single occasion and no more than three drinks on special occasions (e.g., celebrations); and that males drink no more than three drinks on a single occasion and no more than four drinks on special occasions.

Post-secondary institutions have made extensive efforts to address and help reduce student HED and its related harms. Initiatives have included, among others, providing educational sessions, implementing bystander intervention programs, training and equipping health services to address alcohol issues and hosting dry frosh weeks. Despite these efforts, the issue persists and remains complex. Multiple factors contribute to HED such as student perceptions about alcohol, positive or negative experiences with alcohol, and personal characteristics and environmental features (Ham & Hope, 2003; Kuntsche, Knibbe, Gmel, & Engels, 2005; Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). More research is needed to better understand the factors that influence HED among students in order to improve the effectiveness of efforts to reduce the associated harms.

## Factors Influencing Student HED

The reasons underlying HED among students are complex. Studies have shown that a wide range of factors interact to varying degrees and influence student drinking behaviour (Haas, Smith, Kagan, & Jacob, 2012; Ham & Hope, 2003; Kuntsche et al., 2005; LaBrie, Hummer, Kenney, Lac, & Pedersen,

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1 Standard drink sizes used for this study are those defined by the LRDG where one standard beer is equal to 341 mL (12 oz.), a cider/cooler is 341 mL (12 oz.), a glass of wine is 142 mL (5 oz.) and distilled alcohol (e.g., rye, gin) is 43 mL (1.5 oz.). Visual depictions can be found in Appendix I.

2 The LRDG were developed by a team of independent Canadian and international experts on behalf of the National Alcohol Strategy Advisory Committee (NASAC), and informed by the 2011 report by Peter Butt and colleagues.



2011; Mallett, Lee, Neighbors, Larimer, & Turrisi, 2006; Neighbors et al., 2007). Among these factors, some of the more frequently studied are student perceptions and attitudes about alcohol, their expectations about what will happen if they consume alcohol, their reasons or motivations for consuming alcohol, the positive and negative consequences they experience as a result of consuming alcohol, and other factors such as personal characteristics and environmental features.

### ***Perceptions and Attitudes Towards Alcohol***

Students' perceptions and attitudes about drinking alcohol can significantly influence their drinking behaviour, typically increasing the amount of alcohol they would normally consume. For instance, various studies have demonstrated that students often overestimate the frequency and amount of alcohol that their peers consume and as a result drink more alcohol themselves (DeJong, DeRocco, & Schneider, 2010; Ham & Hope, 2003; Neighbors et al., 2007; Pedersen & LaBrie, 2008). Of concern, there is evidence that students who overestimate peer consumption and who perceive their friends to approve of alcohol consumption, experience more drinking-related harms due to these inaccurate perceptions (Neighbors et al., 2007). Some students also misperceive their own drinking capabilities and significantly overestimate the number of drinks they can consume before experiencing negative consequences such as blacking out or experiencing a hangover (Mallett et al., 2006).

Inaccurate perceptions can also manipulate how students view drinking experiences. In particular, some students do not perceive typical negative consequences of drinking alcohol as actually negative (Lee, Geisner, Patrick, & Neighbors, 2010; Mallett, Bachrach, & Turrisi, 2008). In one study, 25% of students reported hangovers as positive and nearly half reported blackouts and physical or social embarrassment as neutral or positive (Mallett et al., 2008). One potential explanation for these perceptions is that students might consider certain negative outcomes as part of the overall drinking experience and therefore do not consider the experience as negative.

Differentiating between student reasons for drinking alcohol (discussed below) and expectations of drinking might be understood more easily as student beliefs versus student decisions about alcohol (Haas, Smith, & Kagan, 2013). Along with perceptions, HED can be influenced by student attitudes towards alcohol. Within the broader post-secondary context, a culture of drinking has become part of the student experience and they expect to drink heavily (Boekeloo, Novik, & Bush, 2011; Kenney, Hummer, & LaBrie, 2010; Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism, 2002). Furthermore, drinking activities are often integrated into the student experience, such as the first week of classes, Greek initiations, playing on sports teams and team pride events (LaBrie et al., 2011; O'Hara, Armeli, & Tennen, 2015; Public Health Agency of Canada, 2015).

### ***Expectations about Consuming Alcohol***

Also contributing to student decisions to drink are their expectations about what consuming alcohol will or not do for them. Student expectations refer to what individuals anticipate or believe will be the positive or negative effects and consequences of drinking (Haas et al., 2013; Kuntsche et al., 2005; Neighbors et al., 2007; Park & Grant, 2005). For instance, positive expectations can include students believing that consuming alcohol will result in having more fun or being less shy, while negative expectations can include students expecting to become sick or have a hangover.

Studies have demonstrated that both positive and negative expectations are associated with heavier drinking and more drinking-related problems among some students (Bartholow, Sher, & Strathman, 2000; Neighbors et al., 2007; Park & Grant, 2005). Although it is not surprising that positive expectations (e.g., belief that the student will have fun) can contribute to HED, the association with negative expectations might be more nuanced. In this case, if an individual's positive expectations,



such as expecting to be less shy, outweigh negative expectations, such as expecting to have a hangover, then these individuals will continue to drink (Neighbors et al., 2007). To illustrate, in one study, 38.6% of students who experienced an alcohol-induced blackout had significantly higher positive expectations about alcohol than those who did not experience blackouts (Buelow & Harbin, 1996). Moreover, expectations can be particularly important among those students who misperceive negative consequence as positive (see above), further skewing expectations about drinking.

### ***Reasons for Drinking Heavily***

Another factor important to better understanding what influences students to drink heavily is their own stated reasons for this behaviour. Students' reasons or motives depict the underlying decision-making processes that directly lead to their choice to drink excessively (Arbeau, Kuiken, & Wild, 2011). A large volume of research has been devoted to this area (Barry, Stellefson, Piazza-Gardner, Chaney, & Dodd, 2013; Caudwell & Hagger, 2014; Cooper, 1994; Ham & Hope, 2003; Kuntsche et al., 2005; LaBrie, Hummer, Pedersen, Lac, & Chithambo, 2012; Merrill & Read, 2010; Messman-Moore & Ward, 2014; Neighbors et al., 2007; Read, Radomski, & Borsari, 2015; Wetherill & Fromme, 2016). Across numerous studies, students have self-reported a variety of reasons for HED, including having fun or celebrating, reducing anxiety, peer pressure, gaining social confidence, hooking up, being sad or depressed, or socializing. Furthermore, adding to the complexity of student reasons for HED are other factors (i.e., perceptions, expectations and consequences) that interact with and influence a student's decision-making process.

Within the research, one of the more frequently used approaches to reduce the complexity of and better understand student reasons and decision making is the four-factor model developed by Cooper (1994).<sup>3</sup> This model crosses positive and negative outcomes (reinforcement) with internally and externally driven motivations (self and others), resulting in four motives (reasons) for HED: enhancement, coping, socializing and conforming. Enhancement motives (internal) refer to those individuals who drink to experience positive consequences, mood or well-being such as enjoying the taste of alcohol or the thrill of drinking. Coping motives (internal) include wanting to avoid, reduce or regulate negative emotions such as anxiety or stress. Socializing motives (external) refer to seeking to obtain positive social rewards such as drinking with friends. Finally, conforming motives (external) include wanting to avoid social costs of not drinking such as wanting to fit in and avoiding rejection. Drinking to excess for the purposes of enhancement, coping or conforming are more often associated with problematic drinking (Ham & Hope, 2003). In addition, some studies have found that social reasons largely influence student desires to play drinking games, which is a risky drinking behaviour associated with HED (Barry et al., 2013).

### ***Positive and Negative Consequences***

Students experience both positive and negative consequences as a result of HED, each of which can influence their decision to drink to excess again (Mallett et al., 2008; Mallett et al., 2006; Park & Grant, 2005; Read, Wardell, & Bachrach, 2013). Studies have demonstrated that positive consequences, whether perceived or real, influence student motives for drinking. Similarly, although studied less frequently, evidence reveals that students often report experiencing more positive than negative consequences including feeling relaxed, being more self-confident, being creative, forgetting school problems or fitting in with peers (Merrill & Read, 2010; Park & Grant, 2005). As a

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<sup>3</sup> Cooper's work is based on previous research conducted by W. Miles Cox and Eric Klinger.



result, positive consequences, whether perceived or real, have the effect of reinforcing HED behaviours among students.

In contrast, experiencing negative consequences might not deter student HED. As discussed above, students can perceive negative consequences (e.g., hangovers and blackouts) as positive and therefore continue to drink excessively (Mallett et al., 2006; Read et al., 2013). Even when students recognize their negative experiences accurately, they might continue to drink to excess because the negative experience resulted in positive consequences. To elaborate, negative consequences can be desirable if, for example, they are perceived to augment student social status or their ability to fit in with their peers (Mallett et al., 2006; Park & Grant, 2005). Either way, students who engage in HED are at higher risk for associated alcohol harms and, as their tolerance for alcohol increases, this can lead to patterns of heavier and riskier drinking.

### **Other Factors**

Other factors can also influence HED among students. Students can be influenced to drink heavily by virtue of belonging to a particular sub-population according to, for example, gender, ethnic group, Greek affiliation or sports team (Cheng & Mallinckrodt, 2015; LaBrie et al., 2011; O'Hara et al., 2015; O'Hara et al., 2014; Public Health Agency of Canada, 2015). For instance, male students typically drink more frequently and higher quantities of alcohol than females, which is partially a function of physical differences (Ham & Hope, 2003). However, beyond this observation, studies are mixed as to the extent that gender is associated with HED. Rather, gender differences seem to vary depending on factors such as the reasons males and females consume alcohol (e.g., enhancement motives, coping motives), their behaviours (e.g., playing drinking games) or the drinking behaviour (e.g., pre-drinking) (Ahmed, Hustad, LaSalle, & Borsari, 2014; Bachrach, Merrill, Bytschkow, & Read, 2012; Buelow & Harbin, 1996; Haas et al., 2012; Hingson et al., 2016; Hummer, Napper, Ehret, & LaBrie, 2013; Kuntsche et al., 2005).

Another sub-population of particular interest is first-year students. Evidence suggests this group is at greatest risk for HED and negative consequences due to high rates of alcohol consumption compared to students in other years of post-secondary education (Read et al., 2013). The higher rates of HED among first-year students is largely attributed to the combination of independence from living with parents and entry into the culture of drinking in the post-secondary environment (Kenney et al., 2010). As students progress to later years of study, HED behaviours typically decline, possibly due to taking on more adult responsibilities and maturing (Ham & Hope, 2003). Despite the surge of HED in first year, most research indicates that student drinking behaviours are established at younger ages, before entering post-secondary education, and that student behaviours are simply amplified in this new, less constraining environment (Hingson, Heeren, Winter, & Wechsler, 2005; Kenney et al., 2010; LaBrie, Earle, Hummer, & Boyle, 2016). Many students enter post-secondary education with risky drinking behaviours and are potentially already affected by other alcohol-related harms. Although these various other factors are important to better understand alcohol consumption among students, this exploratory study is intended to examine broader factors (e.g., reasons for drinking) and provide a basis for future research to investigate specific sub-populations such as those based on gender, year of study or group affiliation.

### **High-risk Drinking Behaviours**

In addition to examining factors that influence HED among students, this study also endeavoured to learn more about factors associated with three high-risk drinking behaviours that often contribute to or are associated with HED. A wide range of drinking behaviours exist such as drinking games



(Fairlie, Maggs, & Lanza, 2015; Tomaso et al., 2015), drinking at specific events (e.g., frosh week, sporting events) (Hummer et al., 2013; Wetherill & Fromme, 2009) or affiliation with certain high-risk groups such as belonging to a Greek group or sports team (Haas et al., 2012; Martens, Pedersen, Smith, Stewart, & O'Brien, 2011). For the purposes of this exploratory study, it was only possible to examine a selection of key risky behaviours. Alcohol-induced blackouts, pre-drinking (to consume alcohol in one place, such as at a friend's place, before going to another activity, such as a bar or main event) and drinking to cope were examined to determine reasons behind HED related to these behaviours and to better understand positive and negative consequences associated with these behaviours.<sup>4</sup> These behaviours were deemed both high risk and likely the most prevalent among students and were therefore chosen for further examination.

