THE INFLUENCE OF PERSONALITY, MOTIVES, AND CONFIDENCE DURING HIGH-RISK SITUATIONS ON CHANGES IN ALCOHOL USE

by

Mallory L. Campbell

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Applied Psychology and Human Development
Ontario Institute for Studies in Education
University of Toronto

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Personality, Motives, and Confidence to Resist Drinking

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Abstract

Personality, motives, and self-efficacy have all been recognized as factors contributing to relapse, and the interaction among these factors has been outlined in Witkiewitz and Marlatt’s contemporary relapse model. However, there is limited empirical research examining the mechanisms involved in this theory. This study aimed to better understand the relationship between personality risk, drinking motives, and confidence to resist drinking during high-risk situations among adults who have changed their drinking. Results indicate that prior to participants’ change in drinking, introversion/hopelessness was associated with coping motives and confidence in situations involving unpleasant emotions, anxiety sensitivity was associated with coping motives, and impulsivity was associated with conformity motives. Following participants’ change, two specific motives (i.e., coping and conformity) were found to moderate the association between two of the personality profiles (i.e., introversion/hopelessness and anxiety sensitivity) and confidence to resist drinking during specific high-risk situations (i.e., negative emotional and social pressure to use).
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The Influence of Personality, Motives, and Confidence During High-Risk Situations on Changes in Alcohol Use

Problematic alcohol use, including alcohol use disorders (American Psychiatric Association, 2000) and binge drinking (i.e., 5 or more drinks for males and 4 or more drinks for females in one drinking session), is a significant public health concern. On a global scale, alcohol consumption has been causally linked with many major medical diseases, such as diabetes, heart disease, stroke, several forms of cancer, lower respiratory infections, tuberculosis, cirrhosis of the liver, and epilepsy (Rehm et al., 2010). Likewise, causal relationships between alcohol consumption and an individual’s psychological functioning have been reported for unipolar depressive disorders, conduct disorders, and alcohol use disorders (Rehm et al., 2010). In both areas of functioning, dose-response relationships in which the risk for the aforementioned impairments increased as the volume of alcohol consumed increased have been reported (Rehm et al., 2010). Moreover, heavy episodic alcohol use (i.e., binge drinking defined as six or more drinks during one drinking occasion for men (72 g pure alcohol) and four or more drinks (48 g pure alcohol) for women) has been linked to heart disease, fetal alcohol syndrome and unintentional and intentional injuries (Rehm et al., 2010). In Canada, 6% of all deaths below the age of 70 years were attributable to alcohol use in 2001; with unintentional injuries, forms of cancer and digestive diseases constituting the major causes of alcohol-related mortality (Rehm, Patra, & Popova, 2006). In addition to the debilitating effects problematic alcohol use has on an individual’s functioning, considerable social and economic burdens are imposed upon society, including unintentional and intentional injuries, disability, pre-term birth complications, fetal
alcohol syndrome, unemployment, and strain on law enforcement systems (Mohapatra, Patra, Popova, Duhig, & Rehm, 2010; Rehm et al., 2006; 2007; 2010; Thavorncharoensap, Teerawattananon, Yothasamut, Lertpitakpong, & Chaikledkaew, 2009). In 2010, alcohol consumption was identified at the global-scale as a leading risk factor for global burden of disease and injury, third to high blood pressure and tobacco smoking (Alcohol and Public Policy Group, 2010).

Despite the severity of the consequences associated with its use, alcohol remains widely used and abused by the general population. A comparison of findings from three Canadian surveys [National Alcohol and Other Drugs Survey (NADS), 1989; Canada’s Alcohol and Other Drugs Survey (CADS), 1994; and the Canadian Addictions Survey (CAS), 2004] revealed an initial decline in the percentage of Canadians over the age of 15 years who reported consuming alcohol from 1989 to 1994 (77.7% to 72.3%), but subsequent increase in 2004 (79.3%; Demers & Poulin, 2005). The Canadian Alcohol and Drug Use Monitoring Survey (CADUMS; Health Canada, 2011) revealed that the percentage of Canadians over the age of 15 years consuming alcohol has remained relatively stable since 2004 (i.e., 2011: 78.0%; 2010: 77.0%). A similar pattern was observed across the NADS, CADS, and CAS for rates of infrequent heavy drinking (i.e., consuming alcohol less than once per week, and five or more drinks per drinking session; NADS: 3.6%, CADS: 3.3%, and CAS: 5.5%) and frequent heavy drinking (i.e., consuming alcohol more than once per week, and five or more drinks per drinking session; NADS: 6.7%, CADS: 5.4%, and CAS: 7.0%) in the year prior to the survey. Although the majority of Canadians are consuming alcohol in moderation, a significant minority (12.7%) are drinking at hazardous or harmful levels as classified by the Alcohol Use Disorders Identification Test.
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Moreover, 25.5% of Canadians who reported drinking in the past year also reported heavy consumption at least once per month (Demers & Poulin, 2005). Of particular concern, a higher percentage of individuals consuming alcohol reported harms due to their alcohol use in their lifetime (e.g., physical health: NADS: 11.6%, CADS: 12.2%, and CAS: 14.8%; home life or marriage: NADS: 5.5%, CADS: N/A, and CAS: 8.1%) from 1989 to 2004 (Kellner, 2005). Indeed, recent research conducted as part of the 2010 Global Burden of Disease study revealed that Canadians are consuming alcohol at a rate that is more than 50% above the global average (Shield et al., 2013).

Within Canada, the percentage of individuals reporting heavy drinking (i.e., consuming five or more drinks, per occasion, at least once a month over the past year) has increased from 17.3% in 2010 to 19.0% in 2011 (CADUMS; Health Canada, 2011). The growing prevalence of binge drinking in Canada is also cause for concern (Flegel, MacDonald, & Hébert, 2011). Binge drinking describes a pattern of alcohol consumption during which multiple alcoholic drinks are consumed during one drinking occasion (i.e., five or more standard drinks for males and four or more standard drinks for females). This pattern of alcohol consumption is associated with alcohol-related risk behaviours (e.g., harm to home life or marriage, social life, and work, studies, or employment opportunities; unsafe sex; unintentional injuries; Kellner, 2005; Flegel et al., 2011; Rehm et al., 2006; 2010), and in comparison to daily heavy drinking, is twice as likely to lead to acute myocardial infarction or death (Ruidavets et al., 2010). Despite the associated risks, data from the CADUMS (Health Canada, 2011) survey revealed that 19.2% of Canadians aged 15 years or older were binge drinking at least monthly over the past year, and 7% reported binge drinking at least weekly over the past year (Davis, 2011). It is important to note that the CADUMS rates provided should be considered conservative estimates, since self-reported
accounts of drinking underestimate official alcohol sales by approximately 60-70% (Stockwell, Zhao, & Thomas, 2009; Thomas, 2011).

In the United States, a comparison of findings from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC; 2001-2002) and the National Longitudinal Alcohol Epidemiologic Survey (NLAES; 1991-1992) revealed that rates of alcohol abuse had increased, but rates of alcohol dependence had decreased (National Institute on Alcohol Abuse and Alcoholism (NIAAA), 2006). Dawson and colleagues (2005) also used the NESARC data to examine change in recovery status among adults aged 18 and older in the United States who experienced the onset of DSM–IV alcohol dependence prior to one year before completing the survey (i.e., prior-to-past-year [PPY] dependence). Of the individuals who were classified with PPY alcohol dependence, 25% remained dependent upon alcohol, while 27.3% were in partial remission and 11.8% were in full remission, although the latter group was at high-risk for relapse based on their continued levels or patterns of drinking. Moreover, 17.7% were classified as low-risk drinkers and 18.2% abstained from alcohol use during the year prior to the NESARC. These findings suggest that the majority of individuals classified with PPY alcohol dependence attempted, and were successful, in reducing the level or harm associated with their drinking over a 12 month period (Dawson et al., 2005). Interestingly, only 25.5% of individuals with PPY alcohol dependence reported ever having received treatment (i.e., formal and/or informal) for their drinking. These findings highlight the tendency for individuals to change their alcohol use even after a period of heavy use (i.e., dependence) and the variability in the paths individuals pursue when attempting to stop or reduce their drinking.
Relapse While Changing Alcohol Use

It is well established that individuals move through a nonlinear process that involves high rates of relapse when attempting to change a range of addictive behaviours (DiClemente, Schlundt, & Gemmell, 2004; Finney, Hahn, & Moos, 1996; Gossop, Stewart, Browne, & Marsden, 2002; McLellan, Lewis, O'Brien, & Kleber, 2000; Nordfjaern, 2011; Polivy & Herman, 2002). Indeed, a lapse (i.e., temporary setback) is highly probable, with the highest rates of first lapse to use often occurring within 3-6 months following an attempt to change (Kirshenbaum, Olsen, & Bickel, 2009; Nordfjaern, 2011). Moreover, many individuals attempting to decrease their use of a substance will experience a lapse that leads to a return to previous levels of substance use even after extended periods of non-use (DiClemente et al., 2004; Polivy & Herman, 2002). Estimates of relapse vary across individuals and substance type, with rates of relapse ranging between 40 and 70% (Finney et al., 1996; McLellan et al., 2000). Nonetheless, relapse is not inevitable; following the initial steep decline in abstinence described above, rates of relapse tend to plateau (Kirshenbaum et al., 2009; Nordfjaern, 2011), with a minority of individuals sustaining change through complete or partial abstinence, or low-risk consumption (Dawson et al., 2005; Finney et al., 1996; McLellan et al., 2000).

The prevalence of relapse and variance in recovery trajectories among individuals attempting to stop or decrease their alcohol consumption has led researchers to examine the factors that contribute to relapse, and conversely, that support the maintenance of change. In fact, an array of intra- and interpersonal factors, as well as situational and other extraneous factors, have been examined as correlates or predictors of both relapse and maintenance of change (Grant & Dawson, 2006; NIAAA, 2006; Hendershot, Witkiewitz, George, & Marlatt, 2011; Hunter-
Much of the pioneering work in relapse prevention was conducted by Dr. Alan Marlatt and colleagues, who have sought to develop a model of relapse to conceptualize and better understand the influence of intra- and interpersonal factors, as well as situational factors on relapse.

**Marlatt’s Taxonomy of High-Risk Situations**

Marlatt’s original model of relapse was borne out of research evaluating the effectiveness of aversion therapy for alcoholism treatment (Marlatt, 1978; 1979; 1996). In his early studies, Marlatt conducted 3-month and 15-month follow-up assessments with 65 male clients who had completed an inpatient program that either included or did not include aversive conditioning (i.e., control condition; Marlatt, 1978; 1979). At the 3-month follow-up, participants in the aversive therapy condition had significant decreases in drinking and relapse rates; however at the 15-month follow-up, the initial gains associated with the aversion therapy condition were no longer evident. Marlatt sought to identify factors that were associated with participants’ return to drinking by conducting semi-structured interviews (i.e., The Drinking Profile [Marlatt, 1976]) with the 48 clients who had consumed at least one drink within the first 3 months post-treatment. Using a content analysis approach, the qualitative data was analyzed and classified into a preliminary five-category typology. The five situations that related to clients’ initial lapses included: frustration and anger (29%), social pressure (23%), intrapersonal temptation (21%), negative emotional state (10%), and miscellaneous other situations (10%); the remaining 7% of clients were unable to recall the situation associated with their first lapse. Marlatt and colleagues highlighted that these factors were consistent with early social learning theory (Bandura, 1969),
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which posited that problem drinking is a maladaptive method for coping with stress. Subsequent research focused on the effect of these high-risk situations, and the individual’s response during such situations, on initial lapse to alcohol use.

Based on these initial findings, Marlatt and colleagues conducted a series of analogue drinking studies (e.g., Marlatt, Kosturn, & Lang, 1975) and a prospective controlled clinical trial (Chaney, O’Leary, & Marlatt, 1978), which offered additional support for the connection with social learning theory. Marlatt and colleagues then sought to extend the five-category typology by assessing triggers for relapse during recovery from substances other than alcohol (Marlatt & Gordon, 1980). To do this, Marlatt and colleagues interviewed 137 individuals who had completed a treatment program in the past 90 days for alcoholism, smoking, or heroin addiction, and devised a coding system to classify the qualitative accounts of initial lapse events. The result was an expansion of the original typology to an eight-category taxonomy (Marlatt & Gordon, 1980; 1985; Marlatt, 1996).

In the revised taxonomy, high-risk situations associated with the initial lapse to substance use were categorized according to two major classes: intrapersonal-environmental determinants and interpersonal determinants (Marlatt & Gordon, 1980; 1985; Marlatt, 1996). The intrapersonal-environmental determinants class included lapses that are triggered by internal responses to primarily psychological (e.g., coping with negative emotions), physical (e.g., urges), or environmental (e.g., accident) events (Marlatt & Gordon, 1980; 1985). The intrapersonal-environmental class was further subdivided into five categories and subcategories, including coping with negative emotional states (including frustration and/or anger and other negative emotional states), coping with negative physical/physiological states (including physical states
associated with prior substance use and other negative physical states), enhancement of positive emotional states, testing personal control, and giving in to temptations and urges (including both in the presence and absence of substance cues). The interpersonal determinants class included lapses in which other individuals were the primary trigger for the lapse (e.g., social pressure). This second class was likewise further subdivided into three categories and subcategories, including coping with interpersonal conflict (including frustration and/or anger and other interpersonal conflict), social pressure (including both direct and indirect social pressure), and enhancement of positive emotional states. The taxonomy of high-risk situations, and semi-structured interview from which it was derived, became widely accepted in the study of relapse and formed the basis for Marlatt and colleague’s first proposed cognitive-behavioural model of relapse (Marlatt, 1985; Marlatt & Gordon, 1980; 1985).

An Early Model of Relapse

The first cognitive-behavioural model of relapse proposed by Marlatt and colleagues offered a unique perspective on the maintenance of change. In this model, the focus was on high-risk situations that precipitate a lapse, as well as the individual’s coping response and confidence to resist drinking during the high-risk situation (Marlatt, 1985; Witkiewitz & Marlatt, 2004). Moreover, this model recognized that circumstances considered to be high-risk for relapse would vary across individuals and within an individual over time (Marlatt, 1996; Marlatt & Gordon, 1985). Marlatt and colleagues emphasized that this model was developed to model the experiences of individuals who are committed to change and for whom the choice to terminate or adhere to firm rules governing a target behaviour was voluntary (Marlatt, 1996).
Essentially, the model posited that when a high-risk situation is encountered an individual will respond with an effective (e.g., assertive responding) or ineffective (e.g., drinking) coping response that has the potential to facilitate a relapse or lead to continued change (i.e., maintenance; Marlatt, 1985; Marlatt & Gordon, 1980; Witkiewitz & Marlatt, 2004). When an individual effectively responds to a high-risk situation, and thereby maintains change, their sense of self-efficacy increases and the potential for relapse decreases (Marlatt, 1985; Marlatt & Gordon, 1980). Conversely, when an individual lacks an effective strategy or reverts to an ineffective coping strategy, their sense of self-efficacy decreases (Marlatt, 1985; Marlatt & Gordon, 1980; Witkiewitz & Marlatt, 2004). When an ineffective coping response is coupled with positive outcome expectancies for using a substance (e.g., I will feel better if I drink), the likelihood of an initial lapse increases (Witkiewitz & Marlatt, 2004). In this sense, an individual’s initial lapse is mediated by their beliefs concerning the likely effects of substance use (Jones, Corbin, & Fromme, 2001; Witkiewitz & Marlatt, 2004). Following this initial lapse, the perceived positive effects associated with substance use, as well as the individual’s experience of self-blame and perceived loss of control (i.e., abstinence violation effect; Curry, Marlatt, & Gordon, 1987; Witkiewitz & Marlatt, 2004), increase the likelihood of a full relapse (Witkiewitz & Marlatt, 2004). The process outlined in this model of relapse informed the development of a then innovative approach to alcohol treatment that focuses on helping people sustain change: Relapse Prevention (Marlatt & Gordon, 1985).

In their seminal text on Relapse Prevention, Marlatt and Gordon (1985) offered an alternative to the abstinence-based programming that was based on the then dominant disease model of alcohol use disorders (Marlatt, 1996). Instead, Marlatt and Gordon (1985) suggested that lapses are a part of the recovery process and not necessarily an indication of treatment
failure or a return to previous levels of use. By highlighting the abstinence violation effect and emphasizing that lapses were important learning experiences, Marlatt and Gordon (1985) shifted the focus from global, internal attributions for lapses to understanding the specific, external situations that contributed to the lapse. In their text, the authors elaborate on the taxonomy of high-risk situations and the initial cognitive-behavioural model of relapse, and provide a series of approaches for working with clients to develop effective coping responses during high-risk situations. Relapse Prevention gained wide acceptance among clinicians and research findings supported its application as an effective intervention for reducing substance use; particularly when targeting alcohol and cocaine use (e.g., Irvin, Bowers, Dunn, & Wang, 1999). Overall, Relapse Prevention showed promise for treating substance use disorders, but empirical evaluations of the underlying model remained largely unexplored.

**The Relapse Replication and Extension Project (RREP)**

To address the lack of research on the reliability and validity of this model, in 1996, the National Institute of Alcohol Abuse and Alcoholism (NIAAA) sponsored the Relapse Replication and Extension Project (RREP), which sought to replicate and explore extensions to Marlatt’s original methodology.

Collaborators from Brown University (Brown), the Research Institute on Addictions at the University of Buffalo (RIA), and the University of New Mexico (UNM) conducted several independent research studies to analyze the data collected for the RREP. Certain methodologies and procedures were shared across these studies, including the design, the 12-month follow-up period, Marlatt’s methodology for eliciting information about relapse precipitants, common assessment instruments, an extension of the sample to include women and men from in- and out-
patient settings, and focusing on post-treatment experiences of individuals who participated in standard treatment programs (Lowman et al., 1996). To be eligible to participate in this research, participants had to be at least 18 years of age, (21 years at the RIA site), diagnosed with alcohol abuse or dependence based on the Diagnostic Interview Schedule-Revised (DIS-R) within six months prior to the study, had no comorbid drug diagnoses that were more severe than their alcohol problem, had not used intravenous drugs within the six months prior to the study, read at an eighth grade level or above, had no major psychiatric disorder or gross intellectual impairment, completed detoxification, intended to live within commuting distance of the research site for the 12 months that followed, could provide the names of two people who could provide a new address if necessary, and were willing to provide serum samples and complete seven bi-monthly assessments. In total, 563 participants recruited from 15 alcohol treatment sites operating from different treatment modalities (e.g., CBT; 12-step) participated in this research. Data was collected during one baseline assessment which was completed upon entry to a treatment program, and six bimonthly follow-up sessions for a period of one year post-treatment. Assessments included several objective measures, as well as the same four open-ended questions that Marlatt (1978; 1980) had originally used to elicit information about participants’ substance use and relapse experiences.

The findings from three research studies conducted as part of the RREP are discussed in the following section. These studies were chosen for review as they addressed important limitations and the paucity of research evaluating the reliability and validity of the Marlatt’s revised eight-category classification system (Marlatt, 1978) upon which the initial relapse model was based. The first study reviewed was conducted by Longabaugh and colleagues (1996) and sought to evaluate the reliability of Marlatt’s coding system by replicating within-site rates of
inter-rater reliability, as well as establishing inter-rater reliability between different research sites. The remaining two RREP studies reviewed sought to evaluate the validity of the taxonomic system. Specifically, Maisto and colleagues (1996) assessed the construct and predictive validity of Marlatt’s relapse precipitant codes, whereas Stout and colleagues (1996) assessed the predictive validity of the taxonomy.

When Marlatt’s study first emerged, several other researchers reported satisfactory levels of inter-rater reliability when using the taxonomy to classify lapse experiences (e.g., Marlatt & Gordon, 1980). However, as Longabaugh and colleagues (1996) pointed out, most of these researchers evaluated inter-rater reliability in the context of a single study, and therefore independent raters were trained by the same investigator and came from similar research backgrounds, which may have inflated estimates of inter-rater reliability. To address this issue, Longabaugh and colleagues (1996) assessed both within-site and between-site reliability for the taxonomic classifications carried out at the three collaborating research laboratories. In terms of within-site reliability, overall percentage agreements were above 70% for second-level coding (i.e., further differentiating intrapersonal determinants into its subcategories [i.e., negative affective states, negative physical states, positive emotional states, testing personal control, and urges/temptation] and interpersonal determinants into its subcategories [i.e., interpersonal conflict, social pressure, and positive affective states]). However, agreement on ratings for the first-level coding (i.e., differentiating intrapersonal determinants and interpersonal determinants of relapse) varied amongst raters within each site. One possible explanation for the variability observed may be that project managers’ abilities in training and rating are expected to improve over time, and therefore would be stronger in the latter stages of research compared to the beginning. In addition, the researchers found some evidence indicating that percentage
agreement amongst independent raters increases with the frequency with which a category is coded.

Between-site reliability was assessed for a subsample \(n = 149\) “first drink” relapse episodes) of the total ratings collected across the three laboratories. Reliabilities for ratings of the eight Level 2 categories varied across the three sites over time and at the level of specific categories. The most reliably coded categories included: intrapersonal experiences of negative emotional states (81%) and negative physiological states (73%), testing personal control (77%), and interpersonal social pressure (71%). Conversely, interpersonal conflict (47%), intra-personal experiences of urges and temptations (66%), and interpersonal (56%) and intrapersonal (57%) experienced enhancement of positive emotional states constituted the least reliably scored categories.

Maisto and colleagues of the RIA research site evaluated the construct and predictive validity of this taxonomy by examining cross-classifications between participants’ relapse experiences coded according to Marlatt’s system and several other measures (Maisto et al., 1996). One-hundred and forty-two participants (46% women) who were recruited upon admission to several alcohol treatment programs (78% inpatient; 22% outpatient) in the metropolitan area of Buffalo, New York. In this study, a “relapse” was defined as a drinking period that included at least one day of heavy drinking (blood alcohol concentration [BAC] ≥ 0.10%) after having abstained from drinking for at least four days. For their first evaluation of predictive validity, the researchers examined whether the precipitants of participants’ most recent pre-treatment relapse, as coded using Marlatt’s system, were related to the coded precipitants identified for participants’ ‘first drink’ post-treatment. Marlatt’s hypothesized precipitant
categories of relapse are believed to reflect learned histories of alcohol use, and so a degree of consistency was expected amongst pre-treatment and post-treatment relapse events. Maisto and colleagues (1996) then examined whether coded precipitants of participants’ most recent pre-treatment relapse were related to baseline scores on the Inventory of Drinking Situations (IDS; Annis, 1986). This relationship was examined as an analysis of construct validity, since the IDS was developed based Marlatt’s research on relapse (Maisto et al., 1996). Lastly, the researchers examined whether scores on the Alcohol Dependence Scale (ADS; Skinner & Allen, 1982) and DSM-III-R (DIS-R; Robins, Helzer, Cottler, & Goldring, 1988) psychiatric diagnoses were associated with coded relapse precipitants for pre-treatment relapse or coded post-treatment ‘first drink’ relapse, to measure concurrent validity and predictive validity respectively. Only one significant relationship was found, offering limited support for the construct validity of Marlatt’s coding system. As expected, the frequencies of pre-treatment relapse codes and frequencies of baseline IDS highest factor scores were related.

Stout and colleagues (1996) of the Brown research site evaluated the predictive validity of the Marlatt taxonomy by conducting a survival analysis, cross-evaluating pre-admission Marlatt codes with the first post-admission relapse, and testing the ability of pre-admission Marlatt codes to predict pre- and post-admission drinking. Three hundred participants (44% women) were recruited upon entry to five clinical setting in the Providence, Rhode Island area. In this study, a relapse was defined in the same way that Maisto and colleagues (1996) had defined the term (see above). No significant associations were found between the type of relapse reported at intake, as coded Marlatt’s classification system, and the likelihood or type of relapse during the follow-up period. Nonetheless, the internal experience of negative emotions was found to repeat more often than not during the cross-evaluation of pre- and post-admission codes.
Moreover, a modest predictive relationship between pre-admission Marlatt codes and pre-admission drinking was found. The latter finding suggests that the intervention may have helped the participant to develop skills required to address the situation that put them at risk for relapse prior to treatment. Stout and colleagues (1996) also attempted to overcome some of the limitations of the Marlatt model by developing an expanded and reconfigured system for evaluating relapse experiences. The principal differences between their proposed revision and the Marlatt classification system, included independent rating of items, rather than an *a priori* hierarchical organization, an evaluation of participants’ attributions about relapse, and a differentiation between relapse situations precipitating from social interactions compared to those occurring within a social setting. After developing this revised system, the researchers compared the predictive validity of these two classification systems. Analyses revealed minimal support for the predictive validity of either model of relapse. The authors posited that this may be a result of the unstructured nature of the interview, or having overlooked an important dimension(s) of relapse.

The combined findings of these RREP research studies indicate that there is limited evidence to support the reliability (Longabaugh et al., 1996) and validity (Maisto et al., 1996; Stout et al., 1996) of Marlatt’s eight-category taxonomy. Across these three studies, the researchers posit that the unreliability of Marlatt’s taxonomy likely contributed to its poor construct and predictive validity, since reliability imposes an upper limit for validity. The researchers argue that results reported by independent research groups using this classification system should not be assumed to be comparable, nor predictive of relapse precipitants, and do not constitute an aggregate base of knowledge on relapse.
As a result of these studies, Longabaugh and colleagues (1996) highlighted assumptions inherent to Marlatt’s model and proposed several important revisions to the classification system. Specifically, they proposed that the reliability of the classification system could be improved if certain categories were regrouped and suggested eliminating the hierarchical procedure for classifying relapse precipitants, as well as the restriction that the codes be mutually exclusive. In relation to the former revision, the researchers argue that the coding conventions of this classification system favour certain categories (i.e., intrapersonal and higher lettered categories); affecting the frequency with which certain relapse precipitants are reported. In relation to the latter revision, the researchers discussed the issues related to the seemingly unviable distinction made between intra- and interpersonal precipitants of relapse. Indeed, independent coders had considerable difficulty coding a situation as either intra- or interpersonal, as evidenced in rates of coding confusion for similar experiences within categories. Accordingly, Longabaugh and colleagues (1996) suggested that the distinction between intra- and interpersonal precipitants either be collapsed or redefined. Moreover, urges and temptations were largely unrecognized in the initial Marlatt model, and as a result, were found to have confounding effects on the other categories. The researchers proposed that greater emphasis be placed on the influence of urges and temptations by relaxing the mutual exclusiveness requirement of precipitant categories so that, regardless of whether another precipitant is considered primary, urges and temptations can be recognized whenever they are reported. In 2004, Witkiewitz and Marlatt addressed the critiques raised during the RREP and developed a reconceptualised cognitive-behavioural framework of relapse.
**Witkiewitz and Marlatt’s Contemporary Model of Relapse**

In this model, Witkiewitz and Marlatt (2004) describe the independent and interactive contributions among several individual and psychosocial factors that have been posited to contribute to a recovering individual’s propensity to relapse. The situational dynamics between dispositions, contexts, and experiences (past and present), rather than high-risk situations specifically, became the focus of this reconceptualized model. That is, although contextual factors still have a significant presence in the new model, high-risk situations are not the primary focus. Instead, the complex relationships among contexts and past and current experiences operating within a high-risk situation to affect one’s global functioning are central to this contemporary model. Moreover, risk factors are no longer arranged hierarchically in this model - for which the initial classification system had been criticized (Longabaugh et al., 1996). Instead, no one factor is assumed to be more influential than another in the contemporary model. Furthermore, this model posits that substance cues moderate the proposed relationship between risk factors and a lapse (Litt, Cooney, & Morse, 2000; Witkiewitz & Marlatt, 2004), as well as recognizes the reciprocal relationships among risk factors (coping, cognitions, craving, affect) and substance use (Niaura, 2000; Witkiewitz & Marlatt, 2004).

Within the reconceptualized model of relapse, the interactions between distal and proximal factors are believed to contribute to relapse (Witkiewitz & Marlatt, 2004). Distal risks are stable predispositions that are conceptualized as determinants of an individual’s vulnerability to relapse; whereas phasic or proximal risks are immediate precipitants of a lapse, including cognitive processes, psychical symptoms, affect, and coping strategies (Shiffman, 1989; Witkiewitz & Marlatt, 2004). The temporal relationships among distal and proximal risk factors
are conceptualized as tonic and phasic processes within this model (Piasecki, Fiore, McCarthy, & Baker, 2002; Witkiewitz & Marlatt, 2004). Distal risks, as well as certain cognitions (e.g., self-efficacy) and physical symptoms (e.g., withdrawal) operate as tonic processes that contribute to a chronic vulnerability for a lapse. These tonic processes can accumulate over time to instigate a high-risk situation. Situational cognitive, affective, and physical states and momentary coping strategies operate as phasic processes which occur within the context of high-risk circumstances and are proximal determinants of whether or not a lapse occurs. Although tonic processes and phasic responses are proposed to interact during high-risk situations, there is limited empirical research examining the mechanisms involved in this theory.

The findings of two empirical investigations conducted during the RREP, partially inspired the development of the contemporary dynamic relapse model (Witkiewitz & Marlatt, 2004). As Marlatt (1978, as cited in Marlatt, 1996) recognized early on while developing the larger theoretical model, both Miller and colleagues (1996) and Connors and colleagues (1996) recognized that situational determinants were only one risk factor for relapse and sought to explore the influence of factors other than high-risk situations. The results of these studies provide support for a dynamic model of relapse in that both distal and proximal risk factors were acknowledged as contributing to drinking outcomes following treatment.

Miller and colleagues (1996) analyzed data collected from the UNM site of the RREP to evaluate the predictive ability of potential relapse risk factors from six theoretical domains. The five theoretical post-treatment domains which were conceptualized as proximal factors that were subject to change, and therefore amenable to treatment, included negative life events (i.e., high-risk situations), cognitive factors (e.g., self-efficacy; motivation; outcome expectancies), coping
resources, craving, and affective state. Pre-treatment characteristics were also considered, and
were conceptualized as distal and static risk factors. Static risk factors were measured at baseline,
and proximal risk factors were evaluated at a 4-month assessment. The researchers found that
each of the proximal risk factors, with the exception of negative life events, was significantly
associated with drinking outcomes at the 6-month follow-up. However, only individual coping
responses and disease model beliefs during the 2-4 month follow-up interval significantly
improved the prediction of relapse between 4-6 month follow-up interval.

Connor and colleagues (1996) analyzed data collected from the RIA site of the RREP to
evaluate a path model for post-treatment drinking outcomes they developed. In this model, five
relapse risk factor domains, including background characteristics (e.g., psychiatric symptoms),
alcohol symptoms (e.g., alcohol dependence), treatment factors (e.g., satisfaction), coping skills,
and stressors, were used to predict drinking outcomes between 5 and 12 months during follow-
up. Background characteristics and alcohol symptoms were measured at baseline and
conceptualized as static influences, whereas treatment factors, coping skills, and stressors were
measured at the 6-month follow-up and conceptualized as proximal relapse risk factors. Average
measures of drinking outcomes between months 7-12 of the follow-up included drinking
frequency, number of drinks per drinking day, drinking consequences, and experiences of
craving. The researchers found that background characteristics, alcohol symptoms, and coping
skills were significant predictors of post-treatment functioning, in terms of drinking frequency
and intensity. Alcohol involvement and coping skills were significantly associated with drinking
consequences. Treatment factors significantly predicted drinking frequency (percentage of days
abstinent), and affected all drinking outcomes indirectly through coping skills.
Recently, Witkiewitz (2011) sought to expand upon the work conducted in these two RREP studies by addressing several limitations of the research. Witkiewitz (2011) points out that temporal, and potentially reciprocal, relationships between risk factors and drinking were not addressed in the design of these studies. In addition, post-treatment drinking outcomes were the focus of these two studies, and so, the potential effects of proximal risk factors on alcohol use during treatment were not considered.