### **Alcohol-induced Blackouts**

Considered as one of the more significant negative consequences of HED, alcohol-induced blackouts pose serious risks to post-secondary students. Blackouts are a form of memory loss that can occur during the entire drinking period (a block) or only portions (fragments) of it (Hingson et al., 2016; Wetherill & Fromme, 2016). Sometimes confused with passing out, blacking out is characterized as a different state of consciousness where individuals are able to interact with their environment, but do not form long-term memories associated with their actions. Part of the risk with blacking out is that individuals can continue functioning (at impaired levels), such as holding a conversation or driving a vehicle. Equally concerning, there is no discernable way for others to detect whether or not someone is in a blackout state. There is evidence that experiencing a blackout is one of the strongest predictors of other alcohol-related problems (e.g., missing class or work, drinking overdose) (Hingson et al., 2016). Other negative consequences often associated with blacking out include increased risk for sexual assault or violence, injuries, unprotected sex, missing class and hangovers (Hingson et al., 2016; Mundt & Zakletskaia, 2012; Wetherill & Fromme, 2016).

Blacking out can occur with a blood alcohol concentration (BAC) as low as 0.06 g/dL, but more often occurs at a BAC of 0.20 g/dL or higher (Wetherill & Fromme, 2016). Studies have found that between 20% and 55% of post-secondary students who drink have reported blacking out at least once, with the majority of studies reporting around 50% (Boekeloo et al., 2011; Wetherill & Fromme, 2009). In a recent survey of Canadian students, 29.1% reported that they had forgotten where they were or what they had done while drinking alcohol within the past 12 months (American College Health Association, 2016).

A number of student characteristics (e.g., having a low body weight, living in post-secondary residence, Greek affiliation, family history of heavy alcohol use, coping with a previous traumatic experience such as sexual abuse) and specific activities (e.g., pre-drinking, drinking games) appear to be more often associated with those who experience blacking out (Hingson et al., 2016; LaBrie et al., 2011; Ray, Stapleton, Turrisi, & Mun, 2014; Wetherill & Fromme, 2016). Research related to gender is mixed, with some studies finding either females or males experience more blackouts (Buelow & Harbin, 1996; Hingson et al., 2016). As discussed above, some studies have shown that inaccurate student perceptions and expectations often contribute to blacking out. To reiterate, some students overestimate the amount of alcohol they can consume before experiencing a blackout (Mallett et al., 2006) and some students who experienced blackouts have significantly higher positive expectations about blackouts (Buelow & Harbin, 1996).

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<sup>4</sup> The three issues often do not occur in isolation from each other and many studies have investigated their overlap (Keough, Battista, O'Connor, Sherry, & Stewart, 2016; LaBrie et al., 2011). O'Connor, Sherry, & Stewart, 2016; LaBrie et al., 2011).



## Pre-drinking

Pre-drinking (pre-gaming, pre-partying, pre-loading, front loading) is the action of consuming alcohol at one place, such as at one's own residence or a friend's place, before going out to another, typically bigger, main event (e.g., a night club, party, concert, sporting event) (Burger, LaSalvia, Hendricks, Mehdi-pour, & Neudeck, 2011; Hummer, LaBrie, & Lac, 2011). Pre-drinking is of particular concern because it frequently involves drinking high quantities of alcohol in a short period of time (e.g., through drinking games), which often leads to continued HED throughout the entire drinking occasion (DeJong et al., 2010; LaBrie et al., 2012). In studies that have measured or estimated intoxication levels, several have found that students who pre-drink reach significantly higher levels of intoxication than their non-pre-drinking counterparts. For example, some studies have calculated students reaching intoxication levels of .08 g/dL estimated BAC (eBAC)<sup>5</sup> during pre-drinking before attending the main event (Haas et al., 2013) and as high as 0.16 g/dL eBAC by the end of the evening (Fairlie et al., 2015). Drinking games, which are typically played during pre-drinking, often contributed to these higher levels of intoxication.

Negative consequences for students who pre-drink have been shown to be higher than for those who do not engage in this activity (Haas et al., 2012; Hummer et al., 2011; Hummer et al., 2013; LaBrie et al., 2016). For instance, in one study that compared students who pre-drink with peers who did not, those who engaged in pre-drinking experienced more than double the number of alcohol-related problems than their non-pre-drinking peers, including physiological, legal and social consequences, and unwanted sex (Haas et al., 2012). There is also emerging evidence that pre-drinking might be a determinant of future problematic drinking and associated risks (Haas et al., 2013; Kenney et al., 2010; LaBrie et al., 2016). To illustrate, in one year-long longitudinal study, students who engaged in pre-drinking at the beginning of the study increased their frequency of pre-drinking as the year continued, and their approval of heavy drinking also increased during this period (LaBrie et al., 2016).

Fueling student reasons for HED associated with pre-drinking are the various positive expectations and positive consequences reported by students. These reasons often included saving money (versus purchasing more expensive alcohol in establishments), becoming drunk before going out, being more sociable, having fun, countering boredom and opportunities for underage drinking, among others (Bachrach et al., 2012; Barry et al., 2013; Caudwell & Hagger, 2014; Hummer et al., 2011; Park & Grant, 2005). Some studies have shown that students who pre-drink report experiencing higher levels of both positive and negative consequences, and that students report disproportionately higher positive consequences than negative (Barnett, Orchowski, Read, & Kahler, 2013; Park & Grant, 2005). In contrast, other studies have found greater frequencies of negative consequences in comparison to positive (Usdan et al., 2008). Whether more or less positive consequences were reported, experiencing positive consequences associated with pre-drinking suggests there are challenges to efforts to try to reduce HED related to curbing this behaviour.

## Drinking to Cope

Drinking to cope is to consume alcohol in order to avoid, reduce or regulate negative emotions or experiences (Cooper, 1994; Ham & Hope, 2003). Negative emotions can include depression or nervousness, and negative experiences can include physical, cognitive, social, traumatic or

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<sup>5</sup> The level of alcohol in an individual's body can be measured using different techniques. BACs are a measure of the concentration of alcohol in the blood. They are often measured using a breathalyzer, although they can sometimes be measured directly from a blood sample. BrAC refers to measuring alcohol concentration in the breath using a breathalyzer, which is proportionate to the concentration of alcohol in the blood. An eBAC is a formula used to estimate BAC without actually measuring the concentration, using a mathematical calculation of different measures (e.g., body weight, metabolism rate, number of standard drinks, etc.).



contextual experiences (Buckner & Shah, 2015; Cooper, 1994; Foster et al., 2014; Gilmore & Bountress, 2016; Ham & Hope, 2003; Norberg, Norton, Olivier, & Zvolensky, 2010; Read et al., 2015; Terlecki & Buckner, 2015; Woolman, Becker, & Klanecky, 2015). Reasons behind students using alcohol to cope are numerous and include dealing with social anxiety, depression, sexual assault, general anxiety, school and work responsibilities, and parental alcohol use. Individuals who drink to cope often lack or perceive themselves to lack more adaptive coping mechanisms or strategies to deal with negative emotions (Cooper, 1994; Ham & Hope, 2003; Messman-Moore & Ward, 2014; Read et al., 2015). Evidence demonstrates that students who drink to cope often experience more alcohol-related harms and negative consequences, such as poor performance in classes or partaking in risky behaviours, regardless of the student's level of drinking (Clerkin & Barnett, 2012; Kuntsche et al., 2005; Merrill & Read, 2010; Messman-Moore & Ward, 2014; Young, DiBello, Traylor, Zvolensky, & Neighbors, 2015).

Social anxiety is one of the more commonly studied factors behind student drinking to cope (Brook & Willoughby, 2016; Buckner, Eggleston, & Schmidt, 2006; Buckner & Shah, 2015; Clerkin & Barnett, 2012; Ham, Zamboanga, Olthuis, Casner, & Bui, 2010; Norberg et al., 2010; Terlecki & Buckner, 2015). Although frequently studied, findings about quantity of alcohol consumed are mixed. Some studies have shown that individuals who drink to cope with social anxiety consume higher levels of alcohol than their counterparts not affected by social anxiety (Ham et al., 2010; Terlecki & Buckner, 2015), while other studies have found that individuals drinking to cope with social anxiety consume lower levels of alcohol than their non-socially anxious peers (Clerkin & Barnett, 2012). Nevertheless, evidence suggests that individuals drinking to cope with social anxiety appear to experience more negative consequences than their non-socially anxious peers who consume alcohol, regardless of how much alcohol they consume (Clerkin & Barnett, 2012; Ham et al., 2010; Schry & White, 2013).

## Objectives and Scope

Although there is a broad spectrum of research about student HED, there are also important gaps. One is the very low number of alternative investigative methods used to examine student drinking beyond the use of surveys.<sup>6</sup> Focus groups and interviews are used much less frequently, but are important to gathering nuanced details and clarifying data collected from survey participants (Sandelowski, 2000). Another crucial gap in the research is the minimal number of studies set in the Canadian context. The bulk of studies that examine HED among students have been conducted at campuses in the United States, yet there could be important differences between the Canadian and American contexts, such as different legal drinking ages or different levels of Greek affiliation.<sup>7</sup>

The purpose of this exploratory study was to augment understanding about the various factors that influence post-secondary students to drink to excess in order to help fill gaps in knowledge and to help develop strategies, tools and resources to address the issue. To the best of our knowledge, this study is the first to conduct focus groups on this issue in Canada. The four primary objectives of this study were:

1. To further knowledge and understandings related to post-secondary student perceptions and attitudes, expectations, reasons and consequences related to HED;
2. To collect student ideas and recommendations to address the issue;

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<sup>6</sup> To illustrate, Kuntsche et al. (2005) lists over 50 studies that have developed, revised or used surveys to better understand student motives, including Drinking Motive Questionnaire – Revised (DMQ-R), Inventory of Drinking Situations – Short Form, Reasons for Drinking Questionnaire (RFDQ); and Reasons for Drinking Scale (RDS)..

<sup>7</sup> Canadian based studies include Arbeau et al. (2011), O'Neil, Lafreniere, & Jackson (2016), Wells et al. (2015) and Keough et al. (2016).



3. To examine three high-risk drinking behaviours: alcohol-induced blackouts, pre-drinking and drinking to cope; and
4. To fill gaps in research on HED among students, particularly with respect to qualitative data and the Canadian context.

The findings from this study are exploratory and intended to assist post-secondary institutions in addressing HED. The findings will be relevant to anyone working with post-secondary students, such as health and safety personnel, administrative and managerial staff, faculty, security personnel, coaches and club leaders, as well as to students and parents.



## Method

This study investigated HED among students using a qualitative approach through the collection and analysis of focus group data. The use of focus groups allows for collecting data in the participants' own words, asking questions to clarify responses and gathering detailed data and insights from the target audience (Race, Hotch, & Packer, 1994; Sandelowski, 2000). Focus group data can augment existing survey-based research by providing additional context and explanations for quantitative findings. Given that this type of study does not appear to have been previously conducted in Canada, the approach used was exploratory and intended to obtain initial data and insights on the issue.

### Recruitment

Participants were recruited from post-secondary students attending five universities for this study, one campus each from the Prairies, Quebec and Atlantic Canada, and two from Ontario.<sup>8</sup> The recruitment process was initiated by partner representatives working on the campuses (university faculty or health staff), and further recruitment was conducted by researchers from the Canadian Centre on Substance Use and Addiction (CCSA) in locations where participant numbers were low. Various recruitment methods were used, including posters (Appendix A), emails to students, student groups, faculty or departments, recruitment booths in high-traffic areas, postings on student display boards and some virtual boards, and advertising on social media. The recruitment methods varied slightly from one university to the next depending on their individual research ethics requirements (e.g., some universities did not allow direct emails to students). A \$25 gift card was offered as an incentive to students who participated in the focus groups.

To reduce potential stigma associated with terms like HED, excessive drinking or problematic drinking, and because most students do not view themselves as heavy episodic drinkers (Clinkinbeard & Johnson, 2013), the term “heavy drinking” was used in advertising and consent forms.

As this was an exploratory study, recruitment was limited to campuses with which CCSA could secure collaboration; therefore colleges and other post-secondary institutions were not involved. CCSA collaborated with the Postsecondary Education Partnership—Alcohol Harms (PEP-AH). This group includes members from post-secondary institutions across Canada and its objective is to reduce the harms associated with alcohol consumption on campus.<sup>9</sup> The majority of campus representatives who assisted with ethics applications at each university and recruitment for this study were PEP-AH members.

### Development of Guides and Questions

#### *Screening Questionnaire and Intake Guide*

To participate in a focus group, potential participants were required to complete a screening questionnaire to determine if they met the criteria for HED (Appendix B). Two of the five universities required that potential participants sign a consent form before completing the screening questionnaire (consent form described below). Questionnaire items were related to student demographics and alcohol consumption. CCSA staff and the staff of university ethics departments reviewed the questionnaire, and it was also tested through a pilot of the study (see below) with revisions made

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<sup>8</sup> It is not possible to list the post-secondary institutions involved in this research because of the small sample size.