Witkiewitz (2011) examined the dynamic relationships among several static and proximal risk factors in the prediction of heavy drinking during treatment and a 1-year follow-up period. In this study, high levels of static and proximal risk, as well as increases in proximal risk over time, were positively associated with heavy drinking during and following treatment. Conversely, more frequent heavy drinking and high levels of static risk were positively associated with proximal risk. These findings suggest that a reciprocal relationship may exist between proximal risk and heavy drinking. Overall, distal risk factors were less strongly associated with heavy drinking during and following treatment than were proximal risk factors. Meditational analyses provided support for the hypothesis that selected distal risks may influence heavy drinking during and following treatment indirectly. Indeed, treatment history and psychiatric symptoms were associated with constant change in percent of heavy drinking days through changes in proximal risk. This finding suggests that individuals with prior experiences of treatment and greater psychiatric symptoms are more vulnerable to heavy drinking when proximal risk factors increase.
A Focus on the Relationship Between Personality, Motives, and Self-Efficacy

Within Witkiewitz and Marlatt’s (2004) contemporary relapse model, personality is identified as a distal factor that contributes to an individual’s general susceptibility to relapse, and research has provided evidence that supports the influence of personality on relapse (e.g., Janowsky, Boone, Morter, & Howe, 1999; Janowsky, Fawcett, Meszaros, & Verheul, 2001; Muller, Weijers, Boning, & Wiesbeck, 2008; Willinger et al., 2002). Whereas, phasic responses such as fluctuating cognitive states (e.g., motivation), outcome expectancies, and changes in self-efficacy influence whether or not a lapse actually occurs when the individual encounters a situation associated with drug use (i.e., a high-risk situation) and momentary coping strategies influence whether a lapse will proceed to a relapse or prolapse (Hendershot et al., 2011; Hunter-Reel et al., 2009; Marlatt & Witkiewitz, 2009; Witkiewitz & Marlatt, 2004). In the following section, this author will focus on the relationship between personality, drinking motives, and self-efficacy during high-risk situations as outlined in Witkiewitz and Marlatt’s (2004) relapse model.

Self-Efficacy and Relapse

Self-efficacy is an important predictor of treatment outcome, and is recognized as a proximal risk factor in Witkiewitz and Marlatt’s (2004) contemporary relapse model. Originally described in Bandura’s social learning theory (1977), self-efficacy goes a step beyond outcome expectancies (i.e., beliefs about the likely effects of drugs or alcohol) and reflects one’s belief in their own ability to successfully achieve a desired outcome. In relation to relapse to alcohol use, the ability to resist consuming alcohol during high-risk situations is believed to be influenced by the use of effective coping skills, as well as confidence in one’s ability to resist drinking in a
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In high-risk situations (Bandura, 1977; 1986; Witkiewitz & Marlatt, 2004). In fact, higher levels of self-efficacy have consistently predicted lower levels of alcohol consumption following treatment in the majority of research studies evaluating the effects of self-efficacy (e.g., Adamson, Sellman, & Frampton, 2009; Ilgen, McKellar, & Tiet, 2005; Maisto, Connors, & Zywiak, 2000; McKay et al., 2004; Allen et al., 1997; Solomon & Annis, 1990). Likewise, self-efficacy has been shown to be negatively associated with relapse (e.g., Walton, Blow, Bingham, & Chermack, 2003), and rather is predictive of longer periods of abstinence prior to a relapse among individuals who have received inpatient (e.g., Greenfield et al., 2000) and outpatient (Allsop, Saunders, & Phillips, 2000) treatment for alcohol dependence. It is posited that an individual’s sense of self-efficacy may affect their view of a lapse or slip; with highly self-efficacious individuals viewing a slip as a temporary setback (i.e., lapse), rather than an event that will inevitably lead to a full relapse (Bandura, 1986). This has been demonstrated empirically by Brown and colleagues (2002) who found that adults completing an aftercare program reported fewer drinking days and less severe alcohol use when self-efficacy was high during high-risk situations over a 6-month follow-up period.

Self-efficacy in high risk situations is typically evaluated using the Situational Confidence Questionnaire (SCQ) or a brief version of the measure, which is based on Marlatt’s taxonomy (SCQ: Annis, 1982; Annis & Martin, 1985; BSCQ: Skylar, Annis, & Turner, 1997). This self-report measure allows individuals to estimate their level of confidence for a set of circumscribed contexts and is a useful, albeit somewhat limited (Witkiewitz & Marlatt, 2004), measure for Relapse Prevention strategy planning.
**Personality and Motives for Alcohol Use: Links to Risk for Relapse**

Although several studies on relapse highlight the important role of self-efficacy in high-risk situations, fewer studies have explored other proximal risk factors that might contribute to relapse or, conversely, maintenance of change. One potentially important proximal predictor of alcohol use that has received significant attention in the alcohol literature is drinking motives. Motives have been broadly defined as categories, factors, or dimensions of conscious and unconscious or automatic reasons for engaging in behaviour that directs an individual towards a desired outcome (Cooper, 1994; Cooper, Frone, Russell, & Mudar, 1995; Cox & Klinger, 1988; Kuntsche, Knibbe, Gmel, & Engels, 2005). Motives have been conceptualized as the final pathway through which other distal factors influence alcohol use (Cooper, 1994; Cooper et al., 1995; Cox & Klinger, 1988) and motivational models of alcohol use posit that individuals drink for both internal (i.e., mood regulation) and external (i.e., social) reasons that are positively (i.e., enhance positive mood) and negatively (i.e., alleviate negative mood) reinforced. As a result, four psychologically distinct motives for consuming alcohol have been recognized in motivational models of alcohol use, including coping (negative valence, internal experience), conformity (negative valence, external experience), enhancement (positive valence, internal experience), and social (positive valence, external experience). Enhancement motives are often associated with heavy alcohol consumption, but not drinking problems (Cooper et al., 1995), whereas social motives are typically associated with moderate levels of alcohol consumption (Kuntsche et al., 2005). In particular, negative reinforcement drinking motives (i.e., coping and conformity) are most often associated with drinking problems (Cooper et al., 1995; Kuntsche et al., 2005).
A second potentially important predictor of alcohol use to consider in the study of relapse is personality. In fact, personality characteristics have been linked to the initial development of problematic patterns of alcohol use through motivational pathways driven by positive and negative reinforcement mechanisms (Conrod, Pihl, Stewart, & Dongier, 2000a; 2000b; Cooper, 1994; Cooper et al., 1995; Woicik, Stewart, Pihl, & Conrod, 2009). Conrod and colleagues (2000a) have identified several distinct personality risk profiles for substance use (i.e., introversion/hopelessness, anxiety sensitivity, sensation seeking, and impulsivity). Each profile reflects motivations for use associated with positive or negative reinforcement mechanisms and has been linked to the use of specific substances and patterns of use (see also, Conrod et al., 2000b; Cooper et al., 1995; Pihl & Petersen, 1995; Woicik et al., 2009). Consistent with the self-medication hypothesis, depression-prone (i.e., introversion/hopelessness) and anxiety sensitive individuals are particularly susceptible to negative reinforcement motives for substance use, and use substances to alleviate depressive and anxiety-related symptoms, respectively (Comeau, Stewart, & Loba, 2001; Cooper et al., 1995; Grant et al., 2007; Woicik et al., 2009). Conversely, sensation-seeking individuals are motivated to use substances to enhance positive affect to fulfill their desire for intense and novel experiences, and are thus vulnerable to positive reinforcement mechanisms (Comeau et al., 2001; Cooper et al., 1995; Woicik et al., 2009). Impulsive individuals are unique in that they lack behavioural inhibition when the substance or related cues are present in their immediate environment (Woicik et al., 2009). These individuals tend to focus on the immediate reinforcement (positive or negative) associated with substance use, rather than its consequences (Woicik et al., 2009). Each of the substance use risk profiles have been linked to alcohol use, as well as problematic drinking patterns (e.g., heavy drinking or alcohol abuse and dependence), through their associated drinking motives (Conrod et al., 2000a; Cooper et al.,
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1995; Kuntsche et al., 2005; Woicik et al., 2009). Moreover, the personality characteristics captured by the each of these substance use risk profiles have also been shown to be associated with relapse to alcohol use (e.g., Charney, Zikos, & Gill, 2010; Evren, Durkaya, Evren, Dalbudak, & Cetin, 2012; Marra et al., 1998; Stewart & Kushner, 2001; Suter, Strik, & Moggi, 2011; Willinger et al., 2002; Witkiewitz & Bowen, 2010).

Although personality and motives have received significant attention in the research on alcohol use, to date, there is no research on how personality and drinking motives interact to predict relapse following change to alcohol use. It is possible proximal drinking motives constitute a final pathway through which distal personality risk factors influence relapse to alcohol use, as has been demonstrated to be the case for initial alcohol use. This motivational pathway has not yet been extended to relapse risk to this author’s knowledge.

**Personality, Motives, and Self-Efficacy in High-Risk Situations**

Although the interaction between personality, motives, and self-efficacy in high-risk situations is outlined in Witkiewitz and Marlatt’s (2004) relapse model, there is limited empirical research examining the mechanisms involved in this theory. Yet the combined findings of the research described above suggest the interaction between personality and substance use motives plays an important role in both the initiation and maintenance of substance use patterns. Perhaps then, personality risk profiling for substance use would also be useful in identifying and understanding precipitants of relapse that are related to personality and motivations when faced with specific high-risk situations (e.g., social pressure to use, experiencing unpleasant emotions). The purpose of the present study is to contribute to Witkiewitz and Marlatt’s (2004) contemporary, theoretical model of relapse through an empirical investigation of the interaction
between personality risk for substance use, substance use motives, and high-risk situations. Specifically, the mechanism by which the aforementioned precipitants interact to influence relapse will be examined.

Summary and Hypotheses

The current study aims to better understand the mechanisms that contribute to relapse among individuals who have changed their drinking. Specifically, this study will examine the relationship between personality risk, drinking motives, and confidence to resist drinking during high-risk situations among adults recruited from the community who have stopped or reduced their alcohol use in the past five years. Based on the literature in this area, it is hypothesized that each personality risk profile will be associated with specific drinking motives and lower confidence to resist drinking during specific high-risk situations before individuals change their drinking. The following relationships between personality risk profiles, drinking motives, and confidence to resist drinking during high-risk situations are anticipated for individuals prior to their change in drinking:

1. Individuals high in introversion/hopelessness will report higher coping motives and lower confidence to resist drinking during situations in which they experience unpleasant emotions than individuals low in introversion/hopelessness.

2. Individuals high in introversion/hopelessness will report higher conformity motives and lower confidence to resist drinking during situations in which they experience social pressure to use than individuals low in introversion/hopelessness.
3. Individuals high in anxiety sensitivity will report higher coping motives and lower confidence to resist drinking during situations in which they experience unpleasant emotions than individuals low in anxiety sensitivity.

4. Individuals high in anxiety sensitivity will report higher conformity motives and lower confidence to resist drinking during situations in which they experience social pressure to use than individuals low in anxiety sensitivity.

5. Individuals high in sensation seeking will report higher enhancement motives and lower confidence to resist drinking during situations in which they experience pleasant emotions than individuals low in sensation seeking.

6. Individuals high in impulsivity will report high drinking motives in general (i.e., coping, conformity, impulsivity, and social) and lower confidence to resist drinking during situations in which they experience urges and temptations than individuals low in impulsivity.

In addition, consistent with models of relapse prevention that highlight self-efficacy in high-risk situations as a contributing factor in maintaining change, it is anticipated that individuals who experience an increase in confidence to resist drinking during high-risk situations will be less likely to have returned to pre-change levels of alcohol use following their change. Moreover, individuals’ confidence to resist drinking during high-risk situations will be associated with their personality risk profile and post-change drinking motives. Furthermore, specific proximal (post-change) drinking motives will moderate the influence of each distal personality risk profile on individuals’ confidence to resist drinking during high-risk situations encountered after they have changed their drinking. Thus, the following relationships between personality risk profiles,
drinking motives, and confidence to resist drinking during high-risk situations are anticipated at the post-change timepoint:

1. The influence of introversion/hopelessness on confidence to resist drinking during situations in which unpleasant emotions are experienced will be moderated by coping motives. Individuals who have returned to or exceeded pre-change levels of alcohol use will be high in introversion/hopelessness, they will report high post-change coping motives, and low confidence to resist drinking during situations involving unpleasant emotions.

2. The influence of introversion/hopelessness on confidence to resist drinking during situations in which social pressure to use is experienced will be moderated by conformity motives. Individuals who have returned to or exceeded pre-change levels of alcohol use will be high in introversion/hopelessness, they will report high post-change conformity motives, and low confidence to resist drinking during situations involving social pressure to use.

3. The influence of anxiety sensitivity on confidence to resist drinking during situations in which unpleasant emotions are experienced will be moderated by coping motives. Individuals who have returned to or exceeded pre-change levels of alcohol use will be high in anxiety sensitivity, they will report high post-change coping motives, and low confidence to resist drinking during situations involving unpleasant emotions.

4. The influence of anxiety sensitivity on confidence to resist drinking during situations in which social pressure to use is experienced will be moderated by conformity motives. Individuals who have returned to or exceeded pre-change levels of alcohol use will be high in anxiety sensitivity, they will report high post-change conformity motives, and low confidence to resist drinking during situations involving social pressure to use.
use will be high in anxiety sensitivity, they will report high post-change conformity motives, and low confidence to resist drinking during situations involving social pressure to use.

5. The influence of sensation seeking on confidence to resist drinking during situations in which pleasant emotions are experienced will be moderated by enhancement motives. Individuals who have returned to or exceeded pre-change levels of alcohol use will be high in sensation seeking, they will report high post-change enhancement motives, and low confidence to resist drinking during situations involving pleasant emotions.

6. The influence of impulsivity on confidence to resist drinking during situations in which urges and temptations are experienced will be moderated by all drinking motives (i.e., coping, conformity, impulsivity, and social). Individuals who have returned to or exceeded pre-change levels of alcohol use will be high in impulsivity, they will report high post-change drinking motives in general (i.e., coping, conformity, impulsivity, and social), and low confidence to resist drinking during situations involving urges and temptations.
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Methods

Participants

Participants were male and female adults at least 19 years of age (Range: 21 - 58, \(M = 33.75, SD = 10.51\)), who are fluent in written English, and were recruited from across Canada. To be eligible to participate in this research individuals had to have experienced a time in the past five years when they were using alcohol (level of use was self-defined), made a decision to decrease or stop their alcohol consumption, and were successful in achieving a period of change (no specific minimum time requirement or amount of change) either on their own or with assistance. In addition, participants were required to have a valid e-mail address and access to the internet to complete the online survey. A complete summary of demographic information of participants before and after their change in drinking is included in Table 1.

Fifty-seven individuals began the online survey. However, data from participants who did not complete at least the pre-change SCQ questionnaire was considered incomplete and therefore was excluded from the present analyses. As such, the final sample consisted of 48 adults, including 19 males (39.6%) and 29 females (60.4%). The majority of participants were White (72.9%), and 8.3% participants identified as Aboriginal or First Nations, 2.1% of the sample self-identified as Chinese, Filipino, Latin American, Korean, Black (e.g., African, Haitian, Jamaican, Somali), South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan), and Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan); 4.2% of participants self-identified as “Other” (i.e., Hungarian and Fijian/Irish).