<sup>9</sup> For more information, visit [pepah.ca](http://pepah.ca).



where appropriate. Participants qualified for the focus groups if they were a post-secondary student and they reported exceeding the LRDG for special occasions. Specifically, two qualifying questions were used (items nine and 10 from the questionnaire):

9. Since [September 2016/2017],<sup>10</sup> how many standard drinks did you usually have on days when you drank (including before you went out, while you were out, and afterwards)?
10. Since [September 2016/2017], how often have you had 4 or more (if female) or 5 or more (if male) standard drinks on one occasion (including before you went out, while you were out, and afterwards)? [Students were provided various options, see Appendix B]

For question nine, females met the inclusion criterion if they indicated consuming four or more drinks and males if they indicated consuming five or more drinks. For question 10, students were invited to attend a focus group if they answered once a month or more. To ensure consistency among student responses about what constituted a single drink, a graphic of standard drink sizes was included on the screening questionnaire.

In addition to completing the screening questionnaire, potential participants completed a separate contact form (Appendix C) requiring their name and contact information. To maintain confidentiality, the questionnaire and contact form were both coded with the same alphanumeric code (e.g., A123) and stored separately in locked filing cabinets by the campus representative and later in the same manner at the CCSA office. Once a student was identified as qualified to participate, the campus representative contacted him or her to sign them up to a focus group. Using the demographic questions, attempts were made to help ensure the recruited participants were diverse (e.g., mixture of males and females, different ethnic groups, different programs and years of study). To assist campus representatives with the recruitment and screening process, CCSA provided them with a screening and intake guide (Appendix D) describing the recruitment and screening instructions.

### ***Focus Group Guide and Questions***

The development of the focus group guide (Appendix E) and questions (Appendix F) began with an examination of the published literature about student HED, alcohol-induced blackouts, pre-drinking and drinking to cope. The majority of publications (English and French) were retrieved through searches of the PubMed and PsycNet databases, and additional searches were conducted using the search engines Google Scholar and Google. The search criteria included the key terms for the three drinking behaviours, universities/colleges and any other synonyms or alternate spellings (e.g., pre-gaming, front loading, substance use disorder, post-secondary institution, etc.; see Appendix G).

Two CCSA researchers reviewed 422 articles about the three drinking behaviours, as well as roughly 50 additional articles that were referenced by other research or were about student HED. The literature was surveyed for factors that influence HED, research methods and potential focus group questions. Within the literature, four factors were consistently reported as strongly influencing student drinking behaviour, often formed the basis of various drinking questionnaires<sup>11</sup> and were used to frame the focus group discussions: perceptions and attitudes, expectations, reasons and consequences. CCSA developed questions specific to student reasons and consequences for each of the three drinking behaviours. The guide included questions that asked students for recommendations to address HED among students. A total of 28 open-ended questions were developed, including four warm-up questions (e.g., what program of study are you in?) and six other or neutral questions (e.g., which type of alcohol do you think students like to drink the most?). The former were used to break the ice

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<sup>10</sup> The focus groups took place in two different academic years and the questionnaire reflected September from either 2016 or 2017.

<sup>11</sup> For instance, see Kuntsche et al., 2005.



with participants and encourage discussion and the latter to de-escalate sensitive situations if they arose. The guide was tested through a pilot of the study (see below) and revised where appropriate.

## Participants

In total, 110 students participated, 27 males and 83 females,<sup>12</sup> with about 20–25 students from each of the five universities. Participants ranged in age from 17 to 30 years old and included both undergraduate and graduate students from different programs; the majority were undergraduate students aged 18 to 22. Purposeful sampling was used to develop the participant base: students were only invited to the study if they met the criteria for exceeding the LRDG. This type of sampling improves upon convenience sampling by identifying and recruiting participants with specific knowledge or experiences on the subject of interest (Palinkas et al., 2015). Although various attempts were made to ensure the participants were a representative sample of the target audience, the study was exploratory and the primary goal was to develop an initial understanding of the Canadian context of student drinking beyond survey research conducted primarily in the U.S.

With respect to underage participants, one university required parental consent, one university did not allow minors to participate in the study and the remaining universities allowed minors to participate in the study as they considered any student to be an adult. Although males were heavily recruited, some were not interested in participating and many of those who were recruited to participate did not show up for discussions. The end result was that a higher proportion of females than males self-selected to participate than in a typical purposeful sample. Although it will be important for future studies to increase male participation to ensure their perspective is adequately represented, this was an exploratory study that aimed to provide initial context and insight into student drinking behaviour and even with a higher proportion of female participants is able to support these aims.

Focus groups ranged in size from one to 10 participants, with the majority comprising between four and six participants. Groups contained either a mixture of males and females or females only. Five to eight participants is an optimal number when conducting focus groups on a detailed and complex subject, such as this study, as it helps ensure that all participants have the opportunity to contribute to the discussion (Babbie & Benaquisto, 2010; Porath-Waller, Brown, Frigon, & Clark, 2013). Although 12% of the “groups” consisted of only one person, this was not deemed an issue since it is a small percentage relative to the overall number of groups and because their responses were relatively consistent with all other responses. They could therefore be aggregated with the other study data.

## Study Procedure

To conduct the study, CCSA obtained ethics approval from each of the five universities and the pilot university. As to the latter, one university served as the pilot to test the recruitment, screening and focus group questions and procedures. Two pilot groups were conducted with a total of 14 participants, six males and eight females. CCSA used the pilot to test and refine the recruitment and screening procedures and the focus group questions and process. The primary changes were modifying some questions to improve clarity, re-ordering some questions to improve participant responses and adding two questions to collect further details. This study does not include results from the pilot.

Two CCSA researchers facilitated the focus group discussions. Between the two, one researcher led and was present for all discussions and three other CCSA researchers alternated for the second

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<sup>12</sup> The screening questionnaire gave participants the option to report what gender or sexual orientation they self-identified with; however, the focus groups were anonymous; therefore, the gender of participants reported in this study was based on observation and, if it occurred, how participants described themselves during the discussions.



position. The discussion groups began by asking participants to read and, if they agreed, to sign the consent form (Appendix H). The consent form explained the project, how participation would occur, that the session would be audio recorded, how student data would be protected, the option to leave the discussion at any time without consequence and who to contact if they had any questions or wanted to withdraw from the study. The CCSA researchers also verbally explained the study and consent to participants and participants received a signed copy of the form. Participants were made aware that discussions had limited confidentiality due to the group nature and were asked to keep the conversations confidential.

Discussions lasted between 30 and 90 minutes, depending on the size of the group, and were audio recorded. The recordings were transcribed and any potentially identifying information (e.g., names, places) were removed during transcription. Focus groups were conducted in English and took place in February 2017 and October 2017.

During the discussion, to ensure all participants provided answers that could be compared, a handout was given depicting standard drink sizes (Appendix I). Additionally, short definitions of the three drinking behaviours were included on the graphic.

At the end of the discussion, participants were debriefed (Appendix J). This included answering any participant questions, explaining next steps, providing them with a list of local resources for support related to alcohol use (e.g., the university health services department, alcohol monitoring apps) and receiving a \$25 gift card for their time.

## Data Analysis

Transcribed participant responses were loaded into and analyzed using NVivo 11 for Windows, Pro edition. To maximize analysis, responses were coded in two ways. First, they were coded according to the questions, each of which pertained to a specific factor, and then like factors (e.g., all questions pertaining to pre-drinking) were coded together. Second, responses were individually reviewed and coded according to specific, detailed factors identified through the review (see Appendix K). For example, all responses were reviewed for positive and negative consequences of HED, and coded to specific factors such as peer pressure, had fun, regretted saying or doing something, injured self or injured other. Specific factors were then compared (cross-analyzed) and those that had commonalities (e.g., first-year experiences, inexperienced drinker) were grouped together. This detailed coding was conducted for student perceptions and attitudes about HED, reasons for HED, positive and negative consequences of HED and student ideas for reducing HED (19 factors). By drilling down to specific factors, it was possible to determine which ones students reported more frequently. One CCSA researcher conducted the coding and then another CCSA staff member experienced in qualitative data collection reviewed the coding near the beginning and at the end of the coding process. The primary researcher refined and adjusted the coding practice based on feedback provided at these time points.



## Results

This section describes the results for student perceptions and attitudes towards alcohol, expectations about HED, reasons for HED, positive and negative consequences experienced from drinking heavily and student ideas and recommendations for reducing the prevalence of HED. Interpretation of the results should take into consideration the higher representation of females in this exploratory study. The three drinking behaviours – alcohol-induced blackouts, pre-drinking and drinking to cope – were explored in detail under reasons for HED and positive and negative consequences of HED. (Refer to Appendix K for coding of results.)

### Perceptions and Attitudes Towards Alcohol

When asked about the number of days per month the average student drinks, approximately half of all responses were relatively evenly distributed across four times, six times and eight times a month. Following this, there were also a large number who felt that the average student drinks 10 or more times per month. Participants frequently pointed out that these numbers would depend on the month (e.g., exam month) or the student's year of study (e.g., first year versus other years). Many participants reasoned that students drank from one to three times a week, usually on the weekends. Many students also said that they thought their peers drank more often than they actually did.

When asked what participants perceived was the average maximum number of drinks a student could drink without experiencing negative consequences, responses ranged from no drinks up to 10 drinks. The most frequent response was five drinks, followed by four drinks and seven drinks. Precise numbers were not always given, but instead participants reported ranges such as five to seven. The mid-point was used to determine these values. Again, many students indicated that consequences experienced would differ depending on various factors (e.g., gender, weight, or having eaten or drank water). To learn more about what students deemed was a negative consequence, this term was not defined for them. Among the students who defined negative consequences, many deemed strong physical experiences, such as blacking out, vomiting or having a hangover, as their criteria for a negative consequence. Somewhat fewer participants included other factors, such as regrettable behaviour, as negative. Additionally, several participants stated that students could drink large quantities of alcohol without negative consequences if they did so over several hours.

Through the night, I would expect each student to be able to handle 10 [drinks] without negative consequences. That's like if you start drinking at like 7:00 pm and you go till 12:30 or 1:00 am.

The discussions revealed other inaccurate student perceptions about alcohol consumption. Some students appeared to have inaccurate knowledge about alcohol and its effects on the body, such as one participant who commented, "alcohol metabolizes pretty quickly, so I don't stay drunk very long." Another participant reported:

I think [alcohol] has ... the least drawbacks of ... other forms of ... substances, and so, you can like do that and still do homework if you want during the school year, and it's like pretty affordable, doesn't ... mess up your body or your mind that much.

Although some students recognized that they could not drink a lot of alcohol without becoming drunk (often referring to themselves as "light weights"), there were also a number of students who believed they had a higher tolerance to alcohol than most people:



I know [negative consequence] varies so much [across people] because, for instance my girlfriend, she has one standard drink she will get a headache ... but after a while for me, like I said, I make it a point not [to] blackout, so I try to will myself to ... I'd say eight [drinks] ... I may try not to go above eight or 10, because then I feel like not good things will happen.

Questions regarding other substances were not explicitly asked during the discussions, but several students commented on their use in conjunction with alcohol. In particular, some students perceived cannabis use as a safe alternative and non-impairing in comparison with alcohol consumption, and reported consuming both substances on the same occasion:

Whenever there's weed involved ... because it's really hard to make poor choices when you're really, really high. It's not the same. You don't get crazy or make all these bad choices [like with alcohol]. So, to me, if there's weed involved, and someone's like, "Do you want another drink?" I'm like, "Actually, no, I'll just go smoke" ... It's like safer. ... It's like an excuse to get out of drinking.

Another inaccurate perception expressed by a few students was that consuming sports drinks helped make them sober:

[My friend will] make me drink the bottle of Gatorade or like half the bottle of Gatorade, and then she'll be like, "Okay, continue" ... because I like sober up in the time it takes to finish what I'm now drinking, and then, I sober up.

Nonetheless, many students were aware of other useful techniques that can sometimes help reduce some of the effects of alcohol consumption. For instance, a number of students reported that eating food before drinking and drinking water while drinking could help reduce intoxication or hangover effects. Even though many were aware of these and other techniques, some reported not using them (e.g., forgetting to eat, not having access to food, etc.).

With respect to student attitudes towards student HED, the majority of participants did not see it as a problem, except when it resulted in more serious issues such as physical or sexual assault, black outs or the need for medical intervention. They generally did not want anything to be done about student drinking. These students frequently explained that HED was part of the culture of post-secondary education. Not only did they expect it to occur, several believed it would be difficult to change the culture of drinking:

It's hard to escape the drinking culture when you're living among ... 250 other people who are all, like, sort of egging each other on, even if like probably half of them wouldn't have drank that night otherwise.

Nonetheless, a few students expressed concern about the issue. In particular, these students wanted to see HED reduced among first-year students, whom they viewed as the primary group engaging in unsafe drinking behaviours.