Baseline (i.e., pre-change) demographic information is reported here. Before changing their drinking, the majority of participants were not in school (77.1%) and 52.1% of the sample
had graduated from community college or university. Most of the participants were employed (81.3%) and 54.2% were employed full-time. One-third of participants (33.3%) described their pre-change level of income as less than $20,000. In terms of housing, the majority of participants reported living in an apartment (58.4%) and 27.1% were living alone, 33.3% lived with a partner or spouse, 20.8% lived with roommates and 8.3% were living with their parents. In terms of relationship status, 16.7% were single, 10.4% were dating casually, 41.7% were in an exclusive relationship, 22.9% were married or in a common-law relationship, 2.1% were separated, 4.2% were divorced, and 2.1% reported being in an open relationship.

**Procedure**

Participants were recruited for this study through advertisements posted on provincial and national online classified and public community forum websites, including: Craigslist, Kijiji, Facebook, and Twitter. Print advertisements were posted around the University of Toronto Campus and designated posting areas (e.g., community messageboards) in communities across Canada (See Appendix A for the sample recruitment advertisement). In addition, community and health centres within each province were contacted directly with a request to assist with recruitment.

The advertisement provided the inclusion criteria, and requested participation in a 30-minute online survey and directed interested individuals to contact the researcher via e-mail. In response, potential participants received a unique survey link through which the consent form and survey could be accessed. Each survey link had its own alphanumeric code, which was randomly generated, so that each code could be used only once and only people with a code could access the online survey. If the participant attempted to re-enter the survey or another
person attempted to access the survey using the same link, that individual would receive an automatic message indicating that the link had been used and they were no longer able to access the survey.

Clicking on the unique link directed the respondent to the information sheet and consent form (see Appendix B), which outlined the inclusion criteria, study requirements, as well as possible risks and benefits associated with participating in the study. Participants were also provided with the contact information of the investigator and faculty supervisor. At the end of the informed consent, there was a statement indicating that the participant was aware of the study requirements, that they were at least 19 years of age, and that they provided their consent to participate in the study. Consent was assumed when participants clicked “I agree” at the bottom of the page. To further help ensure that participants were at least 19 years of age, on the first page of the online survey participants were asked to provide their current age. Individuals who did not provide consent or did not meet the age criteria were led to a screen that explained their ineligibility (e.g., “I’m sorry, but you do not meet the age requirement for this study”). As a validity check, participants who provided consent were asked on a subsequent page of the online survey to provide year of birth. All participants who provided consent and met inclusion criteria were directed to complete a series of questionnaires that constitute the online survey once they clicked “submit.”

Consenting participants were directed to complete a series of questionnaires (see Appendix C), including items pertaining to demographic information, personality risk profiles for substance use, patterns of personal alcohol use (i.e., quantity and frequency of use; quantity and frequency of binge drinking), abuse/dependence criteria, motives for alcohol use, and
confidence to resist drinking during high-risk situations associated with drinking. Patterns, related abuse/dependence criteria, motives, situations, and certain demographic questions were evaluated retrospectively at two timepoints: three months prior to their decision to change (i.e., pre-change) and three months following their decision to change (i.e., post-change). Of note, two participants reported a shorter time since changing their drinking in the comments section of the survey; one reported that they had only changed their drinking one month ago and the other reported having changed their drinking two months ago. All identifying information was stored in a separate database than survey data. Both databases are password-protected and connected only through the assignment of participants’ alphanumeric ID codes, which is necessary for the impending qualitative aspect of this research and reimbursement purposes of the current quantitative study.

Upon completion of the survey participants were directed to a printable “Resource Sheet” and information about deleting all study-related information from their computers (Appendix D). The resource list outlined the contact information for mental health (including crisis numbers) and substance abuse services across Canada. Participants were also provided with the option to have their e-mail address entered in a raffle to win an online $25 gift card from Amazon.ca upon completion or withdrawal from the survey.

**Measures**

Eligible participants who provided consent were asked to complete a series of online self-report questionnaires, including items pertaining to demographic information (i.e., age, gender, ethnicity, income, relationship status, residential status), personality risk profiles for substance use, patterns of personal alcohol use, abuse/dependence criteria, motives for alcohol use, and
confidence to resist drinking during high-risk situations associated with drinking (see Appendix C).

**Personality risk.** Personality risk for alcohol use was assessed with the Substance Use Risk Profile Scale (SURPS; Conrod et al., 2000a; Woicik, Conrod, Pihl, Stewart, & Dongier, 1999; Woicik et al., 2009). The 23-item SURPS measure differentiates individuals according to four dimensions of personality: anxiety sensitivity (AS; e.g., “It’s frightening to feel dizzy or faint”), introversion/hopelessness (IH; e.g., “I feel that I am a failure”), sensation seeking (SS; e.g., “I like doing things that frighten me a little”), and impulsivity (IMP; e.g., “I usually act without stopping to think”). Each of these personality profiles has been associated with specific motivations for use and susceptibility to reinforcement from a specific drug class and use patterns (Conrod et al., 2000a; Woicik et al., 2009). Response options for each item on the SURPS (Woicik et al., 1999) ranged from 1 (*strongly agree*) to 4 (*strongly disagree*) on a 4-point Likert scale. The SURPS subscales were developed based on information collected from a sample of substance-using adults recruited from the community (Woicik et al., 1999). Woicik and colleagues (2009) refined the original 28-item SURPS measure to 23 items after identifying items that were redundant or negatively impacting the overall alpha on a subscale through an internal consistency analysis. The 23-item SURPS has been shown to possess good psychometric properties among college-aged and adolescent drinkers (Woicik et al., 2009). The four subscales of the 23-item SURPS have been shown to have adequate to good internal consistency, and convergent, divergent, and incremental validity has been demonstrated between these subscales and other measures of theoretically relevant aspects of personality (Woicik et al., 2009). Moreover, test-retest reliability and validity has been demonstrated for this measure (Woicik et al., 2009).
**Alcohol consumption.** The frequency and quantity of alcohol use, as well as binge drinking, was assessed using consumption items drawn from the Alcohol Use Disorders Identification Test (AUDIT-C; Bush, Kivlahan, McDonnell, Fihn, & Bradley, 1998; Gordon et al., 2001). The response options for each of the three items on the AUDIT-C (Bush et al., 1998; Gordon et al., 2001) ranged from 0 to 4 on a 5-point Likert scale with varying descriptive anchors (Question 1: *Never to 4 or more times a week*; Question 2: *1 or 2 to 10 or more*; Question 3: *Never to Daily or Almost daily*). The AUDIT-C total mean score was calculated to determine the level of pre-change and post-change alcohol consumption in this sample. A score of 3 or more on the AUDIT-C is indicative of harmful or hazardous drinking (Bush et al., 1998; Gordon et al., 2001). The AUDIT-C has been shown to be a valid measure of hazardous drinking (Gordon et al., 2001), and heavy drinking and active alcohol abuse or dependence (Bush et al., 1998). Moreover, the AUDIT-C has been shown to be as sensitive in detecting the aforementioned as the full AUDIT (Saunders et al., 1993) from which this measure was derived (Bush et al., 1998; Gordon et al., 2001).

The mean score for the binge drinking item on the AUDIT-C was also calculated to describe the level of pre-change and post-change heavy drinking in this sample. In the present study, binge drinking was defined as five or more standard drinks on one occasion, and a standard drink was defined as: one bottle of beer, one alcoholic cooler, one 4-oz. glass of wine, or one 1.5-oz. shot of liquor. All participants completed the same survey, and thus, the same cut-off for binge drinking (i.e., five or more drinks per drinking occasion) was used for all participants, regardless of gender.). Traditionally, the cut-off for binge drinking on the AUDIT-C has been six or more standard drinks per drinking occasion (Bush et al., 1998; Gordon et al., 2001). However, in Canada, binge drinking among males has been defined as five or more
standard drinks on one occasion in national samples (Demers & Poulin, 2005), and researchers argue that a cut-off of 5 or more standard drinks is reflective of more recent drinking data among males (e.g., Bush et al., 1998). Furthermore, based on physiological differences between males and females, four or more drinks on one occasion is considered binge drinking among female drinkers (Demers & Poulin, 2005). Thus, using a cut-off of six or more standard drinks per drinking occasion might preclude some males and many females who are binge drinking. Moreover, using the six or more standard drinks per drinking occasion definition of binge drinking among males would not be comparable to the rates of binge drinking as defined in other Canadian samples (Demers & Poulin, 2005). While there may be some under-representation of females who are binge drinking in the present study, this is believed to be less of a risk than would have occurred had the higher cut-off for binge drinking been used.

**Drinking motives.** Motives for alcohol use were assessed with the Drinking Motives Questionnaire-Revised (DMQ-R; Cooper, 1994). This is a 20-item measure that differentiates drinking motives according to valence (positive/negative) of reinforcement and source (internal/external) of the experience (Cooper, 1994). Motives are thus differentiated into four domains: coping (negative/internal; e.g., “Because it helps you when you feel depressed or nervous”), conformity (negative/external; e.g., “Because your friends pressure you to drink”), enhancement (positive/internal; e.g., “Because it’s exciting”), and social (positive/external; e.g., “To be sociable”). Response options for each item on the DMQ-R (Cooper, 1994) ranged from 0 (almost never/never) to 4 (almost always/always) on a 5-point Likert scale. The DMQ-R is widely used (see Kuntsche et al., 2005 for a review) and has been demonstrated to have good internal consistency and construct, concurrent, and divergent validity through confirmatory factor analyses conducted for a range of age-groups recruited from the community (Cooper,
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1994; Crutzen & Kuntsche, 2013; Kuntsche et al., 2005; Gilson, Bryant, Bei, Komiti, Jackson, & Judd, 2013).

**Self-efficacy during high-risk situations.** Confidence to resist drinking during situations that are associated with high-risk for relapse was assessed using the Brief Situational Confidence Questionnaire (BSCQ; Skylar et al., 1997). The wording of the BSCQ was altered slightly to facilitate retrospective reporting. This 8-item measure assesses participants’ alcohol-related self-efficacy in eight high-risk situations involving: unpleasant emotions, physical discomfort, pleasant emotions, testing control over use of alcohol, urges and temptations, conflict with others, social pressure to use, and pleasant times with others. Responses for each item on the BSCQ (Skylar et al, 1997) were recorded on a visual analog scale that ranged from 0% (*not at all confident*) to 100% (*totally confident*). Participants were required to click and drag the slider to the position that denoted their level of confidence to resist drinking. Of note, there was an issue with the slider function of the online survey software (Fluidsurveys), and some responses did not record properly into the data output file. Upon review of the webpage, it was noted that in its default position (not highlighted) the slider appears to be at the 0% position. Therefore, a participant may not have moved the slider if they wished to report 0% confidence to resist drinking. However, unless the participant actually clicks and drags the slider to the 0% position their rating will not be recorded in the data output. As a result, the scores of several participants were not recorded. This is a limitation of the current dataset since the researcher cannot with total confidence claim that the participant intended to record a zero, rather than simply skip the subject question.
Data Analysis

Summary scores were established for personality risk, drinking motives, self-efficacy during high-risk situations, and alcohol consumption at pre-change and post-change. The total scores for the four subscales of the SURPS (i.e., IH, AS, SS, and IMP) were calculated by summing all relevant items within each scale. To date, cut-off scores for determining whether participants are high or low on the SURPS profiles have not been established. For the current study, high and low groups were established using median scores for the SURPS profiles. A descriptive analysis was completed to determine the median score for each SURPS profile (Mdn$_{IH}$ = 14.00; Mdn$_{AS}$ = 13.00; Mdn$_{SS}$ = 16.00; Mdn$_{IMP}$ = 10.00). Mean scores for the four subscales (i.e., coping, conformity, enhancement, and social) of the DMQ-R were calculated by summing all relevant items within each scale and dividing the total by the number of items comprising that scale. The total scores for the eight subscales of the SCQ (i.e., unpleasant emotions, physical discomfort, pleasant emotions, testing control over use of alcohol, urges and temptations, conflict with others, social pressure to use, and pleasant times with others) were calculated by summing all relevant items within each scale. The total score for the AUDIT-C was calculated by summing all items.

Preliminary analyses involved examining descriptive data for background variables, alcohol consumption, personality risk profiles, drinking motives, and self-efficacy. Next, a series of paired samples t-tests was conducted to examine changes in alcohol consumption, confidence to resist drinking, and motives scores from pre-change to post-change. A series of independent samples t-tests were then conducted to test the first hypothesis that drinking motives and confidence to resist drinking (i.e., self-efficacy) would differ for individuals depending on their...
personality risk profile. Finally, linear regression analyses were conducted to examine the relationship between personality, motives, and confidence to resist drinking among individuals who had made a change to their alcohol use. Interaction effects that achieved significance were further examined through a simple effects analysis, using the interaction macro developed by Preacher, Curran, and Bauer (2006). Due to the error in the SCQ data, all of the independent sample t-tests and linear regression analyses were re-run in a duplicate dataset which included zeroes entered for the missing SCQ values. Each of these analyses was limited to include participants who had complete data on the variables of interest.
Results

Preliminary Descriptive Analyses

Preliminary analyses were conducted to examine the descriptive statistics and frequency distributions for each of the variables of interest.

SURPS profiles. To date, there are no established cut-off scores for determining whether participants are high or low on the SURPS profiles. For the current study, high and low groups were established using a median split on scores for the SURPS profiles. Specifically scores that were above the median were classified as high, whereas those at and below the median were classified as low. Eighteen participants reported scores that were classified as high endorsement of the SURPS IH profile. Twenty participants reported scores that were classified as high endorsement of the SURPS AS profile. Sixteen participants reported scores that were classified as high endorsement of the SURPS IMP profile. Lastly, 22 participants reported scores that were classified as high endorsement of the SURPS SS profile. Descriptive statistics (i.e., Means and Standard Deviations) for the SURPS profiles are listed in Table 2.

Alcohol consumption. Before changing their drinking, participants had an average score of 9.02 on the AUDIT-C ($SD = 2.65$). A score of 3 or more on the AUDIT-C is indicative of harmful or hazardous drinking (Gordon et al., 2001). Pre-change drinking scores were above the cut-off of three for 100% of the sample, indicating that prior to changing their drinking, this was a sample of hazardous drinkers. Moreover, on average, participants reported engaging in binge drinking (i.e., consuming five or more drinks on one occasion) on a weekly basis before their change.
**Seeking assistance.** The majority of participants \((n = 31, 64.6\%)\) did not seek assistance while changing their drinking. Among those who did seek assistance \((n = 14, 29.2\%)\), there was a range of services accessed; including assistance from a private physician \((n = 10, 20.8\%)\), a 12-step program \((n = 9, 18.8\%)\), an emergency room \((n = 9, 18.8\%)\), an Employee Assistance Program \((n = 5, 10.4\%)\), family services \((n = 5, 10.4\%)\), an inpatient program \((n = 4, 8.3\%)\), a rehabilitation program \((n = 4, 8.3\%)\), an outpatient program \((n = 3, 6.3\%)\), other services (i.e., follow-up support post-rehabilitation; military doctors; naturopath; \(n = 3, 6.3\%\)), a detoxification program \((n = 2, 4.2\%)\), a halfway house \((n = 2, 4.2\%)\), and a spiritual leader \((n = 2, 4.2\%)\).

**Examining Changes from Pre- to Post-change in Alcohol Use**

The first set of analyses involved examining pre-post differences in AUDIT-C, confidence to resist drinking, and motives scores through a series of paired samples t-tests. Each of the following analyses was limited to include participants who had complete data on the variables of interest. Table 2 summarizes the pre- and post-change descriptive statistics for alcohol consumption, drinking motives, confidence to resist drinking during high-risk situations for the total sample.

**Hazardous drinking.** After changing their drinking, the average score reported on the AUDIT-C was 2.83 (SD = 2.93), indicating that, on average, participants no longer met the cut-off for hazardous drinking once they had made a change. Indeed, 48% of this sample had a score of less than 3 on the AUDIT-C after changing their drinking. Furthermore, the mean difference score for pre-post comparison of AUDIT-C scores was 6.19 (SD = 3.84). Of the entire sample, only two participants’ scores did not change from pre- to post-change and one participant’s AUDIT-C score decreased by just one point. There was a significant difference in alcohol use
severity reported on the AUDIT-C \( t (47) = 11.18, p < 0.001 \), with individuals reporting higher levels of alcohol use before their change compared to after their change. There was also a significant decrease in binge drinking from pre- to post-change \( t (46) = 9.75, p < 0.001 \).

**Phasic responses.** On average, participants had significantly higher scores for each drinking motive before changing their drinking than they did after changing their drinking (Social: \( t (45) = 7.90, p < 0.001 \); Coping: \( t (44) = 7.66, p < 0.001 \); Enhancement: \( t (44) = 8.84, p < 0.001 \); Conformity: \( t (41) = 3.25, p < 0.01 \)). Conversely, participants’ average level of confidence to resist drinking in each of the high-risk situations was significantly higher after their change (i.e., more confidence to resist drinking) than it was before their change in drinking (Unpleasant Emotions: \( t (40) = -6.08, p < 0.001 \); Physical Discomfort: \( t (41) = -4.05, p < 0.001 \); Pleasant Emotions: \( t (37) = -5.25, p < 0.001 \); Testing Control: \( t (42) = -4.13, p < 0.001 \); Urges and Temptations: \( t (38) = -6.53, p < 0.001 \); Conflict with Others: \( t (36) = -4.40, p < 0.001 \); Social Pressure to Use: \( t (37) = -5.38, p < 0.001 \); Pleasant Times with Others: \( t (35) = -5.56, p < 0.001 \)).

The Relationship Between Personality, Motives, and Confidence to Resist Drinking at Pre-change

A series of independent samples t-tests were conducted to test the first hypothesis that drinking motives and confidence to resist drinking (i.e., self-efficacy) would differ for individuals depending on their personality risk profile. Participants were placed into high and low risk groups for each personality style (i.e., IH, AS, IMP, SS) using a median split. Analyses were limited to participants who provided complete data on the variables of interest. The results of these analyses are summarized in Table 3 and described in more detail below.
**SURPS introversion/hopelessness.** It was hypothesized that individuals with higher scores on the SURPS IH profile would also report higher coping motives and lower levels of confidence to resist drinking during situations in which they experienced unpleasant emotions. As hypothesized, there was a significant difference in pre-change ratings of drinking to cope ($t(46) = -4.38, p < 0.001$) and pre-change confidence to resist drinking in situations involving unpleasant emotions ($t(39) = 2.68, p = 0.01$) according to grouping on the SURPS IH profile. Individuals who were high on the SURPS IH profile reported significantly higher levels of drinking to cope and were significantly less confident to resist drinking during situations that involved unpleasant emotions compared to individuals who were low on the SURPS IH profile.

The same pattern of significant differences in pre-change ratings of drinking to cope ($t(46) = -4.38, p < 0.001$) and pre-change confidence to resist drinking during situations involving unpleasant emotions ($t(45) = 3.58, p = 0.001$) was observed when zeroes were entered for the missing SCQ data. Again, individuals who were high on the SURPS IH profile reported significantly higher levels of drinking to cope and were significantly less confident to resist drinking during situations involving unpleasant emotions than individuals who were low on the SURPS IH profile.

It was also hypothesized that individuals with higher scores on the SURPS IH profile would report higher conformity motives and lower levels of confidence to resist drinking during situations in which they experienced social pressure to use alcohol. However, no significant differences were found between individuals who were high compared to low on the SURPS IH profile in terms of pre-change conformity drinking motives ($t(46) = 0.25, p > 0.05$) or pre-change ratings of confidence to resist drinking during situations involving social pressure to use
(t (36) = 0.16, p > 0.05) before making a change. This same pattern was observed when zeroes were entered for the missing SCQ data.

**SURPS anxiety sensitivity.** It was hypothesized that individuals with higher scores on the SURPS AS profile would have higher coping motives and lower confidence to resist drinking during situations in which they experienced unpleasant emotions. In partial support of this hypothesis, there was a significant difference between the high and low SURPS AS groups in terms of pre-change ratings of drinking to cope (t (47) = -2.30, p < 0.05), but not pre-change confidence to resist drinking in situations involving unpleasant emotions (t (39) = 1.76, p > 0.05). Individuals who were high on the SURPS AS profile reported significantly higher levels of drinking to cope than individuals who were low on the SURPS AS profile. The same pattern of results was observed when zeroes were entered for the missing SCQ data. That is, there was a significant difference in pre-change ratings of drinking to cope (t (47) = -2.30, p < 0.05), but not pre-change confidence to resist drinking in situations involving unpleasant emotions (t (46) = 1.59, p > 0.05), according to grouping on the SURPS AS profile. Again, individuals who were high on the SURPS AS profile reported significantly higher levels of drinking to cope than individuals who were low on the SURPS AS profile.

It was also hypothesized that individuals with higher scores on the SURPS AS profile would report higher conformity motives and lower levels of confidence to resist drinking in situations during which they experienced social pressure to use. However, no significant differences were found between individuals who were high compared to low on the SURPS AS profile in terms of conformity drinking motives (t (47) = -0.56, p > 0.05) or ratings of confidence to resist drinking during situations involving social pressure to use (t (37) = -0.48, p > 0.05)
before making a change. The same pattern was observed when zeroes were entered for the missing SCQ data.

**SURPS sensation seeking.** It was hypothesized that individuals with higher scores on the SURPS SS profile would report higher enhancement motives and lower levels of confidence to resist drinking during situations in which they experienced pleasant emotions. No significant differences were found between individuals who were high compared to low on the SURPS SS profile in terms of pre-change enhancement drinking motives \((t (46) = 0.44, p > 0.05)\) or ratings of confidence to resist drinking during situations involving pleasant emotions \((t (38) = 0.55, p > 0.05)\) before making a change. The same pattern of results was observed when zeroes were entered for the missing SCQ data.

**SURPS impulsivity.** Lastly, it was hypothesized that individuals with higher scores on the SURPS IMP profile would report higher levels of all four drinking motives and lower levels of confidence to resist drinking during situations in which they experienced urges and temptations to drink. There was a significant difference between the high and low SURPS IMP groups on pre-change ratings of drinking to conform \((t (46) = -3.87, p < 0.001)\), wherein participants with high SURPS IMP scores reported significantly higher levels of drinking to conform than individuals with low SURPS IMP scores. The same significant difference between the high and low SURPS IMP groups in terms of pre-change drinking to conform was observed when zeroes were entered for the missing SCQ data.

No other significant differences were found between individuals with high compared to low scores on the SURPS IMP profile in terms of coping drinking motives \((t (46) = -1.19, p > 0.05)\), social drinking motives \((t (46) = -1.38, p > 0.05)\), enhancement drinking motives \((t (46) =
-1.17, \( p > 0.05 \), or ratings of confidence to resist drinking during situations involving urges and temptations to drink (\( t (37) = -0.01, p > 0.05 \)) before making a change. The same patterns were observed when zeroes were entered for the missing SCQ data.

**Linear Regression Analyses – The Relationship between Personality, Motives, and Confidence to Resist Drinking at Post-Change**

The final set of analyses was conducted to examine the relationship between personality, motives, and confidence to resist drinking among individuals who had made a change to their alcohol use. Linear regression analyses were used to explore personality and motives as predictors of post-change confidence to resist drinking. In addition, post-change motives were examined as moderators of the relationship between personality and post-change confidence to resist drinking using interaction terms. To control for the effects of pre-change levels of drinking and confidence to resist drinking, all models included pre-change ratings of confidence to resist drinking and pre-change AUDIT-C scores as control variables. These pre-change variables were entered on the first step of the model. The specific SURPS profile score and post-change drinking motive of interest were entered on the second step of the model (i.e., main effects). Finally, the interaction term, which consisted of the SURPS profile score and the post-change drinking motive of interest, was entered on the third step. Each of the analyses described below was limited to include participants who had complete data on the variables of interest. Interaction effects that achieved significance were further examined through a simple effects analysis, using the interaction macro developed by Preacher and colleagues (2006). All variables in these interactions (i.e., SURPS profile; motive) were centred (Aiken & West, 1991) and the interaction term consisted of these centred terms (i.e., SURPS x Motive). The results for these
analyses are described in more detail below, and are illustrated in Tables 4 - 12. The tables illustrate the results of the regression analyses when there was no substitution of zeroes for the SCQ scores.

**SURPS introversion/hopelessness.** It was hypothesized that the relationship between SURPS IH and post-change confidence to resist drinking during situations that involve unpleasant emotions would be moderated by post-change coping motives. That is, it was anticipated that individuals with higher scores on the SURPS IH profile would have higher levels of post-change confidence to resist drinking during situations that involve unpleasant emotions when they also report low levels of post-change coping motives. As illustrated in Table 4, results from the linear regression analysis revealed a significant main effect of post-change coping motives on confidence to resist drinking in situations involving unpleasant emotions, but there was no significant main effect for the SURPS IH profile. However, significant interaction terms supersede main effects, and the interaction between the SURPS IH profile and post-change coping motives in the final model achieved significance. The final model in this analysis was significant and accounted for 54% of the variance in post-change confidence to resist drinking in situations involving unpleasant emotions (adjusted $R^2 = 0.477$). This pattern of findings remained the same when zeroes were entered for the missing SCQ scores.

To examine the nature of the interaction between SURPS IH and post-change coping motives, a simple effects analysis was conducted and the two slopes were graphed using the Preacher and colleagues (2006) macro. Separate regression lines were plotted for high and low coping motives, defined as one standard deviation above (high coping motives) and below (low coping motives) the centred mean (see Figure 1). Contrary to what was hypothesized, this
analysis revealed that individuals with high scores on the SURPS IH profile, who reported high coping motives, were more confident that they could have resisted drinking during situations involving unpleasant emotions, whereas those with high SURPS IH scores and low coping motives were less confident that they could have resisted drinking in unpleasant emotional situations. Interestingly, only the slope of the low coping motives regression line achieved significance. That is, increasing levels of SURPS IH personality risk was associated with significantly less confidence to resist drinking only among those low in coping motives. Figure 1 displays the moderating effects of post-change coping motives on the relationship between the SURPS IH profile and post-change confidence to resist drinking during situations involving unpleasant emotions.

It was also hypothesized that individuals with higher scores on the SURPS IH profile would have higher levels of post-change confidence to resist drinking in situations that involve social pressure to use alcohol when they also report low levels of post-change conformity motives. However, as illustrated in Table 5, no significant interaction effect was found. Instead, a significant main effect on post-change confidence to resist drinking during situations involving social pressure to use alcohol was found for post-change conformity motives, but not for SURPS IH profile. This model was significant and accounted for 24% of the variance in post-change confidence to resist drinking in situations involving social pressure to use alcohol (adjusted $R^2 = 0.147$).

However, when zeroes were entered for the missing SCQ data, the main effect of post-change conformity motives on post-change confidence to resist drinking during situations
involving social pressure to use was no longer significant. In fact, no significant main or interaction effects were found in this analysis.

**SURPS anxiety sensitivity.** It was hypothesized that the relationship between SURPS AS and post-change confidence to resist drinking during situations that involve unpleasant emotions would be moderated by post-change coping motives. That is, individuals with higher scores on the SURPS AS profile will have higher levels of post-change confidence to resist drinking during situations involving unpleasant emotions when they also report low levels of post-change coping motives. As illustrated in Table 6, no significant interaction effect was found during the linear regression analysis. Instead, a significant main effect on post-change confidence to resist drinking during situations involving unpleasant emotions was found for post-change coping motives, but not for the SURPS AS profile. The second model in this analysis was significant and accounted for 43% of the variance in post-change confidence to resist drinking in situations involving unpleasant emotions (adjusted $R^2 = 0.370$).

When zeroes were entered for the missing SCQ data, the same pattern of results was observed. That is, no significant interaction effect was found, and the second model achieved significance and accounted for 51% of the variance in post-change confidence to resist drinking in situations involving unpleasant emotions (adjusted $R^2 = 0.462$).

It was also hypothesized that individuals with higher scores on the SURPS AS profile would have higher levels of post-change confidence to resist drinking during situations that involve social pressure to use when they also report low levels of post-change conformity motives. As illustrated in Table 7, results from the linear regression analysis revealed a significant main effect of post-change conformity motives on post-change confidence to resist
drinking, but there was no main effect of the SURPS AS profile. However, significant interaction terms supersede main effects, and the interaction between the SURPS AS profile and post-change conformity motives in the final model achieved significance. The final model in this analysis was significant and accounted for 46% of the variance in post-change confidence to resist drinking in situations involving social pressure to use (adjusted $R^2 = 0.379$).

Similarly, when zeroes were entered for the missing SCQ data, the post-change conformity motives and the SURPS AS profile interaction term had a significant effect on post-change confidence to resist drinking during situations that involve social pressure to use. Again, the final model achieved significance and accounted for 35% of the variance in post-change confidence to resist drinking in situations involving social pressure to use (adjusted $R^2 = 0.270$).

The nature of the interaction between SURPS AS and post-change conformity motives was further examined through a simple effects analysis and the two slopes were graphed using the Preacher and colleagues (2006) macro. Separate regression lines were plotted for high and low conformity motives, defined as one standard deviation above (high conformity motives) and below (low conformity motives) the centred mean (see Figure 2). Contrary to what was hypothesized, this analysis revealed that individuals with high scores on the SURPS AS profile, who reported high conformity motives, were more confident that they could have resisted drinking in situations involving social pressure to use, whereas those with high SURPS AS scores and low conformity were less confident that they could have resisted drinking in social pressure situations. Interestingly, only the slope of the high coping motives regression line achieved significance. That is, increasing levels of SURPS AS personality risk was associated with significantly more confidence to resist drinking only among those high in conformity
motives. Figure 2 displays the moderating effects of conformity motives on the relationship between the SURPS AS profile and post-change confidence to resist drinking in situations that involve social pressure to use.

**SURPS sensation seeking.** It was hypothesized that the relationship between SURPS SS and post-change confidence to resist drinking during situations that involve pleasant emotions would be moderated by post-change enhancement motives. That is, individuals with higher scores on the SURPS SS profile will have higher levels of post-change confidence to resist drinking during situations involving pleasant emotions when they also report low levels of post-change enhancement motives. Results from the linear regression analysis revealed no significant interaction effect, as illustrated in Table 8. Instead, there was a significant main effect of pre-change confidence to resist drinking in situations involving pleasant emotions and a significant main effect of post-change enhancement motives; the main effect of the SURPS SS profile was not significant. The second model in this analysis was significant and accounted for 56% of the variance in post-change confidence to resist drinking in situations involving pleasant emotions (adjusted $R^2 = 0.507$).

Likewise, when zeroes were entered for the missing SCQ data, no significant interaction effect was found, and the second model achieved significance and accounted for 30% of the variance (adjusted $R^2 = 0.229$). Again, there was a significant main effect of post-change enhancement motives on post-change confidence to resist drinking during situations involving pleasant emotions found. However, pre-change levels of confidence to resist drinking during situations involving pleasant emotions no longer had a main effect on post-change levels of
confidence to resist drinking. In addition, SURPS SS was found to have a significant main effect on post-change confidence to resist drinking during situations involving pleasant emotions.

**SURPS impulsivity.** It was hypothesized that the relationship between SURPS IMP and post-change confidence to resist drinking during situations that involve urges and temptations to drink would be moderated by post-change coping motives. That is, individuals with higher scores on the SURPS IMP profile will have higher levels of post-change confidence to resist drinking during situations that involve urges and temptations to drink when they also report low levels of post-change coping motives. Results from the linear regression analysis revealed that there was no significant interaction effect, as illustrated in Table 9. In addition, none of the main effects were significant. Only the control variables were significant and accounted for 16% of the variance in post-change confidence to resist drinking in situations involving urges and temptation to drink (adjusted $R^2 = 0.110$). Specifically, there was a significant main effect of pre-change confidence to resist drinking during situations involving urges and temptations to drink.