## Expectations about HED

Participants were asked what they expected would happen to them if they consumed more than three or four standard drinks on a single occasion. Overall, the majority of students expected positive outcomes or a mixture of more positive and fewer negative outcomes. The most frequent comment was that they expected to have fun or a good time, relax and be less stressed. "You are expecting a good time; you are expecting to maybe forget about things that might have happened before or expecting not to be [like] you when you are sober." Many of the participants did not expect to be



completely intoxicated, but instead expected to be tipsy or buzzed. Among these students, several also expected that their judgment might be slightly impaired and that possibly they could make poor decisions:

At that point, I would ... that's, like, I guess, where I would start to feel ... noticeably different, and not necessarily drunk yet ... still feel, I guess, in control so to speak, but yeah, noticeably ... as far as decision making goes, probably a little less sharp.

Other responses included that they expected to be more confident or social, be out late, be hung over or sick and be more emotional. The first two responses were generally described as positive, while the latter two responses seemed to be described as neutral or negative.

During discussions, it was observed that students when responding to this question had difficulty differentiating between stating expectations and describing actual experiences. In a number of instances, rather than provide an expectation, students would recount past experiences and the CCSA researchers would need to reiterate the question and emphasize the focus on what students expect to happen. Participants typically understood the question the second time and responded with expectations.

## Student Reasons for HED

Participants were asked to discuss the reasons why they engaged in HED, what prompted them to drink more than planned on occasions, and their reasons, if applicable, for drinking associated with alcohol-induced blackouts, pre-drinking and drinking to cope.

In general, students reported a large number of reasons or specific factors for engaging in HED or drinking more than they planned. However, a few reasons were prominent among the results. Most students reported wanting to have fun or celebrate, to increase their confidence and to socialize with friends. In terms of having fun, if these students were having a good time, they reported consuming more alcohol to remain intoxicated and continue the fun experience. “[My reason], it’s just to be drunk because the feeling is enjoyable, and I laugh lots, and I dance lots.”

Similar to having fun, a number of students also reported that they wanted to become drunk. This was their goal. For some of these students, this was in response to boredom (see below), but for others, becoming drunk was what they wanted to do. Another reason for drinking to excess was in response to their academic schedules. Due to their schedules for assignments and exams, some students also reported drinking to excess to make up for the times when they were immersed in schoolwork. “I don’t drink ... often, so I think that when I do, I’m like, ‘Go big or go home.’ ... ‘It’s now or never.’ Or, ‘It’s now or next month sometime.’”

Similarly, participants frequently reported drinking as a social activity because they were bored. Many commented that there were very few alternatives to drinking in the evenings or weekends, particularly as most other options for socializing either closed early (e.g., gym) or did not exist (e.g., restaurants). “Out of most people I know, [they] use Friday and Saturday nights to go out to bars because there’s nothing else to do”; or “everything ends at 10 or 11 and nobody is really ready to go to bed yet and you’re not done hanging out with your friends, so what do you do? You go out or you go drinking.” For the majority of these participants, they drink to socialize with friends.

Most participants reported feeling peer pressure to consume alcohol, and this appeared to come in two forms. One form of pressure was being challenged. This pressure was overt, where the participant’s peers would mock or challenge the student into drinking a lot of alcohol, drinking rapidly or drinking more than they wanted:



When I'm on my third drink ... it's a good pace, and then [my friends] are at their sixth; they're like, "You're only on your third? You need to catch up. You need to drink more." And, I'm like, "No, like I'm fine." But then, at the same time, them saying that, you're like, "Okay, well, I can drink a little bit more," but I know that I shouldn't.

The other type of pressure was social in nature. This pressure was more subtle and typically came from close friends who offered or bought drinks for the student as a friendly gesture. In these cases, not only did most students feel obligated to consume the drink, many felt obligated to reciprocate the favour by treating their friends to another round of drinks: "when you're going to buy me one [drink], sometimes, maybe that was your last drink of the night, but now, you feel obligated to buy the next round, and then it [continues]." Regardless of the form of peer pressure, most participants stated that they did not know how to say no to challenges or decline friendly gestures, and the result was almost always drinking more than they intended or drinking to excess.

Participants also frequently reported that they engaged in HED to be more outgoing, to meet new people and to increase their confidence in social settings:

I think the drinking culture in first year had a lot to do with meeting people, too, because that's how you would meet people in your res and ... maybe at the parties, and I wouldn't be ambitious enough to talk to them without drinking, so I would drink more and more ... and then it was just, like, out of hand.

Other reasons for HED reported by students included being a part of a sports team or membership in Greek societies, certain faculties or campus clubs, where drinking was part of celebrating or get-togethers for these various groups.

### ***Reasons Associated with Alcohol-induced Blackouts***

Students reported a number of reasons for experiencing alcohol-induced blackouts. Although a few participants reported drinking with the purpose of blacking out, the majority stated that it was accidental and not intentional. During the discussions, some students expressed shock that individuals would drink to this extent intentionally. Whether intentional or accidental, students reported experiencing many of the same negative consequences. One reason for reaching the point of blacking out was students who reported they were unable to think clearly past a certain point while drinking and so had reduced capacity to make the decision to stop drinking. As a result, some students said they would no longer care about the consequences and would continue to drink:

At the point where I could blackout, that window, I just care less, as in it doesn't register, the safety, the risk, what can happen kind of thing. It's just that I'm so up there that I wouldn't care if I blacked out.

For the majority of participants who experienced blacking out, they attributed their inexperience in drinking as the key reason. For most, this was an issue they experienced during their first-year of studies. In particular, students who blacked out said they did not know their limits, such as what quantity of alcohol they could consume. Other reasons attributed to inexperience included not knowing how to pace their alcohol consumption, not eating beforehand, not alternating alcohol with drinking water, not knowing about the impact of mixing alcohol and not knowing that different body sizes or that being male or female had an impact on their levels of intoxication.

Among these same students, most explained that they no longer experienced blackouts after their first year because they felt they had learned their limits. Some no longer felt pressure to drink within their established friend groups (several reported having settled into like-minded friend groups in later years of school) and some reported increased focus on their academics: "Since probably like halfway



through second year, like, I found a really good group of friends ... I'm going out with like people I know. ... And, I know myself now ... I know when to stop.”

Not monitoring alcohol consumption, particularly when playing drinking games or drinking activities (e.g., drinking games with movies or video games), was also frequently identified as the reason for blacking out. Students said they played games to fit in, to be competitive or just to have fun. Since the objectives of different drinking games varied, students could end up drinking more because drinking happened quickly (rapid-fire shots), because they lost the game (took shots for losing), because they won the game (were able to drink the most) or because other players would band together and target one person to drink more:

Me and my friend playing Beer Pong ... we were competitive and wanted to, like, win and show off. But when you keep winning Beer Pong, you keep playing, so then you keep drinking. ... So, I think [I've blacked out] from having fun and getting caught up in, like, competition.

Furthermore, drinking games often involve mixing different types of alcohol, which some participants said they could not handle and as a result would blackout. Other reasons related to not monitoring consumption included peers giving the student drinks (i.e., peer pressure discussed above) and not measuring alcohol content when making drinks (see below).

### ***Reasons Associated with Pre-drinking***

Among the drinking behaviours examined, pre-drinking appeared to be the most common drinking behaviour that students engaged in, and the behaviour that seemed to be the most frequently associated with HED.<sup>13</sup> Almost all students in the study reported pre-drinking, and a large number of them preferred pre-drinking over other types of drinking environments (e.g., bars, clubs, main events). The two reasons that appeared to be the most important motivations for pre-drinking were to intentionally become drunk or buzzed without spending a lot of money and to socialize with friends. For the former, costs were a large motivator where students used pre-drinking as an opportunity to “get to a good level of drunk” so that they did not have to buy drinks or as many drinks at the main event. Likewise, the majority of students reported that they did not want to be the only sober person, either while pre-drinking or at the main event. “I never want to be the most sober one out.” “It’s a lot less fun to show up to the bar when you’re sober.” For the latter, students reported wanting to pre-drink because it allowed them to spend time with and bond with their friends.

Students reported a number of other reasons for drinking to excess related to pre-drinking. Some of these reasons overlapped with general reasons for HED and with reasons for alcohol-induced blackouts. For instance, participants frequently reported experiencing peer pressure to drink in the pre-drinking environment. Likewise, those who reported experiencing alcohol-induced blackouts often described this occurring as a result of or on the same occasions where pre-drinking occurred. Inexperienced and often underage drinking, drinking games and failure to monitor alcohol consumption typically took place in the pre-drinking environment.

Other reasons for HED specific to pre-drinking were related to measuring alcohol intake. Several participants indicated that they did not measure the quantity of alcohol when making or pouring drinks, rather they free-poured the alcohol. During the discussions, some students referred back to the Standard Drink Size and Drinking Behaviours Definitions Handout (Appendix I), commenting that their drinks usually exceeded the standard sizes. As one student stated, “you sort of lose sight of measurements as the night goes on, and so, like, you think you’re pouring one drink, but actually,

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<sup>13</sup> Most students used the term pre-drinking or “pre-ing” to describe drinking before an event, and some used the term pre-gaming.



there's ... it's like, 50% vodka." Along the same lines of not measuring drinks, students also reported adding new drinks to their existing drink, which also meant they were also unable to judge the quantity of alcohol they were drinking.

Timing was also reported as a reason for HED and pre-drinking. Students who arrived late to pre-drinking often tried to "catch up" to everyone else and would try to drink the same quantity of alcohol in a short period, in contrast with their friends who had consumed their alcohol over a longer period. Similarly, students reported rushing to drink all of their alcohol when it was time to leave for the main event, either not to waste it or to ensure they would be sufficiently intoxicated for the rest of the occasion. This tactic appeared to occur most often when their taxi, rideshare or bus was about to arrive:

With pre-drinking too, for me, it's really relaxed in the beginning and then it's all OMG you have to catch the bus in eight minutes, drink all of your alcohol right now. So, you are like chugging huge cups and helping your friends finish things and there's always someone who is like let's do shots before you go and someone is always carrying a bottle on the way to the bus and trying to drink everyone's alcohol as fast as possible because, I don't know why, there's just panic going around, you have to drink as much as possible before you go out.

Pre-drinking was also considered conceptually distinct from the main event, which was a reason some students reported drinking to excess. These students would sometimes forget to include counting the alcohol they had consumed during pre-drinking towards the amount of alcohol they were drinking at the main event:

I find that ... when I've blacked out, I've forgotten how many drinks I've actually had because it's ... a number of occasions, like, we've always gone out to ... a bar or something, and you always lose track of the [drinks] that you had at pre-drinks.

### ***Reasons Associated with Drinking to Cope***

When asked, the majority of students said that they do not drink to cope with any stress or negative situations. Given the group setting of the discussions, it was possible that some participants did not feel comfortable responding to this question. However, during other parts of the discussion, especially after asking participants about reasons for drinking other than to celebrate, a number of them described scenarios where they drank in response to stress. The stressors experienced by participants typically fell into two categories, those related to academics and those related to social or personal interactions.<sup>14</sup> With respect to academics, some students reported drinking to avoid studying, to avoid doing an assignment, to lower anxiety when writing a paper or to help them fall asleep. "If I'm stressed because of so many assignments that I have to deal with, I go out drinking. That's really not helping, so I'll end up more stressed the next day." Like this student, others revealed that they did not have or were not aware of other options to cope with the stresses of post-secondary education.

With respect to social interactions, although the majority of participants stated that they often used alcohol to help them be more outgoing and increase their confidence, certain participants revealed they had high levels of anxiety specific to social situations. These situations typically included general social anxiety, interacting with strangers, being in crowds or relationship issues. Drinking "gets rid of my social anxiety. ... It makes it easier to talk to people, and sometimes I'm really like 'I'm making friends and we are all bonding.' and then you feel good that you drank."

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<sup>14</sup> Students also occasionally mentioned stresses with work or with home and family.



At the same time, some participants said that they could never use alcohol to cope with stress or anxiety. They indicated that drinking, in fact, made them more anxious and more stressed. For these participants, if they knew they had a responsibility the next day, such as completing an assignment or studying for an exam, they purposely did not drink. For instance, one student would lay out all of her assignments and exams in a calendar for the semester and then she would mark off the days she could and could not drink to ensure that drinking did not interfere with her academics.

## Positive and Negative Consequences of HED

Participants were asked about the consequences, positive or negative, they experienced when they drank more than three or four standard drinks on any occasion, as well as experiences specific to occasions where they blacked out, were pre-drinking or drinking to cope. Participants described a wide range of negative consequences and, to a much lesser extent, a few positive consequences. Negative consequences included being hung over or vomiting, memory loss, dealing with drunk friends, regretful behaviour, being emotional, being confrontational, spending more than planned, needing help and drinking interfering with school or work. In contrast, positive consequences reported by participants included having fun, their mood improving, being more outgoing or confident and meeting new people.

Many participants appeared to view vomiting or being hung over as only somewhat negative and not overly serious and not a deterrent to drinking, while others did not seem to view these experiences as at all negative. Similarly, although the majority of students who reported doing something they regretted deemed this as negative, some also felt that students used drinking as an excuse for their inappropriate behaviour, such as texting or calling an ex-partner. Nonetheless, common regrettable behaviours included vomiting in front of other people, saying embarrassing or hurtful things, and contacting people they thought they should not (e.g., ex-partners, former friends).

Certain consequences also appeared to be specific to females. Although this study could not examine the female sub-population on its own, female participants frequently reported negative attention from males, such as being grabbed or sexually harassed. These situations occurred when either one or both the males and females had engaged in HED. As described by one participant, “there were some fun interactions with potential partners, but there’s also, I find, this sort of weird acceptance of almost borderline assault in bars.” That is, HED by males sometimes appeared to result in negative consequences for females. Other differences between males and females were observed, but the low number of male participants prevented further examination of these differences, which future studies could explore.

Taking care of intoxicated peers was one of the more frequent experiences described as negative. Although both males and females described doing this, females reported doing this more often. Many participants referred to this activity as looking out for their friends, “babysitting,” “being the mom” or “momming,” which typically involved helping friends as they vomited, cleaning up after friends, helping friends make it home safely, removing intoxicated females out of potentially bad situations, trying to prevent or stop fights or arguments, and dealing with highly emotional peers. Although most participants felt this was a necessary obligation, particularly with friends, many described these situations as ruining their own fun and their drinking experience. Moreover, some participants reported being afraid for their friends and not knowing what to do in extreme situations, such as serious levels of intoxication.

Sometimes when ... you see someone drink too much it gets really scary because you were afraid for their safety, but then you are not entirely sober, so you don't really know what to do and then if they are passed out ... you don't want them to die. It's scary.



Despite these numerous negative experiences, the majority of participants reported some positive experiences with consuming alcohol. These closely aligned with expectations and reasons for drinking, where students reported having fun, bonding with friends, meeting new people and increasing their confidence:

[Drinking] is like a part of the [campus] culture, and it's so much of what shaped like my experience on campus, and a lot of the fun times I had, and like the friends that I've met and connections I've made have ... included ... activities where we were all drinking at nights out together, or pre-drinking or house parties.

During discussions, students typically gave much greater importance to the few positive consequences of HED in comparison to the numerous negative consequences they described.

### ***Consequences Associated with Alcohol-induced Blackouts***

One frequent exception to positive consequences being valued over negative ones pertained to blacking out. The majority of participants described this experience as one of the most serious and often frightening negative consequences of HED. Several female participants reported that their first blackout experience frightened them to never drink to that extent again. However, this was not true for all students who reported being scared. A few continued to drink to excess and experience blackouts despite their fear.

In addition to experiencing a blackout, students reported many of the same types of other negative consequences as described above (e.g., regretful behaviour, being hung over). However, more severe consequences appeared to be reported more often with blackouts. Some participants reported waking up somewhere else from where they last remembered being and sometimes in a different set of clothes. Participants also reported unknown and sometimes more serious physical injuries or health risks because of blacking out. For instance, one participant who had reported experiencing mental health issues and engaging in HED at the same time, often found himself in emergency at the hospital. Another student described the following incident:

I was at a house party and I drank the most I have ever drank and couldn't remember parts of the night and woke up with ... bruises on me and had to go ... get a rape kit done ... because I couldn't remember if anybody had like done anything [to me].

Several students also reported hearing about sexual assaults with other students who blacked out. Although instances of non-consensual sex experienced by other students could not be verified, one participant shared her experience:

I was in a relationship and my boyfriend and I ended up having sex and I don't remember that. And, I remember that was such a huge deal to me because, [although] he was obviously my boyfriend ... there was that consent, it wasn't really there.

As stated above, despite the more severe consequences reported with alcohol-induced blackouts, almost all participants attributed blacking out as something that happened during their first year at university.

### ***Consequences Associated with Pre-drinking***

Overall, students reported pre-drinking as a very positive experience. The most common positive consequence reported was that students felt they saved money by pre-drinking rather than spending money at the main event. Pre-drinking was also highly valued for student opportunities to socialize



and bond with their close friends. These positive consequences were discussed among the reasons for pre-drinking.

Despite the overall positive view of pre-drinking, students reported some negative consequences associated with it. Prominent among these were students reporting that pre-drinking a large volume of alcohol in a short time sometimes led to blacking out, passing out, doing or saying things they regretted, arguing or fighting, becoming sick, being hung over, injuring themselves or stealing or damaging property. Many participants also reported that they or their friends sometimes became too intoxicated during pre-drinking and were not able to go out to the main event: “Sometimes ... we’ve [been] drinking so much that some people blackout and can’t go out to the bar ... so they get left behind, and [other] people have to stay and watch over them.”

Based on the discussions, pre-drinking might be more often associated with negative consequences that students experience later at the main event. Although it was not possible to determine from the discussions alone if there was a connection, students often described negative consequences at the main event in connection with occasions where they also had engaged in pre-drinking:

Usually the pre-drinking is pretty tame in comparison to the night round afterwards.

If you pre-drink, there’s guaranteed to be a fight somewhere between the night in my friend group.

There’s, like, more risk that you’re going to be sick when you actually get to the venue ... getting into a fight, stuff like that.

Pre-drinking was also the occasion where some participants reported using other substances such as cannabis and other drugs. In connection with alcohol, some students mentioned that they used these substances to slow down or reduce the amount of alcohol they consumed: “for me, smoking [cannabis] in between because, like, to take a break from drinking.”

### ***Consequences Associated with Drinking to Cope***

Students who stated that they drank to cope or who described situations where it appeared they were using alcohol as a means to cope generally described experiencing one or both of two negative consequences. The first of these consequences included becoming very emotional. Among those who commented about drinking to deal with something emotional in their life, often something sad or that raised their anxiety, many reported that being intoxicated amplified their emotions and that they felt worse:

I find if I’m drinking to like feel better about something, it just makes it worse like all the time.

If I’m stressed for an exam or anything negative going on in my life, I would say that [drinking] will put me in a worse mood, a more on-edge, sad mood, and like, obviously, it didn’t make anything better.

The second negative consequence described by some of these students was that using alcohol to cope appeared to interfere with their lives. Among those who stated they drank before a stressful event, such as an exam or submitting an assignment, some reported not doing well on the exam, doing the assignment poorly, having less time to do the assignment or that they were too hung over the next day, which reduced their capacity to perform school work. As one student described:



I find academically, if I have an exam coming up, and like, I feel so helpless for it, and there's a drinking event coming up, I'll be like, "Well, you know what? I'm in the hole anyway. Might as well just ... go out with a bang." And, I'll go drinking anyway.

Importantly, despite some participants describing these negative outcomes, when participants were asked if HED interfered with their education or life in general, only very few acknowledged this as a negative consequence. It appears that some students might not recognize that HED could be interfering with other aspects of their lives.

On the other hand, some students reported positive consequences when drinking to reduce stress and anxiety. For instance, some felt that having a drink helped reduce anxiety, allowing them to be more creative when writing a paper or to socialize with other people. Since this study was intended to only examine broader factors associated with certain drinking behaviours, additional techniques were not used to further explore the differences between those who reported negative consequences related to drinking to cope and those who reported positive consequences.

## Student Ideas to Reduce HED

### *Student Ideas for Campuses*

Although most of the participants did not feel HED was a problem that needed to be addressed, they provided ideas and recommendations that they thought could help reduce HED. The two most common suggestions were to deliver messages from respected peers and to normalize drinking. For the former, most students said that they were more likely to respond to messages, information and education on the risks of alcohol if they were delivered by a respected peer (e.g., students in upper years, resident assistants/advisors [RAs]). In contrast, hearing information from an older adult, such as faculty or a senior member of the post-secondary institution, was not viewed favourably, with some participants commenting that they felt lectured by older adults. In contrast, some students stated that it would still be important to receive information from older, well-respected adults in addition to peers. Students suggested that this could possibly come as a one-time class at the beginning of the year or as a mandatory information session, such as is done by some institutions with sexual violence education.

Students also frequently recommended normalizing the consumption of alcohol, rather than condemning it or banning it. Students said that making alcohol taboo made them want to rebel and drink alcohol that much more. During dry frosh weeks or dry events, students reported that they would find other ways to drink, such as off-campus or in people's homes. Some were concerned about students who concealed drinking because they felt these students might drink unsafely:

[Dry frosh week] encourages [students] to drink fast, a lot and encourages them to show off to their friends behind closed doors ... but, if we had a wet frosh week, the residence assistants will be able to be actually there to support students who need help instead of having to have them hide it.

As a solution to normalizing alcohol consumption, most students recommended education. However, the type of education suggested differed depending on the student. Some felt they would want to know about health and safety risks, while others said that this would turn them off. Some wanted to hear about other student's experiences with HED, what lessons they learned, and others did not want to hear this type of education. Overall, though, students wanted education about what they termed responsible drinking or moderate drinking in social situations with professors or employers, rather than scare tactics and condemnation.



Another frequently reported recommendation by students was to educate and normalize the drinking of alcohol before students come to post-secondary education. This recommendation was regardless of whether the student had experience drinking before coming to university. Many felt that it was too late to start education during frosh week, when students are excited about activities, being away from their parents and wanting to test their limits.

A number of students also noted that the primary focus of most events as well as many clubs on campus was on alcohol. Instead, they suggested making another feature of the event or club the primary focus and alcohol the secondary focus, so that it does not receive the bulk of attention. For instance, one student explained:

Going to a party where I didn't know anybody wasn't appealing to me really, but going to a volunteer event where I could just have a normal conversation and say, "hey, I recognize you from my classes," which was actually easier for me.

At the same time, several students pointed out that changing the focus of events could be difficult, particularly if the event was for fundraising and getting people together. A number of post-secondary events use alcohol as the driver to bring students in, such as offering free alcohol with the entry cover of the event and without it some students did not think the events would be as successful.

Along similar lines, many students reported the absence of alternatives to drinking or to socializing that did not focus on drinking. Many reported drinking because they were bored and had nothing else to do where they could socialize. In some cases, the campus did not offer alternatives or potential alternatives (e.g., places to eat) shut down early on Fridays and the weekend. The exception was typically bars or events that often involved drinking (e.g., sports event, parties). Even among some of the universities that did have alternative activities, some participants reported that these were not generally of interest, thus not well attended. When asked, students did not have any immediate suggestions for alternatives to drinking or socializing with friends, but thought that something could be done.

### ***Student Suggestions for Students***

When asked what could have helped individual participants to not drink more than they had wanted to, the most frequent responses included knowing their limits and knowing how to counter peer pressure. Most students stated that when they first started drinking, they did not know their limits or why their limits would be different from someone else's (e.g., body size). They suggested educating students on all of the factors (e.g., weight, gender, pacing, whether they had eaten or drank water, etc.) that could influence intoxication. Although the majority of participants felt that students want to learn their limits for drinking on their own, some suggested educating students on what is considered moderation, what is excessive and why. Some also suggested that since students were likely to experiment and find out their limits themselves, students should be provided safe environments or approaches to test their limits, such as drinking with others who can monitor them.

Peer pressure was frequently stated as difficult to counter, whether it be from peers who challenged them or from close friends. Participants suggested educating students on how to turn a drink down, especially when someone else paid for it or when students want to appear to fit in. "I think it's just like developing a way [to refuse a drink] that even if someone is putting a free drink in front of you, you're like, well ... you don't have to drink it." Participants did not have many suggestions to address peer pressure, although a couple participants said they sometimes confide in close friends when they have decided to restrict their drinking for the occasion so that the friends do not pressure them or can help monitor alcohol intake.



During this study, it was expected that students would not know the standard size of various alcoholic beverages, hence the reason for defining standard drinks near the beginning of the session. During discussions, participants confirmed their incorrect perceptions about the size of standard drinks by frequently expressing dismay at standard drink sizes and commenting that they thought a standard drink was much larger. This realization prompted many participants to recommend educating students on the size of different standard drinks, including how many drinks are in a bottle of wine or pitcher of beer, since many students purchase alcohol in these types of bulk quantities:

Education of what a [standard] drink is because, like, pouring your tumbler cup half full of rum and half full of Coke – I thought in first year was still one drink. ... I just had absolutely no idea, and I know I'm not the only one who is uneducated on what a standard drink is. And, it's different for different types of alcohol, which I also did not realize.