Although no significant interaction effect was found when zeroes were entered for the missing SCQ data, the second model achieved significance and accounted for 31% of the variance in post-change confidence to resist drinking in situations involving urges and temptation to drink (adjusted $R^2 = 0.241$). That is, there was a significant main effect of pre-change levels of confidence to resist drinking during situations involving urges and temptations to drink and post-change coping motives on post-change confidence to resist drinking, but there was no significant main effect of the SURPS IMP profile.

Secondly, it was hypothesized that the relationship between SURPS IMP and post-change confidence to resist drinking during situations that involve urges and temptations to drink would
be moderated by conformity motives. That is, individuals with higher scores on the SURPS IMP profile will have higher levels of post-change confidence to resist drinking during situations involving urges and temptations to drink when they also report low levels of post-change conformity motives. Results from the linear regression analysis revealed that there was no significant interaction. In addition, none of the main effects were significant, as illustrated in Table 10. As in the previous analysis, only the control variables in the first model achieved significance. This pattern of findings remained the same when zeroes were entered for the missing SCQ scores.

It was also hypothesized that the relationship between SURPS IMP and post-change confidence to resist drinking during situations that involve urges and temptations to drink would be moderated by post-change enhancement motives. That is, individuals with higher scores on the SURPS IMP profile will have higher levels of post-change confidence to resist drinking during situations involving urges and temptations to drink when they also report low levels of post-change enhancement motives. Results from the linear regression analysis revealed no significant interaction effect, as illustrated in Table 11. Instead, there was a significant main effect of pre-change levels of confidence to resist drinking during situations involving urges and temptations to drink, as well as a significant main effect of post-change enhancement motives. The second model in this analysis was significant and accounted for 31% of the variance in post-change confidence to resist drinking in situations involving urges and temptations to drink (adjusted $R^2 = 0.224$). This pattern of findings remained the same when zeroes were entered for the missing SCQ scores.
Lastly, it was hypothesized that the relationship between SURPS IMP and post-change confidence to resist drinking during situations that involve urges and temptations to drink would be moderated by post-change social motives. That is, individuals with higher scores on the SURPS IMP profile will have higher levels of post-change confidence to resist drinking during situations involving urges and temptations to drink when they also report low levels of post-change social motives. Results from the linear regression analysis revealed that there was no significant interaction, as illustrated in Table 12. In addition, none of the main effects were significant. Again, only the control variables in the first model achieved significance. This pattern of findings remained the same when zeroes were entered for the missing SCQ scores.
Personality, Motives, and Confidence to Resist Drinking

**Discussion**

This study sought to investigate the relationship between several risk factors identified in the contemporary cognitive-behavioural relapse model developed by Witkiewitz and Marlatt (2004) through an empirical investigation of factors that influence confidence to resist drinking among individuals who have changed their alcohol use. Specifically, the purpose of this study was to examine the relationship between personality profiles associated with risk for alcohol use (i.e., distal risk factors), and phasic drinking motives (i.e., proximal risk factors), and an outcome associated with relapse to alcohol use (i.e., confidence to resist drinking during high-risk situations; Annis, 1990; Witkiewitz, van der Maas, Hufford, & Marlatt, 2007). The results of the present study provide further evidence that individuals with specific personality risk profiles are motivated to use alcohol to achieve certain desired outcomes that are linked to their personality risk. In addition, the results indicate that two specific motives (i.e., coping and conformity motives) moderate the association between two of the personality profiles (i.e., introversion/hopelessness and anxiety sensitivity) and confidence to resist drinking during specific high-risk situations (i.e., negative emotional and social pressure to use) following a change in alcohol use.

Prior to discussing the study findings, it is important to note that the current sample consisted of individuals who had made a change to their alcohol use and sustained this change over time. Of the entire sample, all but three participants had lower scores on the AUDIT-C; only two participants did not change from pre- to post-change and one participant's AUDIT-C score decreased by just one point. The one individual whose score actually increased by one point on the AUDIT-C from pre- to post-change reported in the written response that they have been
sober for several years now, so it is not clear why their AUDIT-C score increased. The two participants whose AUDIT-C scores did not change gave the same rating at pre- and post-change on the AUDIT-C questions. After changing their drinking, 48% of the sample no longer meeting the cut-off for problem alcohol use. Although the original intention of this research was to recruit individuals who had both sustained change and those who had relapsed, there was some selection bias wherein only those who had made a change to their drinking responded to the recruitment advertisements. It may be that individuals who have been successful in sustaining their change are proud of their accomplishment and/or believe they have something to give back to the community by sharing the strategies that have helped them. Indeed, a few participants commented on feeling proud about the change they have made. For example, one participant wrote:

“I know that alcoholism is in both sides of my family and being conscious of that increased my urge to quit drinking. I had also previously quit smoking cigarettes and marijuana two years before I quit drinking and I knew I was substituting. I have an addictive personality. It took me several more years after that to quit my sex addiction. Now I have made it almost one year in abstinence. I am proud to say I am: drug free, smoke free, alcohol free.”

Another participant wrote:

“I quit one month ago. I was drinking 50 - 70 beers a week and spending more than $1,000 on beer a month. I had never gone more than 3 days in a row not drinking in the preceding 15 years and everytime I thought about cutting back, I convinced myself that I couldn't. Since it has only been one month since I've quit, I've answered the during and
after questions identically. I am very proud of the decision that I’ve made and so far have really only been tempted once and I was able to successfully resist that temptation.”

In addition, a level of intrinsic motivation to complete the survey was required of participants, as minimal compensation was offered as an incentive. It may also be that recruitment was affected by social acceptability. That is, individuals may be more comfortable accessing contact information for research on alcohol use from a publically-posted recruitment poster and less fearful of social judgement from others, including the researcher, when they have a ‘success story’ to share. Similarly, although confidentiality was assured, participants were informed of the practical limitations on the anonymity of this research (e.g., identifying e-mail addresses) and so may have opted not to complete the survey. Thus, although the original hypotheses pertained to individuals who both relapsed and sustained change, findings from the current sample must be interpreted in the context of individuals who have made changes to their drinking and maintained these changes for a period of time. In addition, due to the nature of the sample, it was not possible to test the second set of hypotheses that individuals who have increased confidence to resist drinking will be less likely to return to pre-change levels of alcohol use following their change in drinking as originally proposed. To examine the original hypotheses and differences observed in the present analyses in more varied experiences of change, investigators might consider partnering with a rehabilitation program that follows up with clients throughout a period of the maintenance phase of change in future research.

Nonetheless, interesting patterns were revealed in the present sample of individuals who have sustained change. In the first set of analyses the relationship between personality risk and drinking motives prior to participants’ change in drinking was examined. In addition, the
relationship between personality risk and pre-change confidence to resist drinking during high-risk situations, including situations involving unpleasant emotions, social pressure to use, pleasant emotions, and urges and temptations to drink was also examined. It was hypothesized that each personality profile would be associated with less confidence to resist drinking in a specific high-risk situation. Specifically, it was anticipated that introversion/hopelessness would be associated with unpleasant emotions and social pressure to use, anxiety sensitivity with unpleasant emotions and social pressure to use, sensation seeking with pleasant emotions, and impulsivity with urges and temptations.

Consistent with past research and the current hypothesis, both the introversion/hopelessness and anxiety sensitivity personality profiles were associated with pre-change coping motives for alcohol use (Carpenter & Hasin, 1998; Conrod et al., 2000a; Grant, Stewart, & Mohr, 2009; Novak, Burgess, Clark, Zvolensky, & Brown, 2003; Stewart & Devine, 2000; Stewart & Zeitlin, 1995; Woicik et al., 2009). These findings suggest that individuals with certain personality styles are motivated to use alcohol to achieve specific desired outcomes; specifically, introverted/hopeless and anxiety sensitive individuals’ use of alcohol is associated with coping motives. In terms of the proposed relationship between personality risk and pre-change confidence to resist drinking, only the introverted/hopeless personality style was significantly associated with confidence to resist drinking during situations involving unpleasant emotions before a change was made. Individuals with higher scores on the introversion/hopelessness profile reported lower levels of confidence to resist drinking during situations in which they experienced unpleasant emotions. This relationship suggests that individuals higher in introversion/hopelessness may be at greater risk for using alcohol when they experience unpleasant emotions. Contrary to what had been hypothesized, the anxiety
sensitivity profile was not associated with confidence to resist drinking in high-risk situations involving unpleasant emotions encountered before making a change. This suggests that there is a unique relationship between the introversion/hopelessness profile and confidence to resist drinking in situations that involve unpleasant emotions. That is, the risk for drinking in negative emotional situations seems to be specific to individuals who are likely to experience negative emotions associated with depressed affect and not anxiety (i.e., introversion/hopelessness profile versus anxiety sensitivity profile). Moreover, introverted/hopeless individuals may be at particular risk during situations involving unpleasant emotions due to a relationship between introversion and sensitivity to punishment (e.g., Depue & Collins, 1999, Gray, 1970, Pihl & Peterson, 1995). That is, it may be that individuals who are high in introversion/hopelessness are particularly sensitive to negative emotional experiences, and because they rely on maladaptive coping patterns (i.e., alcohol use) to alleviate negative affect, they would be less confident to abstain or control their drinking during situations involving unpleasant emotions. For individuals who are high on anxiety sensitivity, there may be a greater level of specificity in terms of the types of situations that are associated with alcohol use. In particular, individuals with high anxiety sensitivity tend to struggle with situations involving unpleasant thoughts or worrying. Furthermore, in addition to psychological concerns, anxiety sensitivity is comprised of two other lower-order components: physical and social concerns (Stewart & Kushner, 2001). That is, anxiety sensitive individuals are not only concerned with the psychological experience of anxiety, but also fear the potential physical outcomes of anxiety-related bodily sensations (e.g., dizziness; heart palpitations) and social impact of publicly observable anxiety symptoms (e.g., trembling) and might be motivated to relapse to alleviate physical symptoms associated with withdrawal (Stewart & Kushner, 2001). Thus, examining anxiety sensitive individuals’
confidence to resist drinking during situations that involve physical discomfort or withdrawal experiences might be a direction for future research.

It was also hypothesized that both the introversion/hopelessness profile and the anxiety sensitive profile would be associated with pre-change conformity motives. However, neither personality profile was associated with pre-change use of alcohol to conform or confidence to resist drinking during situations involving social pressure to use alcohol encountered before making a change. These findings may be due to the nature of the conformity motives variable within the current sample. In general, participants in the current sample did not highly endorse drinking to conform to social pressures. Conformity motives are of particular importance when examining alcohol use patterns among adolescents (e.g., Comeau et al., 2001; Krank et al., 2011; Woicik et al., 2009), but there is less evidence to suggest that conformity is an important drinking motive among adults (e.g., Lewis et al., 2008; Martens, Rocha, Martin, & Serrao, 2008). The present sample consisted of adult drinkers, ranging in age from 21 to 58 years; thus upon review, it makes sense that conformity motives would have less of an impact on drinking patterns in this sample.

Despite the lack of significant findings between the two emotion-focused personality profiles and pre-change conformity motives, there was a significant relationship between the impulsive personality style and pre-change conformity motives. Specifically, individuals with higher impulsivity reported greater motives to drink to conform. While it was anticipated that impulsive individuals would report drinking alcohol to conform, it was not expected that this would be the only motive with which impulsivity was associated; impulsivity was expected to relate to all four drinking motives. It is not clear why conformity motives was the only drinking
motive related to impulsivity in this sample of adults. Moreover, this finding is not consistent with past research. In fact, researchers have found that the impulsive personality profile does not relate to any one motive, and interpret this as an inability to inhibit use when the substance, for example alcohol, is present in the individual’s environment (Woicik et al., 2009). It is possible that relationships between impulsivity and the other drinking motives (i.e., coping; enhancement; social) were not detected in the present analyses as a result of a lack of statistical power due to the small sample size. Alternatively, this finding may relate to the underrepresentation of impulsive drinking in the present sample. Although the mean impulsivity score is comparable to that reported in other studies (e.g., Woicik et al., 2009), only 16 of the 47 participants who responded to this item were highly impulsive. This finding should be replicated in future research before firm conclusions can be drawn.

The impulsive personality risk profile was not found to be related with any of the other motives (i.e., coping; enhancement; social) or confidence to resist drinking in situations involving urges and temptations at pre-change. This finding likely relates to a lack of specificity in this relationship. That is, in situations that involve urges and temptations to drink anyone who has made a change to their drinking may be at risk of consuming alcohol, regardless of their personality style. Indeed, past research has highlighted urges, temptations, and craving as subjective experiences that are potent predictors of relapse to alcohol use (Witkiewitz & Bowen, 2011; Witkiewitz, Bowen, & Donovan, 2011; Witkiewitz, 2013). Furthermore, researchers have found evidence which suggests that craving and urges to drink moderate the effects of negative affect - another phasic risk factor for relapse (Witkiewitz et al., 2011). Perhaps then, craving and urges to drink can moderate the influence of other phasic risk factors as well; in which case, any influence other phasic drinking motives might have on confidence to resist drinking during
situations involving urges and temptations to drink might be overpowered. Future research might consider potential moderating effects of drinking motives and craving or urge to drink simultaneously on the proposed relationship between personality risk and confidence to resist drinking during high-risk situations. It is also possible that participants’ change in drinking reduced impulsivity since alcohol use may be part of the constellation of behaviors that contribute to impulsive acts. Thus, future research might consider re-administering personality measures at post-change to evaluate whether constructs, such as impulsivity, are influenced by a change in participants’ alcohol consumption.

Lastly, contrary to what was expected, the sensation seeking profile was not related to pre-change enhancement motives or confidence to resist drinking during high-risk situations involving pleasant emotions encountered before making a change. The sensation seeking profile may not have been associated with the pre-change confidence to resist drinking during situations involving pleasant emotions because such situations do not pose sufficient risk for relapse to sensation seekers. Indeed, sensation seeking has been conceptualized as “the desire for intense and novel experiences” (Woicik et al., 2009) and has been associated with the use of alcohol to enhance positive affect (Comeau et al., 2001; Cooper et al., 1995; Woicik et al., 2009). While situations involving pleasant emotions might pose some risk of enhancing positive affect through alcohol use, such situations do not necessarily provide opportunities for intense and novel experiences. Likewise, the enhancement motives scale of the DMQ-R may capture a different conceptualization of enhancement than that of the sensation seeking profile of the SURPS which might preclude any relationship between these two factors. While the enhancement scale of the DMQ-R captures the use of alcohol to enhance positive affect, it also captures enhancement of experiences (e.g., “Because it’s fun”) and physiological experiences associated with alcohol use.
(e.g., “Because it gives you a pleasant feeling”). Thus, it is possible that these two measures do not capture the same concept, or that the enhancement motives scale on the DMQ-R encompasses too broad a range of ‘enhancement’ experiences. Indeed, during an evaluation of discriminant validity, Woicik and colleagues (2009) found that the sensation seeking subscale of the SURPS measure was more strongly related to measures of venturesomeness than more broadly defined dimensions of personality, such as openness and extraversion. Future research should include measures that provide a more precise assessment of the types of motives and situations that prompt drinking among those high on sensation seeking.