Students also made the following suggestions to reduce HED:

- Act like you are already drunk, others will not know (as an option to help counter peer pressure);
- Keep track of how much you are drinking, such as marking your arm with ticks for each standard drink;
- Bring a set amount of money with you for the night, and no debit or credit cards, so that you do not spend or drink more than you want;
- Reduce the amount of alcohol used in drinking games by substituting some parts of the game with non-alcoholic beverages;
- Know that it is alright if students do not want to drink or drink heavily; and
- Tell your close friends that you do not want to drink past a certain point. They can either stop you from drinking more or not offer you any drinks beyond that point.



## Discussion

A number of factors influence student decisions to drink to excess and their subsequent drinking behaviours when they do drink to excess. This study examined four factors: student perceptions and attitudes, expectations, reasons and consequences for HED. It also examined three high-risk drinking behaviours: alcohol-induced blackouts, pre-drinking and drinking to cope. The findings from this study are important to better understand what influences HED among students. The use of focus groups in this research provided nuanced details and additional insights to help explain or further elaborate on research that is based on surveys. Equally important, this is the first study to conduct focus groups in Canada on the issue. These findings are relevant to those looking to address student HED, especially for those who interact or work with post-secondary students, as well as for students themselves.

### Inaccurate Perceptions and Knowledge

The majority of students appear to hold a combination of inaccurate perceptions and knowledge about alcohol consumption, which influence their decisions to engage in HED. Similar to findings in other studies (Clinkinbeard & Johnson, 2013; Mallett et al., 2006), most students in this study did not recognize what constitutes HED and did not know what the factual harms are associated with this behaviour. Their gauge for safe drinking and negative consequences was based largely on physical responses (e.g., vomiting, blacking out), whereas knowledge about other consequences (e.g., cognitive damage, disease) was absent. In addition, there was inaccurate knowledge about the use of other substances, particularly the misperception that use of cannabis is safe, not impairing, and can be used in conjunction with alcohol without harm. Similar findings were found in a recent study examining use of cannabis and other substances by youth (McKiernan & Fleming, 2017). Encouragingly, many students were aware of some techniques to help moderate the effects of drinking alcohol, such as drinking water and eating, although they did not always use them and some were not aware of these techniques when they first began drinking.

A key implication from these findings is that education about alcohol consumption and its effects appears to be sporadic (e.g., short talks here and there), narrowly focused (e.g., emphasis on impaired driving), non-existent, not carried out early enough (i.e., before students arrive at post-secondary institutions) or not engaging and memorable (e.g., delivery of messages through older adults). Post-secondary institutions will need to consider developing a variety of techniques to educate students on alcohol consumption (e.g., personal stories, accurate information on harms and the size of standard drinks, etc.), as well as multiple delivery methods (e.g., respected peers, respected adults, social media, etc.). In developing these techniques, however, it will be necessary to test new and various methods for effectiveness since it was clear from the discussions that students are not receiving, not remembering or disregarding some of the information that does exist and is delivered via traditional methods. Evidence-based research and involvement of students with the development of techniques to reduce harms associated with HED will be necessary to ensure effectiveness. The Canadian Centre on Substance Use and Addiction will use the findings from this study to work with PEP-AH members, consult with students and engage institutions to explore options for educational tools and resources to help address some of these gaps in processes and education.

### Skewed Expectations and Consequences

Most student views about expectations and consequences related to HED emphasized the positive over the negative. Furthermore, engaging in HED continued to be desirable despite many students



recounting more negative experiences than positive. In slight contrast to this finding, one study found that students reported a high number of both negative and positive consequences (Park & Grant, 2005). However, that study was quantitative and used surveys with pre-determined consequences, whereas this study was qualitative and sought student-described consequences, therefore, student recollections or descriptions may have differed. Nonetheless, the overall finding that students appear to focus on positive expectations and place higher importance on positive consequences than negative is consistent with existing research (Buelow & Harbin, 1996; Cooper, 1994; Mallett et al., 2008; Neighbors et al., 2007).

This focus could partly be a function of the broader post-secondary culture, where overall student attitudes and expectations found by this study and others are typically to have fun and get drunk (Boekeloo et al., 2011; O'Hara et al., 2015). Any efforts to reduce HED among students will be directly challenged by these long-standing norms. Changing norms is possible (e.g., cigarette smoking in public, impaired driving), but requires a much larger and transformative shift that often occurs slowly at the individual level (Tankard & Paluck, 2016). To help address cultural changes, post-secondary institutions might consider examining efforts and best practices used to modify the culture around other harmful societal norms (e.g., not wearing a seatbelt, impaired driving, etc.). Those working with students will also need to consider developing or using existing educational programs and self-awareness techniques to help students properly recognize and effectively evaluate the real impact of their own negative experiences with alcohol. Additionally, changing norms will likely require a multi-institutional approach, which could be leveraged through groups such as PEP-AH. PEP-AH would also be an important partner for post-secondary institutions to engage with to explore existing resources and share best practices in this area. CCSA will collaborate with PEP-AH members to help find ways to further educate students on alcohol harms and to promote broader changes to institutional norms.

## Key Reasons Driving Individual Decisions

At the individual level, peer pressure strongly influenced participant reasons for drinking. The findings revealed that pressure appears to come in two forms, challenges (aggressive) and social gestures (friendly offers). Although numerous studies have explored the influence of peer pressure on student drinking (Cooper, 1994; Schry & White, 2013; Young et al., 2015), distinctions between different types of peer pressure did not appear to have been the focus of research, but might have important implications. For instance, it could be useful to help students develop various strategies to counter the different types of peer pressure they report experiencing. Encouragingly, a number of students self-reported that they reduced their alcohol consumption and felt less peer pressure when they began to make close friendships with like-minded individuals. Unfortunately, this change seemed to occur in their second year. Other studies have demonstrated similar findings, sometimes referred to as “maturing out” (Ham & Hope, 2003). This finding suggests that it might be useful to develop methods that help students who do not want to drink heavily to identify like-minded friends earlier on, in their first year. In contrast, some students may enjoy or want to drink to excess and might benefit from finding social groups that discourage this motivation.

Another important finding from this study that did not appear to be frequently addressed in the literature was that some students drink with the goal to become drunk (for instance, see Boekeloo et al. [2011]). Many students reported that they wanted to figure out their drinking limits on their own. For them, HED is to a certain extent used to experiment and find out what they can and cannot handle, as well as what consequences are pertinent to them as an individual. This need to experiment, however, can be very risky and produce dangerous consequences. Given that most students intend to figure out their own limits, regardless of what practices or procedures have been



put in place to deter drinking, it might be important to devise strategies to guide students towards safer alcohol experimentation. Some studies have looked at various intervention methods that are effective in reducing HED (Messman-Moore & Ward, 2014; Neighbors et al., 2007; Read et al., 2015), such as brief motivational interventions. However, research is needed to determine appropriate interventions to help students find safer strategies for discovering their own limits.

## High-risk Drinking Behaviours

Although only examined at a high-level, the findings of this study about the three drinking behaviours largely mirrored those found in existing research (Borsari, Merrill, Yurasek, Miller, & Carey, 2016; Clerkin & Barnett, 2012; Hingson et al., 2016; LaBrie et al., 2011; Messman-Moore & Ward, 2014; Wetherill & Fromme, 2016; Young et al., 2015). In this study, alcohol-induced blackouts appeared to be largely driven by inexperience and drinking games, particularly in the pre-drinking context. Efforts to reduce the occurrence of this behaviour might be best addressed through other suggestions in this discussion, such as providing education and methods to address peer pressure. With respect to drinking to cope, important implications include the need to address institutional barriers (e.g., some students reported that it took too long to book an appointment for a crisis they were experiencing in the moment) and individual barriers (e.g., some students do not recognize or are unaware of other coping strategies). Although minimal availability of resources (e.g., funding) sometimes impedes the ability to break through these barriers, other options exist, such as peer support programs used by some campuses that can act as intermediary resources.

Pre-drinking appears to be the riskiest behaviour because it occurs in an uncontrolled environment, where student decisions are largely dependent upon their own skills (e.g., managing peer pressure, monitoring consumption) and knowledge (e.g., knowing safe limits), and are unimpeded by restrictions in other environments (e.g., measured drinks in bars). Unfortunately, although normative education has been found to be somewhat effective with some students in reducing pre-drinking behaviours (Burger et al., 2011), there appears to be no studies as yet that demonstrate effectiveness in reducing pre-drinking (Ahmed et al., 2014; Borsari et al., 2016). Given the high risks associated with pre-drinking, more research is needed to examine methods to address this behaviour.

## Navigating Suggestions for Normalization and Message Delivery

Recommendations from students that education and information about alcohol consumption and its negative impact should be delivered by respected peers has important implications. However, peers should be considered as one part of the delivery strategy and not the only strategy. Respected peers, such as RAs or older students can be an effective source for delivering messaging, since young adults often take their cues from their peers (e.g., peer pressure, social norms) (Borsari et al., 2007; Neighbors et al., 2007). Nonetheless, findings from this study revealed that these role models will require appropriate vetting as some respected peers who provided safe drinking education were also known to engage in HED. Other participants viewed as respected peers (e.g., RAs) did not feel they had the knowledge to properly educate students. It will be necessary to determine what information these peers should deliver. The findings also suggest information from peers be reinforced by respected older adults who can deliver accurate information regularly throughout the school year.

Student suggestions to normalize drinking appeared to be largely driven by their broader perceptions of society, where many viewed alcohol consumption as part of socializing, networking, professional activities and other social events. However, one important difference between society in general and



the post-secondary context specifically is that students reported alcohol was often the primary focus of post-secondary activities, but for many social activities alcohol is often not the primary focus. Social or workplace events can be alcohol free or alcohol might only be a component of the event. Further, although alcohol is the most commonly used substance in Canada, the majority who consume alcohol do so in moderation (Canadian Centre on Substance Use and Addiction, 2017). Given students' various inaccurate perceptions about alcohol consumption, their perceptions of normalized drinking might also be inaccurate. To respond to student suggestions while reducing alcohol harms, post-secondary institutions may need to create an environment that discourages HED while normalizing drinking and providing opportunities for students to learn about and practice moderate, responsible drinking. Activities such as this could work towards shifting cultural norms. Further research in this area is needed to understand better what this might look like and whether it can be effective in reducing HED. Given that most participants as well as various studies (Kenney et al., 2010; Zamboanga et al., 2013) report that normalizing moderate alcohol consumption must occur long before entering post-secondary education, those interested in reducing student HED will need to look at earlier intervention and education. Post-secondary institutions may wish to engage with secondary schools and their students to find ways to deliver appropriate education earlier. The Canadian Centre on Substance Use and Addiction will use the findings from this report to work with PEP-AH members, consult with students and engage post-secondary institutions to help provide guidance about moderate drinking and message delivery.

## Limitations

While considering the findings of this study, it is important to note several limitations. The use of purposeful sampling to capture specific groups of participants was still subject to a certain level of self-selection bias. Students who qualified could choose whether to participate in the study. Efforts were made to help reduce bias by selecting students with different characteristics (e.g., year of study, age, gender). Self-selection bias also had an effect on the ratio of males to females who participated, there being substantially more females that chose to participate than males. Future research would benefit from making additional efforts to ensure greater male participation. Although some participants in the focus groups were francophone, future studies should consider conducting research with francophone post-secondary institutions in Quebec to ensure better representation of this group. As an exploratory study, this sample was not meant to be representative of Canadian post-secondary students, but rather to provide initial understandings and a basis for future research.

Students may not have been willing to disclose reasons for drinking or its consequences in a public forum. Differentiating between students who drink to cope and students who do not drink to cope might have been partially inhibited by the focus group setting. This inhibition was partially mitigated by using a question that did not use the term coping, but asked about reasons for drinking other than to celebrate. Efforts to learn more about drinking to cope should be made through additional research that focuses only on this drinking behaviour, screens in only students that meet criteria for coping and uses both focus groups and individual interviews to obtain detailed data.

## Conclusion

This exploratory study expanded on and provided additional support to current understanding of student HED. The study examined student perceptions and attitudes, expectations, reasons and consequences influencing HED. It also explored three high-risk drinking behaviours among students: alcohol-induced blackouts, pre-drinking and drinking to cope. The study's findings indicate there is a need to improve and broaden student education on the issue, develop strategies for both institutions and students to help reduce associated harms, and examine more effective methods to address HED.



This study also helped to fill gaps in the research on HED and students. Research on the issue among Canadian students is limited and, to the best of our knowledge, this study is the first to conduct focus groups on this issue in Canada. The use of focus groups allowed for the collection of nuanced details and provided robust insights into many of the findings seen in the studies that have used surveys. These insights are important to practitioners as well as those working with students in Canadian post-secondary institutions, such as health and safety personnel, administrative and managerial staff, faculty, security personnel, coaches and club leaders, as well as for students themselves. Encouragingly, the PEP-AH group is working to reduce the harms associated with HED. Post-secondary institutions looking to gain insights, best practices and share efforts to help reduce HED may want to consider joining this partnership ([pepah.ca](http://pepah.ca)).

The findings from this research continue to demonstrate the serious nature of HED and the significant risks it poses for students. Given the multiple factors influencing student decisions to drink in excess, this study highlights the need for a variety of approaches to address the issue. No one response will reach all students and post-secondary institutions will need to tailor existing and new approaches to their own needs.



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## Appendices

### Appendix A: General Recruitment Poster

For each individual university, the poster below was modified to include the university logo, contact person details and ethics approval number.

**Have an opinion about heavy drinking of alcohol?**

You could earn a \$25 Gift Card!

---

**Are you a post-secondary student?  
Participate in a research study about drinking alcohol!**

**We want to know what you think about heavy drinking...**

- While in school, on what occasions do you think most students like to drink?
- What motivates students to drink before going out (i.e., pre-drinking)?
- What are the reasons some students may drink a lot?

If you participate in this focus group, you will receive a \$25 gift card.

**When:** [Dates to be provided]  
**Where:** On campus  
**Time:** [Time to be provided]

For more information, please contact  
[Campus Representative] at [email/phone number/office]  
or contact Shawna at 613-235-4048 ext. 236 at CCSA.

 Canadian Centre on Substance Abuse  
Partnership. Knowledge. Change.

REB #(TBD)



## Appendix B: Screening Questionnaire

Focus Group Questionnaire

Code: \_\_\_\_\_

1. What is your age? \_\_\_\_\_
2. To which gender do you most identify with?
  - a. Female
  - b. Male
  - c. Transgender female
  - d. Transgender male
  - e. Gender variant
  - f. Prefer not to say
3. What is your current year of study?
  - a. 1<sup>st</sup>
  - b. 2<sup>nd</sup>
  - c. 3<sup>rd</sup>
  - d. 4<sup>th</sup>
  - e. 5<sup>th</sup>
  - f. Graduate studies
4. Which department are you registered with (e.g., Political Science, Engineering, Psychology, Journalism, etc.) \_\_\_\_\_
5. What is your ethnicity?
  - a. Caucasian/White
  - b. Black
  - c. East Asian (e.g., China, Japan, Korea, etc.)
  - d. South Asian (e.g., India, Pakistan, etc.)
  - e. Aboriginal (e.g., Metis, Inuit, Treaty or Non-Treaty First Nations)
  - f. Other, specify: \_\_\_\_\_
6. Where do you live while in school?
  - a. On campus
  - b. Off campus, living with roommates
  - c. Off campus, living with family/at home
  - d. Other: \_\_\_\_\_
7. Since [September 2016/2017], have you drunk alcohol?
  - a. Yes
  - b. No



8. Since [September 2016/2017], how often did you drink alcoholic beverages?
- Daily or almost daily
  - 4 to 5 times a week
  - 2 to 3 times a week
  - Once a week
  - 2 to 3 times a month
  - Once a month
  - Less than once a month
  - Don't know / prefer not to say
9. Since [September 2016/2017], how many standard drinks did you usually have on days when you drank (including before you went out, while you were out, and afterwards)?
- \_\_\_\_\_

A standard drink is one of the following:



10. Since [September 2016/2017], how often have you had 4 or more (if female) or 5 or more (if male) standard drinks on one occasion (including before you went out, while you were out, and afterwards)?
- Daily or almost daily
  - 4 to 5 times a week
  - 2 to 3 times a week
  - Once a week
  - 2 to 3 times a month
  - Once a month
  - Less than once a month
  - Don't know / prefer not to say

This study has ethics approval from the university Research Ethics Board (#).



## Appendix C: General Participant Contact Form

Code: \_\_\_\_\_

### Interested in Participating?

Thank you for completing this brief questionnaire. The next step of this study will be to ask student volunteers to meet in small groups and talk about their opinions, attitudes, and/or motives related to heavy drinking of alcohol on campus. A facilitator will guide the discussion and information discussed will be confidential and anonymous. Participants in the focus group will receive a \$25 gift card. The dates and available times of the study are as follows:

[Dates and times]

Would you like to volunteer to participate?    Yes    No

\*\*Spots are limited. Only a small number of participants will be contacted on a first come-first served basis.

\*\*Your information will only be used to contact you if you are interested in participating. Personal information will be kept secure and separate from other data collected for this study. You may withdraw from this study at any time.

First name: \_\_\_\_\_ Last name: \_\_\_\_\_

Phone number: Area code (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Email address: \_\_\_\_\_

**If you would like to participate in this study, please submit this completed questionnaire and this contact form to:**

**[Campus Representative]**

This study is being conducted by [campus representative], in collaboration with the Canadian Centre on Substance Use and Addiction (CCSA) located at 75 Albert Street, Suite 500, Ottawa, Ontario, K1P 5E7, 613-235-4048. If you have any questions about this study, please contact: [campus representative] or [CCSA representative].



## Appendix D: Screening and Intake Guide

The goal is to collect data from a minimum of 20 participants (students) who meet the study criteria and are a representative sample. An additional 10 participants will be selected as backup.

### Overall process

1. Advertise and promote on campus.
2. Have students complete the Questionnaire, Contact form, and **sign the Consent form**.
3. Store documents separately in locked filing cabinets and locked office.
4. Review and select 30 eligible participants. Discuss with CCSA staff.
5. Contact 20 participants and notify them that they have been selected. Ask them which group they can participate in and provide them the location.
6. Keep information for 10 additional eligible participants on hand in case people in the group of 20 cancel. Contact them to let them know they are on a waitlist.
7. Day before the focus group, contact participants again to remind them of the focus group. If anyone cancels, contact someone on the waitlist.
8. CCSA staff will collect **all** documents completed by students who complete the questionnaire, whether in the focus group or not.

Keep CCSA staff regularly up-to-date on number of participants who are signed up. If there are low numbers, we will work with the campus representative to try to increase numbers.

### Selection of participants

1. Review questionnaire for completeness.
2. Study criteria: to participate, students must first answer 'Yes' to question 7 and then meet **at least one** of the following criteria:
  - a. Question 9, female answers 4+ or male answers 5+.
  - b. Question 10, answers (a) through (f) (i.e., answers once a month or more).
3. If student does not meet the above criteria, do not include him/her in the focus group but keep their forms locked and secured to give to CCSA staff for destruction.
4. Demographic criteria: After meeting study criteria, select participants to create a representative sample of 25 participants as follows:
  - a. 50:50 male-female
  - b. Range in other categories (i.e., questions 1 to 6)

It may be difficult to achieve a good balance in all of these areas, but attempt to do so where possible. Priority should be placed on achieving a balance in gender and range in age. Contact CCSA staff if having difficulty meeting these two criteria.

### Security and Confidentiality

All documents with student or research study information must be kept locked up in a secure filing cabinet and office and may only be viewed by the campus representative and CCSA staff.



## Appendix E: General Focus Group Discussion Guide

Introduction of the CCSA facilitators; provide a brief description of CCSA and the room logistics.

### Purpose

The purpose of our study is to gain a better understanding of attitudes, opinions, and/or motives related to heavy drinking on campuses. We are conducting this study at various campuses across Canada. This project is funded by Health Canada.

### Confidentiality and privacy

All of the information we are collecting is private and confidential and will only be accessible to CCSA staff. As it is difficult for us to collect notes on everything people say, we will be using an audio recording device. The recording will then be typed out. During this process, any names of people or places that are mentioned in the discussion will be deleted. This ensures that you cannot be identified by your answers. Once typed out, the audio recordings will be destroyed. Only the researchers directly working on this project will have access to the typed information. University staff will not have access to these discussions.

Since this discussion involves a group, your responses will be known to each other and therefore only limited confidentiality can be guaranteed. We would like to make sure that we all respect each other's opinions and answers. To do this, we ask that you do not share what other participants say to people outside of this group.

### Participation

The focus group will last between an hour and an hour and a half. We will be asking you questions and looking for everyone's input. There are no right or wrong answers. We want to hear what you think. We will make efforts to ensure everyone has a chance to speak; however, you do not have to answer a question if you do not want to discuss it. You may also leave the discussion at any time without penalty.

You may have some questions for us during the course of the discussion that we may not be able to answer right away because it may affect your responses. However, we will answer these and any other questions that you may have at the end of the discussion. When the discussion is finished, we will let you know next steps of the project. We will also give you a \$25 gift card as a thank you for volunteering.

Are there any questions before we begin?





16. B: During the school year, if you blacked out from drinking, what were your reasons for drinking to this extent?
17. C/O: During the school year, other than drinking to celebrate (ex: a party, sports event, or hanging out with friends), were there other reasons you either drank a lot or you drank often?

### **Attitudes and Opinions**

18. In your opinion what is the average maximum number of standard drinks a student can drink without experiencing negative consequences?
19. Would you like to see heavy drinking on campuses reduced?
20. On occasions where you drank more than you wanted, what could have made it easier for you to not drink more?
21. What are some things that you think would be useful or could be done to help reduce heavy drinking while in school?
  - o Prompt: this could be things the university can do, what students can do, what the community or other people can do.
22. On occasions where you drank more than you wanted to drink, what could have made it easier for you to not drink more than you wanted?

### **BACK-UP/OTHER POTENTIAL QUESTIONS**

#### **Neutral/de-escalation questions**

23. Which type of alcohol do you think students like to drink the most?
24. What do you think are the most popular events for students to drink a lot?
25. What places do you think are the easiest for students to drink a lot of alcohol at?

#### **Drinking Games**

26. On what occasions do you usually play drinking games?
27. What is your main reason for playing a drinking game?
28. How many standard drinks do you usually drink when playing a drinking game?



## Appendix G: Database Search Criteria to Identify Literature

### Drinking to Black Out

PubMed:

(((((("blacking out"[Title/Abstract]) OR blackout[Title/Abstract]) OR blackouts[Title/Abstract]) OR black-out[Title/Abstract]) OR black-outs[Title/Abstract])) OR (((("Alcohol Drinking"[Mesh]) OR "Alcohol-Related Disorders"[Mesh])) AND "Unconsciousness"[Mesh]): 1146 results, kept 91

PsycNet:

Title: "blacking out" OR Abstract: "blacking out" OR Title: blackout OR Abstract: blackout OR Title: blackouts OR Abstract: blackouts OR Title: black-out OR Abstract: black-out OR Title: black-outs OR Abstract: black-outs AND Peer-Reviewed Journals only: 424 results, kept 94

Total results: 185; 63 duplicates removed; total kept: 122

### Pre-drinking

PubMed

(((((pre-drinking[Title/Abstract]) OR prepartying[Title/Abstract]) OR "drinking before"[Title/Abstract]) OR "before drinking"[Title/Abstract]) OR pre-gaming[Title/Abstract]) OR pregameing[Title/Abstract]) OR predrinking[Title/Abstract]: 263 results, kept 74

((((((((((pre-gamer\*[Title/Abstract]) OR preparty[Title/Abstract]) OR pre-drinkers[Title/Abstract]) OR pre-loading[Title/Abstract]) OR preloading[Title/Abstract]) OR front-loading[Title/Abstract]) OR frontloading[Title/Abstract]) OR pregame[Title/Abstract]) OR pre-gamed[Title/Abstract]) OR pregame[Title/Abstract]) OR predrinkers[Title/Abstract]) OR pre-game[Title/Abstract]) OR pre-gamer\*[Title/Abstract]) OR pre-party[Title/Abstract]: 1588 results, duplicates: 24, kept 4

Total: 78

PsycNET

Title: pre-drinking OR Abstract: pre-drinking OR Title: prepartying OR Abstract: prepartying OR Title: pre-gaming OR Abstract: pre-gaming OR Title: pregameing OR Abstract: pregameing OR Title: predrinking OR Abstract: predrinking OR Title: pre-gamer OR Abstract: pre-gamer OR Title: pregamers OR Abstract: pregamers OR Title: preparty OR Abstract: preparty OR Title: pre-drinkers OR Abstract: pre-drinkers OR Title: predrinkers OR Abstract: predrinkers OR Title: pre-loading OR Abstract: pre-loading OR Title: preloading OR Abstract: preloading OR Title: front-loading OR Abstract: front-loading OR Title: frontloading OR Abstract: frontloading OR Title: pregame OR Abstract: pregame OR Title: pregame OR Abstract: pregame OR Title: pre-gamer OR Abstract: pre-gamer OR Title: pre-gamers OR Abstract: pre-gamers OR Title: pregame OR Abstract: pregame: 321 results, kept 74

Total results: 2,172; 24 duplicates: total kept: 89

### Drinking to Cope

PubMed:

((((((college[Title/Abstract]) OR colleges[Title/Abstract]) OR university[Title/Abstract]) OR universities[Title/Abstract]) OR post-secondary[Title/Abstract])) OR "Universities"[Mesh]) AND