In the second stage of analysis, the main effects of personality risk and post-change drinking motives, and interaction effects between these two factors, on post-change confidence to resist drinking during high-risk situations was examined using a moderation analysis. In terms of the interaction effects, it was hypothesized that the relationship between personality risk and post-change confidence to resist drinking during a high-risk situation would be moderated by post-change drinking motives. Since this sample consists of individuals who have sustained change, the hypotheses were revised to be interpreted within the context of factors contributing to sustaining change. Therefore, it was hypothesized that individuals who endorsed high personality risk, but also reported low post-change drinking motives, would report a higher level of post-change confidence to resist drinking during a situation that was expected to be risky based on the drinking motives associated with their personality profile. To examine this relationship, post-change drinking motives were conceptualized as moderators of the relationship between personality risk and post-change confidence to resist drinking during specific high-risk situations. During this analysis, two unexpected interaction effects were observed. The effects of
post-change drinking motives on each of the proposed personality-confidence to resist drinking relationships are described below for each personality profile.

As hypothesized, post-change coping motives were found to moderate the relationship between introversion/hopelessness and individuals’ confidence to resist drinking during situations in which unpleasant emotions were experienced following their drinking change. Interestingly, when coping motives were low, there was a significant and steep decrease in individuals’ confidence to resist drinking when experiencing unpleasant emotions for those with higher introversion/hopelessness. In contrast, when coping motives were high, confidence to resist drinking during situations involving unpleasant emotions did not change significantly, and in fact increased slightly, with higher introversion/hopelessness risk. Thus, at low introversion/hopelessness personality risk, the low coping motives group had the highest levels of confidence to resist drinking during situations in which they experienced unpleasant emotions and at high introversion/hopelessness personality risk, the low coping motives group had the lowest levels of confidence to resist drinking.

Introversion/hopelessness was also expected to be related to post-change confidence to resist drinking during situations involving social pressure to use, and post-change conformity motives were expected to moderate this relationship. However, the anticipated moderated relationship was not found. In fact, introversion/hopelessness did not influence individuals’ confidence to resist drinking during situations in which they faced social pressure to use following their change. This finding, or lack thereof, is likely related to the developmental stage of the participants in this research. As noted earlier, the moderating effects of conformity motives may be less relevant for adults and more relevant for adolescents (Woicik et al., 2009).
There was, however, a significant main effect of conformity motives on confidence to resist drinking during situations involving social pressure to use. This finding suggests that phasic conformity motives are in fact of importance for this group when facing social pressure to use, even more so than distal introversion/hopelessness personality risk.

Anxiety sensitivity was expected to be related to post-change confidence to resist drinking during situations involving unpleasant emotions, and post-change coping motives were hypothesized to moderate this relationship. Although, the proposed moderation effect was not observed, coping motives significantly influenced individuals’ confidence to resist drinking during situations involving unpleasant emotions following their change. This finding suggests that phasic coping motives are in fact of importance for this group when facing unpleasant emotions, even more so than distal anxiety sensitivity personality risk. Similar to the pattern observed at pre-change, the lack of effects observed for anxiety sensitivity in this relationship may relate to the nature of the experiences of anxiety sensitivity (i.e., psychological, physical, or social) in this sample.

The current findings supported the hypothesis that anxiety sensitivity would be related to individuals’ confidence to resist drinking during situations in which they experienced social pressure to use after changing their drinking, and that this relationship would be moderated by post-change conformity motives. In this case, when conformity motives were high, there was a significant and steep increase in confidence to resist drinking during situations involving social pressure to use for those with high anxiety sensitivity personality risk. When conformity motives were low, confidence to resist drinking did not change significantly, and in fact decreased slightly, when individuals reported high anxiety sensitivity. Thus, at low anxiety sensitivity
personality risk, low conformity drinking motives were associated with the highest levels of confidence to resist drinking during situations in which they experienced social pressure to use. However, at high anxiety sensitivity, high conformity motives were associated with the highest levels of confidence to resist drinking.

Sensation seeking was believed to relate to post-change confidence to resist drinking during situations involving pleasant emotions, and this relationship was posited to be moderated by post-change enhancement motives. Although there was no evidence for moderation, post-change enhancement drinking motives did have a significant effect on individuals’ post-change confidence to resist drinking during situations involving pleasant emotions. Again, this finding suggests that phasic enhancement motives are in fact of importance for this group when facing pleasant emotions, even more so than distal sensation seeking personality risk.

Finally, all four drinking motives were hypothesized to moderate the relationship between impulsivity and confidence to resist drinking during situations involving urges and temptations at post-change. However, no moderating effects were found, and only post-change enhancement drinking motives were observed to have a significant main effect on participants’ confidence to resist drinking during situations involving urges and temptations. This may relate to the seemingly indiscriminant risk that urges and temptations pose to any individual, not only impulsive individuals, who are attempting to decrease or abstain from drinking. Indeed, as previously discussed, urges to drink have been recognized as a potent phasic relapse risk factor in and of itself (Witkiewitz, 2013) that may even moderate the effects of other phasic risk factors (Witkiewitz et al., 2011). Perhaps then, the effects of urges to drink are more salient to recovering individuals that any influence drinking motives may have had on post-change
confidence to resist drinking during a high-risk situation in which they encountered urges and temptations to drink.

In summary, two personality-confidence to resist drinking relationships were moderated by drinking motives. Specifically, the effects of introversion/hopelessness on post-change confidence to resist drinking during situations involving unpleasant emotions was moderated by post-change coping motives, and the effects of anxiety sensitivity on post-change confidence to resist drinking during situations involving social pressure to use was moderated by post-change conformity motives. It is not surprising that the only personality styles found to influence post-change confidence to resist drinking were introversion/hopelessness and anxiety sensitivity since these risk profiles are consistently associated with negative reinforcement motives (i.e., coping and conformity motives; Woicik et al., 2009) which are most often associated with problematic patterns of drinking (Cooper et al., 1995; Kuntsche et al., 2005). A similar pattern was observed in both of these moderating relationships which suggests that individuals who report a similar level of risk for phasic drinking motives that are related to their distal personality risk (e.g., high coping and high introversion/hopelessness) will have the highest levels of confidence to resist drinking during a situation that is expected to challenge this motive (e.g., experiencing unpleasant emotions). It may be that individuals who reported high personality risk and drinking motives were more aware of the risk factors that contribute to their drinking. Indeed, the present research findings are based on information reported in a series of self-report questionnaires, and therefore, a degree of self-awareness would be required of participants. In turn, it is likely that individuals who are more aware of what places them at greatest risk for drinking would develop alternate responses to high-risk situations (e.g., alternate coping strategies), and thus, feel more confident in handling such situations after changing their drinking. Indeed, increasing awareness
of risk factors that contribute to one’s drinking is an important first step in counselling and an important component of Relapse Prevention (Marlatt & Gordon, 1985).

Nonetheless, the pattern observed in the current moderation analyses is not consistent with past research conducted by Witkiewitz in 2011. Recall, Witkiewitz (2011) found that increases in distal and proximal risk were associated with heavy drinking following treatment. The difference in findings may be attributed to the sample of individuals participating in each study. Witkiewitz (2011) conducted a secondary analysis of data collected during a 1-year follow-up period from a large sample \( (n = 1,383) \) of individuals following completion of a 16-week treatment program. In contrast, the present findings are based on a pilot sample \( (n = 48) \) which consists of members of the general public who self-reported having made a change to their drinking in the past five years and who, for the most part, sustained their change for at least three months. Thus, the extent to which the present results will generalize to individuals with more varied experiences of change (e.g., clinical sample; individuals who have relapsed), such as those who participated in Witkiewitz’s (2011) study, is not known.

Although no other proposed moderating relationships achieved significance, the associated post-change phasic drinking motives were found to have a significant effect on post-change confidence to resist drinking for most of these relationships. That is, for each relationship in which a main effect was observed, the pattern was consistently that the drinking motive, but not personality risk, was associated with confidence to resist drinking during a specific high-risk situation. This is in line with the conceptualization of motives as the final pathway through which other distal factors influence alcohol use (Cooper, 1994; Cooper et al., 1995; Cox & Klinger, 1988, 1990; Kuntsche et al., 2005). Furthermore, this findings supports the conclusion
of past research that proximal risk factors (e.g., drinking motives) are stronger predictors of relapse than distal risk factors (Miller et al., 1996; Witkiewitz, 2011), and highlights the importance of targeting individuals’ motives for consuming alcohol in order to sustain change.

Implications

The results of the present study have important theoretical and clinical implications when considering the influence of certain personality styles, drinking motives, and confidence to resist drinking on relapse. Each of these factors has been recognized as contributing to the risk for relapse among recovering individuals in the Witkiewitz and Marlatt (2004) model. Moreover, the factors are believed to influence one another through distal-phasic interactions to contribute to the risk for relapse (Witkiewitz & Marlatt, 2004). The results of this research offer preliminary empirical support for the proposed interactions among these factors and expand upon the contributions of personality risk factors in relapse.

In this study, personality risk profiles that have been associated with specific motives for using alcohol were conceptualized as distal risk factors. Drinking motives that have been associated with these personality risk profiles, and confidence to resist drinking during high-risk situations that might trigger these drinking motives, were conceptualized as phasic risk factors. The current findings offer empirical support for the proposed distal-phasic interaction between two personality profiles (i.e., introversion/hopelessness and anxiety sensitivity) and drinking motives (i.e., coping and conformity, respectively) on an individual’s confidence to overcome corresponding high-risk situations by resisting drinking after changing their drinking.

In terms of clinical implications, the findings of this research can be used to help inform treatment by identifying those at greatest risk for relapse, and which risk factors would be most
beneficial to target. The current findings consistently highlighted the significant influence of phasic drinking motives, even more so than distal personality risk, on individuals’ confidence to resist drinking. These findings have practical implications for treatment, since phasic risk factors, such as drinking motives, are expected to be more amenable to change than the comparably stable and distal influence of personality. Since self-efficacy during high-risk situations is an outcome associated with relapse to alcohol use (Annis, 1990; Witkiewitz et al., 2007), the present results suggest that identifying and targeting clients’ motives for drinking, increasing awareness of those phasic risk factors, and then working with clients’ to develop alternative responses to high-risk situations (e.g., coping skills training) would be most beneficial. In particular, the present findings highlight the influence of coping, conformity, and enhancement drinking motives on confidence to resist drinking during high-risk situations. This suggests that these motives pose the greatest risk to adults who are attempting to change their drinking, more so than social drinking motives. Developing alternative strategies for regulating one’s affective experience and responding to social exclusion might be beneficial direction for treatment.

In addition, introversion/hopelessness and anxiety sensitivity personality risk profiles were the only personality styles associated with confidence to resist drinking following participants’ change in alcohol use. As previously noted, these risk profiles have consistently been associated with negative reinforcement motives (i.e., coping and conformity motives; Woicik et al., 2009) which are most often associated with problematic patterns of drinking (Cooper et al., 1995; Kuntsche et al., 2005). The results of the present study indicate that these personality risk profiles are not only associated with negative reinforcement motives before an individual attempts to change their drinking, but afterwards as well. This suggests that introverted/hopeless and anxiety sensitive individuals may be at greatest risk for relapse after
changing their drinking; particularly when these individuals do not recognize their motives for drinking. Thus, identifying this subset of individuals from the outset of treatment would be helpful for treatment planning so that that the motives underlying their personality style can be effectively targeted.

Lastly, these findings indicate that the greatest self-efficacy to resist drinking during a situation expected to challenge their drinking motives was reported among individuals who recognized a similar level of phasic and distal risk. This pattern was interpreted as demonstrating that individuals’ who have been able to sustain change were more aware of the risk factors that contribute to their drinking. Thus, it would be helpful to work with clients to increase their awareness of risk factors that contribute to their drinking, by identifying whether they fit a personality risk profile, and especially their motives for consuming alcohol, and providing psychoeducation on how these factors have been shown to interact.

Limitations and Future Directions

Although the results of the present study offer some preliminary empirical support for proposed interactions among certain personality types, motives, and confidence to resist drinking in the relapse model, there are several important limitations that should be considered when interpreting these results. First, the power of the analyses conducted was limited due to the relatively small sample size of this study ($n = 48$). Thus, it is possible that some of the proposed relationships that actually exist in the population were not observed due to a lack of statistical power. Of note, despite the small sample, several main and interaction effects were observed. These findings speak to the robustness of the effects that were observed.
Secondly, although participants were recruited using advertisements that targeted the general public, the final sample was relatively homogenous in their change experience. That is, for the most part, individuals who chose to participate in this research were successful in decreasing their drinking for a period of time. Moreover, many individuals made comments in the written response section that suggested they were continuing to maintain their lower levels of alcohol consumption or non-use. As a result, analyses comparing the patterns observed in this group with those of a group of individuals who had relapsed to or exceeded pre-change levels of alcohol consumption could not be conducted. Such comparisons may be informative. Thus, future directions for research might include expanding the present sample, not only to increase the power of the analyses conducted, but to include individuals with more varied experiences of change. As previously alluded to, the extent to which the patterns observed between personality, motives, and confidence to resist drinking during high-risk situations in the present sample might extend to other populations remains unclear. In fact, one might anticipate different interaction and influences among individuals who have relapsed. The present research might serve as a pilot study for future research in this regard.

In addition, the nature of this study imposed certain limitations. This study consisted of a series of self-report surveys that were completed retrospectively via an online administration. The online administration of this study provided participants with greater anonymity, which is of particular importance when participants are being asked about sensitive information such as alcohol use problems. However, the extent to which their responses might have been influenced by extraneous factors remains unknown. For example, someone completing the online surveys might become distracted by something or someone in their immediate environment. It is also possible that internal experiences such as social desirability might influence a participant’s
responses. Although anonymity was assured in the present research, some individuals may choose to underreport their alcohol use and/or the consequences associated with their use given the sensitive nature of this information. Moreover, the reliance upon retrospective self-report measures in this study poses a limitation because the accuracy and validity of such accounts can be influenced by the participant’s affective state (Hodgins et al., 2010) and recall biases. It is particularly important to recognize the limitations of self-report when the variables of interest relate to alcohol use since individuals’ level of intoxication is likely to influence their ability to recall details, such as drinking motives, related to the drinking event. However, participants’ reports were found to be consistent upon review, and the draw for a $25 gift card from Amazon.ca is not believed to have provided enough incentive to motivate false responding. Future directions for research in this area might include experience sampling which would allow participants to document changes in their motives for drinking during a high-risk situation rather than relying on memory.

Lastly, the present study focused on examining the proposed relationship between several specific factors in the Witkiewitz and Marlatt (2004) model. This is by no means a comprehensive examination of factors that might influence an individual’s confidence to resist drinking to maintain change when faced with a high-risk situation. Moreover, the small sample size in the present study necessitates a balance between testing plausible relationships among the factors assessed and overtesting the sample. It is also possible that by examining the proposed relationship in isolation of other factors in this model, extraneous influences on this relationship were not recognized. As other researchers have recommended (e.g., Witkiewitz, 2011), an important direction for future research will be to conduct more comprehensive investigations of factors contributing to relapse and relationships among these factors in larger samples. In
addition, this research study was designed to test an *a priori* relationship in which personality was conceptualized as a distal risk factor while motives and confidence to resist drinking were conceptualized as phasic risk factors. As a result, personality factors were assessed only once at the beginning of the survey as an overall measure (i.e., not linked with a specific timepoint) while motives and confidence to resist drinking were examined at the pre- and post-change timepoints in the present research design. This design limited the current analyses to testing a unidirectional relationship between personality, motives and confidence to resist drinking. In future research it would be interesting to examine alternate pathways among these and other risk factors. Indeed, past research suggests that reciprocal relationships may exist among at least some of the risk factors in the relapse model (e.g., Gerrard, Gibbons, Benthin, & Hessling, 1996; Katz, Fromme, & D’Amico, 2000).