(((((cope[Title/Abstract] OR coping[Title/Abstract])) OR (("Adaptation, Psychological"[Mesh]) OR "Self Medication"[Mesh]))) AND (((alcohol[Title/Abstract] OR drinking[Title/Abstract])) OR (((("Alcohol Drinking"[Mesh]) OR "Alcohol Drinking in College"[Mesh]) OR "Substance-Related Disorders"[Mesh])))

Filters: Publication date from 2010/01/01 to 2016/10/03: 345 results, kept 135

PsycNET:

Title:(drinking) OR Abstract:(drinking) OR Title:(alcohol) OR Abstract:(alcohol) OR Title:(alcoholism) OR Abstract:(alcoholism) OR Title:(addiction) OR Abstract:(addiction)) OR Index Term:("Addiction") OR Index Term:("Alcohol Drinking Patterns") OR Index Term:("Alcoholism") OR Index Term:("Substance Use Disorder")))) AND Title:(cope) OR Abstract:(cope) OR Title:(coping) OR Abstract:(coping)) OR Index Term:("Coping Behavior")))) AND Title:(college) OR Abstract:(college) OR (Title:(colleges) OR Abstract:(colleges) OR (Title:(university) OR Abstract:(university) OR (Title:(universities) OR Abstract:(universities) OR (Title:(post-secondary) OR Abstract:(post-secondary)) OR (Title:("post secondary") OR Abstract:("post secondary")) AND Year: 2010 To 2016 AND Peer-Reviewed Journals only: 226 results, Kept 164

Total results: 571; 88 duplicates removed; total kept: 211

Overall total publications kept for pre-drinking, drinking to black out and drinking to cope: 422



## Appendix H: Generic Consent Form

### LETTER OF CONSENT TO PARTICIPATE IN A RESEARCH PROJECT (Modified for each university)

#### RESEARCH PROJECT TITLE

Student Thoughts about Heavy Alcohol Drinking on Canadian Campuses

#### PREAMBLE

Please read the following information concerning the study to be conducted and sign below if you agree to participate.

#### PURPOSE OF STUDY

[CCSA researchers] of the Canadian Centre on Substance Use and Addiction (CCSA) are conducting a research study funded by Health Canada. The purpose of the study is to learn more about student opinions, attitudes, and/or motives related to heavy alcohol drinking on campuses. The study will be conducted at various post-secondary institutions across Canada. The results will be used to improve knowledge regarding heavy drinking and to help develop tools and resources for students, campuses and communities that will increase safety and reduce alcohol-related harms.

#### PROCEDURES

Individuals agreeing to participate in this study will be asked to complete a brief questionnaire in order to determine if the individual meets the study requirements. The information collected in the questionnaire will be considered data and will be treated private and confidential. Individuals whose responses to the questionnaire indicate that they may be heavy drinkers will be contacted to see if they would like to participate in a focus group.

If individuals agree to participate in the focus group, they will attend one focus group and will be asked to discuss their opinions, attitudes and/or motives regarding heavy drinking on Canadian campuses. The questions asked may be of a personal and/or sensitive nature; however, participants do not have to respond to any questions that they do not want to answer. Before participating, participants will be asked to sign a consent form. The discussion will last between 60 and 90 minutes and those who participate in the focus group will receive a \$25 gift card. Two researchers from CCSA will facilitate and guide the discussion. During transcription, all references to information that could identify you or others (e.g., names) will be removed.

#### VOLUNTARY PARTICIPATION AND RIGHT TO WITHDRAW

Participation in this study is completely voluntary. Participants do not have to respond to any questions or undergo any procedure(s) that make them uncomfortable. Participants have the right to withdraw from this study at any time with no consequences, and to request that identifiable data be destroyed. If participants wish to withdraw from the study they may contact the researchers who will destroy (shred or delete) the participant's information.

#### CONFIDENTIALITY

The data collected for the questionnaire will only be accessible to the CCSA researchers (names) and the University Representatives (name). All data will be stored in a locked filing cabinet in the university representative's office and at the researcher's office once transferred to CCSA.

Focus group data will only be accessible to the CCSA researchers. Questionnaire data from those individuals selected to participate in the study and focus group data will be stored in a locked filing cabinet and/or in a file on a secure computer protected by a password at the researcher's office (i.e., CCSA'S office). The data will be retained for a period of five years after the completion of the project (i.e., March 2018), after which it will be disposed of in a secure manner (shredded or electronically deleted). All data collected will be confidential and the property of CCSA and will be used strictly for the above-mentioned study. The audio recordings will be transcribed (converted to electronic text) by a transcriber who will sign a confidentiality agreement. During



transcription, the transcriber will remove all information that could identify the participant or anyone else mentioned during the discussion. Since the information collected will be anonymous, participants cannot have access to their data and will not have the opportunity to review any quotes they have made prior to publication.

As this is a focus group, confidentiality cannot be guaranteed as other participants in the group will hear what is discussed. The researcher asks that all participants keep the discussions private and not talk about the conversations with anyone else.

The information collected over the course of this research study may be published in scientific/academic journals or shared with other persons during scientific discussions and presentations. Any reports of this study will contain information that reflects group results and not information about specific individuals. Participants' identities will not be known as any information that could identify participants will be removed during the transcription process. In order to be informed of any publication, participants may give their address and phone number to the researcher.

### POTENTIAL RISKS

The possible risks to participants in this study are considered minimal and no greater than that which they may experience in everyday life. By participating, some individuals may discover they have concerns about their own drinking behaviours or may have emotional responses to certain topics.

### POTENTIAL BENEFITS

The potential direct benefits resulting in individuals' participation are that they may gain better insights into their own and others' drinking behaviours, which may reduce misperceptions about heavy drinking and may help reduce potential harms they have experienced, or could experience, related to drinking. Participants may also learn more about available resources and support services related to drinking alcohol. The results of this study may advance knowledge in the area of reducing harms associated with drinking behaviours on campuses and improve resources and support for issues related to alcohol.

### CONTACT INFORMATION

CCSA is located at 75 Albert Street, Suite 500, Ottawa, Ontario, K1P 5E7, 613-235-4048. The researchers can be reached at:

[Names of researchers and contact information]

The University's Research Ethics Board approved this project on [date] (REB#). If participants have any concerns regarding this project, they may contact the Research Ethics Board, at [email and phone number].

### CONSENT TO PARTICIPATE IN FOCUS GROUPS

\_\_\_\_\_  
Name of participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Signature of researcher

\_\_\_\_\_  
Date

N. B.: Two copies of the Letter of Consent must be signed, one of which is to be kept by the participant and the other by the principal investigator.



## Appendix I: Standard Drink Size and Drinking Behaviours

### Definition Handout

#### DEFINITIONS:

**Pre-drinking/pre-gaming:** to drink alcohol at one place (e.g., a friend's) before going to another activity (e.g., bar)

**Drinking to blackout:** unable to remember event(s) after drinking alcohol

**Drinking to cope:** drinking to avoid or reduce something negative (e.g., stress, emotions, experiences)

A standard drink is one of the following:



**Beer**  
341 ml  
(12 oz.)  
5% alcohol  
content



**Cider/Cooler**  
341 ml  
(12 oz.)  
5% alcohol  
content



**Wine**  
142 ml (5 oz.)  
12% alcohol  
content



**Distilled  
Alcohol**  
(rye, gin, rum, etc.)  
43 ml (1.5 oz.)  
40% alcohol content



## Appendix J: Focus Group Debrief

Thank you for participating!

The group discussion you just completed was intended to provide researchers with information regarding student attitudes, opinions, and/or motives related to heavy alcohol drinking. The study will be conducted at various post-secondary institutions across Canada. The results will be used to improve knowledge regarding heavy drinking and to help develop tools and resources for students, campuses, and communities that will increase safety and reduce alcohol-related harms. Most importantly, the information that you provided will be used to ensure that such programs are relevant to students and staff on campus.

We want to remind you that all the information we collected in today's discussion will be kept confidential. We will also ensure that you cannot be identified by your responses. In order to further protect the identity of the other participants in this study, it is important that you do not discuss what you heard other participants say during the group discussion.

If you have any further questions regarding this study, please contact [CCSA Researcher] from the Canadian Centre on Substance Use and Addiction (613-235-4048). If you have any general questions about your rights as a participant in this study, please contact the Research Ethics Board at [contact information] (REB#).

If you would like more information on the effects of alcohol or services that offer support, the following is a list of good resources:

- (University health and wellness centre)
- Centre for Addition and Mental Health; Information for Children and Youth; brochures; [http://www.camh.ca/en/hospital/health\\_information/for\\_children\\_youth/Pages/default.aspx](http://www.camh.ca/en/hospital/health_information/for_children_youth/Pages/default.aspx)
- Saying When (app); itunes; <https://itunes.apple.com/ca/app/saying-when-how-to-quit-drinking/id881678936?mt=8>
- Thought Spot (app); iOS and Android; <http://www.camheducation.ca/2015/10/08/thought-spot-the-app/>
- Good2Talk/d'AlloJ'Écoute; 1-866-925-5454; 2-1-1; <http://www.good2talk.ca/>



## Appendix K: Coding (NVivo) for Student Responses

The following tables list the coding used in NVivo for the different drinking factors examined. Various cross analyses were conducted between the coded questions (see Appendix F) and the inventory of items derived from responses (see below). For instance, responses coded to pre-drinking were further analyzed by what motivations they were also coded to, or items coded to perceptions and attitudes were cross analyzed to what consequences they were coded as. Due to space limitations, not all analyses are discussed in this report.

Perceptions and attitudes
Frequency other students drink
Heavy drinking an issue or not an issue
Other perceptions or misperceptions
Perception of water or food and drinking
Perceptions about alcohol-related harms
Perceptions about other substances and drinking
Perceptions about pacing drinking
Quantity thinks can drink before experiencing negative consequences
Quantity thinks other students drink

Motivations: specific reasons for heavy drinking
After finished assignment, after exam, end of term
Bars or events too loud, busy, packed, too many strangers, cold outside
Be with friends, socialize, visit with friends have not seen in a while
Bored, just because, routine
Catch up to others, keep up, doesn't want to be sober while others drunk
Culture of post-secondary education, expected to drink
Drink to be more outgoing, meet other people, gain confidence
Drinking games, activities, tasks, competitions
Felt was in a safer situation or context
First year or underage
Free alcohol, low price, good deal, cover charge only
Hook up
Inexperienced, did not know limits, poor decisions
Maintain or create the buzz, not pay for drinks at bar
Member of team, school program, Greek, etc. (drink with other members)
No responsibilities (e.g., not driving, no exams, no papers) next day
Not monitoring consumption (e.g., free pour, large cups, continuous pour, etc.)
Not prepared - didn't eat, drink water, etc.
Peer pressure, obligation
Restrictions on drinking (e.g., alcohol banned, limited alcohol)
Rush to drink fast (e.g., leaving place, ride-share or taxi waiting, not waste alcohol, etc.)
Specific occasions, celebrate, birthdays, sporting events
Spend less, save money
Stress, anxiety, relax - reduce or avoid
To get drunk intentionally, this is the goal
To have fun



<b>Consequences: positive or negative</b>
Bad or negative experience in general, no reason given
Changed plans - stayed out longer, experience ended earlier
Confrontational, fight, argue
Damaged property
Felt or was in danger by others, harassed
Dealing with drunk friends (e.g., “momming”, help others)
Drinking interfered with or affected school, work
Emotional, drama
Endanger self, take more risks
Environment easier to talk or socialized with friends
Had fun, better mood, relaxed
Hung over, sick
Injured other
Injured self
Knew limits or planned better so more positive outcomes
Memory loss, forget, passed out - intermittent
Met new people or partner
More outgoing, confident, active
Other consequences
Needed help, other people looked after student
Non-consensual sex, unwanted or inappropriate attention
Not buy drinks at bar/event
Other substances used
Regretted something did or said, embarrassed
Separated from friends
Spent more money than planned
Talk to or text people you shouldn't
Theft or lost something

<b>Ideas/recommendations to reduce heavy drinking &amp; What not to do</b>
Access to help, ways to deal with stress, support systems
Alternatives to drinking, other activities
Culture of drinking
Disciplinary action, embarrassment
Education on alcohol (e.g., effects, harms, consequences, etc.)
First year, inexperienced - knowledge gap
How to counter peer pressure
How to help or watch out for friends, others
Ideas to counter drinking effects, issues, etc. (facts or myths)
Institution or community related
Learn limits - methods, ideas
Learn about methods and harms at a younger age
Methods to avoid or prevent drinking more
Moderate (vs. heavy) drinking events, education (alcohol not main focus)



Non-alcoholic events, dry events
Normalize, responsible drinking, not taboo, not condemned
Peer educators
Transportation availability
What does not work, barriers