In conclusion, this research provides some preliminary empirical support for the proposed distal-phasic interaction between certain risky personality types and drinking motives, and the influence of these factors on confidence to resist drinking during high-risk situations. Before making a change, introverted/hopeless, anxiety sensitive, and impulsive personality styles were all associated with negative reinforcement motives. In addition, an especially risky personality profile, introversion/hopelessness, negatively impacted one’s confidence to resist drinking during the high-risk situation that corresponded with this profile, those involving unpleasant emotions. Following their change in drinking, the effect of introversion/hopelessness on participants’ confidence to resist drinking during situations involving unpleasant emotions was moderated by coping drinking motives. In addition, the effect of anxiety sensitivity on confidence to resist drinking during situations involving social pressure to use was moderated by another negative reinforcement drinking motive, use of alcohol to conform. In both of these relationships, the
pattern observed suggested that individuals who recognized a similar level of phasic and distal
risk had the highest levels of confidence to resist drinking during a situation expected to
challenge their motives for drinking. This pattern has been interpreted as demonstrating that
being aware of the risk factors that contribute to one’s drinking patterns can have a positive
effect on self-efficacy after they have changed their drinking. Additional research examining the
relationship between personality risk, drinking motives, and confidence to resist drinking during
high-risk situations is needed to corroborate the effects observed, and the interpretation
proposed. Furthermore, future research should seek to extend these findings observed to other
groups attempting to change their drinking.
Table 1

Descriptive Statistics for Demographic Information for the Total Sample at Pre- and Post-change

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<th>Variable</th>
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<td><strong>Education</strong></td>
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<tr>
<td>Currently enrolled</td>
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<td>10 (20.8)</td>
<td>48</td>
<td>12 (25)</td>
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<tr>
<td>Current grade</td>
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<td>1 (2.1)</td>
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<td>-</td>
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<td>Community College</td>
<td>1 (2.1)</td>
<td>2 (4.2)</td>
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<td>University</td>
<td>9 (18.8)</td>
<td>11 (22.9)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other (not specified)</td>
<td>-</td>
<td>1 (2.1)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Not currently enrolled</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Highest grade completed</td>
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<td>35</td>
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<tr>
<td>Some high school</td>
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<td>1 (2.1)</td>
<td>-</td>
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<tr>
<td>General Educational Development</td>
<td>1 (2.1)</td>
<td>2 (4.2)</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Some community college or some university</td>
<td>4 (8.3)</td>
<td>6 (12.5)</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Graduated community college or university</td>
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<td>21 (43.8)</td>
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<tr>
<td>Some graduate school</td>
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<td>1 (2.1)</td>
<td>-</td>
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<tr>
<td>Completed graduate degree</td>
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<td>4 (8.3)</td>
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<td>48</td>
<td>11 (22.9)</td>
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<td>11 (22.9)</td>
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<tr>
<td>Part-time</td>
<td>13 (27.1)</td>
<td>14 (29.2)</td>
<td>-</td>
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<tr>
<td>Full-time</td>
<td>26 (54.2)</td>
<td>23 (47.9)</td>
<td>-</td>
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<td><strong>Level of income</strong></td>
<td>48</td>
<td>16 (33.3)</td>
<td>48</td>
<td>19 (39.6)</td>
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<tr>
<td>&lt; $20,000</td>
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<td>19 (39.6)</td>
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<td>-</td>
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<tr>
<td>$20,000 - $30,000</td>
<td>8 (16.7)</td>
<td>7 (14.6)</td>
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<td>-</td>
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<td>$30,000 - $40,000</td>
<td>3 (6.3)</td>
<td>4 (8.3)</td>
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<td>$40,000 - $50,000</td>
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<td>7 (14.6)</td>
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<td>$50,000 - $60,000</td>
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<td>2 (4.2)</td>
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<td>$60,000 - $70,000</td>
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<td>1 (2.1)</td>
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<td>$70,000 - $80,000</td>
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<td>3 (6.3)</td>
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<tr>
<td>$80,000 - $90,000</td>
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<td>2 (4.2)</td>
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<tr>
<td>$90,000 - $100,000</td>
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<td>-</td>
<td>-</td>
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<td>&gt; $100,000</td>
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### Housing

<table>
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<th>Housing type</th>
<th>48 (58.4)</th>
<th>48 (52.1)</th>
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</thead>
<tbody>
<tr>
<td>Apartment</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>Condominium</td>
<td>2 (4.2)</td>
<td>3 (6.3)</td>
</tr>
<tr>
<td>House</td>
<td>14 (29.2)</td>
<td>13 (27.2)</td>
</tr>
<tr>
<td>Military housing</td>
<td>1 (2.1)</td>
<td>1 (2.1)</td>
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<tr>
<td>Shared house</td>
<td>1 (2.1)</td>
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</tr>
<tr>
<td>Townhouse</td>
<td>2 (4.2)</td>
<td>1 (2.1)</td>
</tr>
<tr>
<td>Basement</td>
<td>-</td>
<td>2 (4.2)</td>
</tr>
<tr>
<td>Hostel</td>
<td>-</td>
<td>1 (2.1)</td>
</tr>
<tr>
<td>Transitional housing (self-contained)</td>
<td>-</td>
<td>1 (2.1)</td>
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<tr>
<td>Sober living</td>
<td>-</td>
<td>1 (2.1)</td>
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</table>

<table>
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<tr>
<th>Living arrangement</th>
<th>48 (52.1)</th>
<th>48 (52.1)</th>
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</thead>
<tbody>
<tr>
<td>Alone</td>
<td>13 (27.1)</td>
<td>18 (37.5)</td>
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<tr>
<td>Roommates</td>
<td>10 (20.8)</td>
<td>5 (10.4)</td>
</tr>
<tr>
<td>Parents</td>
<td>4 (8.3)</td>
<td>5 (10.4)</td>
</tr>
<tr>
<td>Other relatives</td>
<td>3 (6.3)</td>
<td>3 (6.3)</td>
</tr>
<tr>
<td>Partner/Spouse</td>
<td>16 (33.3)</td>
<td>15 (31.3)</td>
</tr>
<tr>
<td>Partner and partner’s parent</td>
<td>1 (2.1)</td>
<td>1 (2.1)</td>
</tr>
<tr>
<td>Cousin</td>
<td>1 (2.1)</td>
<td>-</td>
</tr>
<tr>
<td><strong>“Young women”</strong></td>
<td>-</td>
<td>1 (2.1)</td>
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</tbody>
</table>

### Relationship status

<table>
<thead>
<tr>
<th>Relationship status</th>
<th>48 (58.4)</th>
<th>48 (52.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>8 (16.7)</td>
<td>17 (35.4)</td>
</tr>
<tr>
<td>Casually dating</td>
<td>5 (10.4)</td>
<td>3 (6.3)</td>
</tr>
<tr>
<td>Exclusive relationship</td>
<td>20 (41.7)</td>
<td>14 (29.2)</td>
</tr>
<tr>
<td>Married or common law</td>
<td>11 (22.9)</td>
<td>11 (22.9)</td>
</tr>
<tr>
<td>Separated</td>
<td>1 (2.1)</td>
<td>2 (4.2)</td>
</tr>
<tr>
<td>Divorced</td>
<td>2 (4.2)</td>
<td>1 (2.1)</td>
</tr>
<tr>
<td>Open relationship</td>
<td>1 (2.1)</td>
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</tbody>
</table>

### Parenthood

<table>
<thead>
<tr>
<th>Parenthood</th>
<th>48 (58.4)</th>
<th>48 (52.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>-</td>
<td>48 (3 (6.3)</td>
</tr>
<tr>
<td>Parent</td>
<td>-</td>
<td>46 (16.7)</td>
</tr>
<tr>
<td>Number of children M (SD)</td>
<td>-</td>
<td>9 (1.89 (1.05)</td>
</tr>
<tr>
<td>Number of children living with M (SD)</td>
<td>-</td>
<td>9 (1.22 (0.97)</td>
</tr>
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</table>
Table 2

Descriptive Statistics for SURPS Profiles, and Pre- and Post-change Alcohol Consumption, Drinking Motives, and Confidence to Resist Drinking During High-risk Situations for the Total Sample

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-change Total</th>
<th>Post-change Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M (SD)</td>
</tr>
<tr>
<td>SURPS Profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introversion/Hopelessness</td>
<td>48</td>
<td>14.02 (4.39)</td>
</tr>
<tr>
<td>Anxiety Sensitivity</td>
<td>48</td>
<td>12.35 (3.25)</td>
</tr>
<tr>
<td>Sensation Seeking</td>
<td>48</td>
<td>16.00 (3.05)</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>48</td>
<td>10.23 (3.04)</td>
</tr>
<tr>
<td>Alcohol Consumption</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total AUDIT-C Score***</td>
<td>48</td>
<td>9.02 (2.65)</td>
</tr>
<tr>
<td>Binge Drinking Frequency***</td>
<td>47</td>
<td>3.02 (1.07)</td>
</tr>
<tr>
<td>Drinking Motives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social motives***</td>
<td>46</td>
<td>12.91 (5.35)</td>
</tr>
<tr>
<td>Coping motives***</td>
<td>45</td>
<td>11.09 (6.10)</td>
</tr>
<tr>
<td>Enhancement motives***</td>
<td>45</td>
<td>11.98 (4.82)</td>
</tr>
<tr>
<td>Conformity motives**</td>
<td>42</td>
<td>4.83 (4.30)</td>
</tr>
<tr>
<td>Confidence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unpleasant Emotions***</td>
<td>41</td>
<td>46.17 (35.01)</td>
</tr>
<tr>
<td>Physical Discomfort***</td>
<td>42</td>
<td>65.57 (35.84)</td>
</tr>
<tr>
<td>Pleasant Emotions***</td>
<td>38</td>
<td>45.45 (32.53)</td>
</tr>
<tr>
<td>Testing Control***</td>
<td>43</td>
<td>54.98 (33.66)</td>
</tr>
<tr>
<td>Urges and Temptations***</td>
<td>39</td>
<td>44.15 (31.51)</td>
</tr>
<tr>
<td>Conflict with Others***</td>
<td>37</td>
<td>56.14 (36.86)</td>
</tr>
<tr>
<td>Social Pressure to Use***</td>
<td>38</td>
<td>54.26 (29.84)</td>
</tr>
<tr>
<td>Pleasant Times with Others***</td>
<td>36</td>
<td>42.50 (30.22)</td>
</tr>
</tbody>
</table>

*p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001
Table 3

*Independent Samples T-tests Results Comparing Motives and Confidence to Resist Drinking in High-risk Situations at Pre-change Between High and Low Personality Risk*

<table>
<thead>
<tr>
<th>Personality Profile</th>
<th>Motives SCQ Scores</th>
<th>Low Risk</th>
<th>High Risk</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>n</td>
<td>M (SD)</td>
</tr>
<tr>
<td>SURPS IH</td>
<td>Coping***</td>
<td>30</td>
<td>1.65 (1.12)</td>
</tr>
<tr>
<td></td>
<td>Unpleasant Emotions**</td>
<td>28</td>
<td>55.46 (34.12)</td>
</tr>
<tr>
<td>SURPS IH</td>
<td>Conformity</td>
<td>30</td>
<td>1.01 (0.91)</td>
</tr>
<tr>
<td></td>
<td>Social Pressure to use</td>
<td>25</td>
<td>54.84 (32.52)</td>
</tr>
<tr>
<td>SURPS AS</td>
<td>Coping*</td>
<td>29</td>
<td>1.87 (1.30)</td>
</tr>
<tr>
<td></td>
<td>Unpleasant Emotions</td>
<td>24</td>
<td>54.08 (33.79)</td>
</tr>
<tr>
<td>SURPS AS</td>
<td>Conformity</td>
<td>29</td>
<td>0.92 (0.87)</td>
</tr>
<tr>
<td></td>
<td>Social Pressure</td>
<td>24</td>
<td>52.33 (29.41)</td>
</tr>
<tr>
<td>SURPS SS</td>
<td>Enhancement</td>
<td>26</td>
<td>2.51 (0.87)</td>
</tr>
<tr>
<td></td>
<td>Pleasant Emotions</td>
<td>22</td>
<td>49.45 (31.98)</td>
</tr>
<tr>
<td>SURPS IMP</td>
<td>Coping</td>
<td>32</td>
<td>2.01 (1.23)</td>
</tr>
<tr>
<td></td>
<td>Urges and Temptations</td>
<td>27</td>
<td>44.11 (33.68)</td>
</tr>
<tr>
<td>SURPS IMP</td>
<td>Conformity***</td>
<td>32</td>
<td>0.68 (0.63)</td>
</tr>
<tr>
<td></td>
<td>Urges and Temptations</td>
<td>27</td>
<td>44.11 (33.68)</td>
</tr>
<tr>
<td>SURPS IMP</td>
<td>Enhancement</td>
<td>32</td>
<td>2.34 (0.96)</td>
</tr>
<tr>
<td></td>
<td>Urges and Temptations</td>
<td>27</td>
<td>44.11 (33.68)</td>
</tr>
<tr>
<td>SURPS IMP</td>
<td>Social</td>
<td>32</td>
<td>2.51 (1.14)</td>
</tr>
<tr>
<td></td>
<td>Urges and Temptations</td>
<td>27</td>
<td>44.11 (33.68)</td>
</tr>
</tbody>
</table>

*Notes. SURPS IH = introversion/hopelessness profile; SURPS AS = anxiety sensitivity profile; SURPS SS = sensation seeking profile; SURPS IMP = impulsivity profile.

* p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001
Table 4

Results from the Hierarchical Linear Regression Analyses of the Association Between
Introversion/Hopelessness, Coping Motives and Confidence to Resist Drinking in Situations
Involving Unpleasant Emotions

<table>
<thead>
<tr>
<th></th>
<th>ΔR²</th>
<th>B</th>
<th>SE b</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td></td>
<td>1.619</td>
<td>1.342</td>
<td>0.202</td>
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<tr>
<td>Pre-change Coping Motives</td>
<td></td>
<td>-5.226</td>
<td>2.912</td>
<td>-0.300</td>
</tr>
<tr>
<td>Step 2</td>
<td>0.38***</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IH</td>
<td></td>
<td>-0.627</td>
<td>0.709</td>
<td>-0.133</td>
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<tr>
<td>Post-change Coping Motives</td>
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<td>-12.056</td>
<td>2.492</td>
<td>-0.629</td>
</tr>
<tr>
<td>Step 3</td>
<td>0.08**</td>
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<tr>
<td>SURPS IH x Post-change Coping Motives</td>
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<td>1.187</td>
<td>0.451</td>
<td>1.215</td>
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</table>

*p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001

Table 5

Results from the Hierarchical Linear Regression Analyses of the Association Between
Introversion/Hopelessness, Conformity Motives and Confidence to Resist Drinking in Situations
Involving Social Pressure to Use

<table>
<thead>
<tr>
<th></th>
<th>ΔR²</th>
<th>B</th>
<th>SE b</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td></td>
<td>0.572</td>
<td>1.434</td>
<td>0.066</td>
</tr>
<tr>
<td>Pre-change Conformity Motives</td>
<td></td>
<td>0.142</td>
<td>0.127</td>
<td>0.186</td>
</tr>
<tr>
<td>Step 2</td>
<td>0.20*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IH</td>
<td></td>
<td>0.100</td>
<td>0.868</td>
<td>0.020</td>
</tr>
<tr>
<td>Post-change Conformity Motives</td>
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<td>-12.549</td>
<td>4.629</td>
<td>-0.465</td>
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<tr>
<td>Step 3</td>
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<td>SURPS IH x Post-change Conformity Motives</td>
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<td>1.420</td>
<td>0.849</td>
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*p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001
Table 6

*Results from the Hierarchical Linear Regression Analyses of the Association Between Anxiety Sensitivity, Coping Motives and Confidence to Resist Drinking in Situations Involving Unpleasant Emotions*

<table>
<thead>
<tr>
<th>Step</th>
<th>$\Delta R^2$</th>
<th>$B$</th>
<th>SE b</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td>1.232</td>
<td>1.366</td>
<td>0.154</td>
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<tr>
<td>Pre-change Coping Motives</td>
<td>0.146</td>
<td>0.106</td>
<td>0.236</td>
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<tr>
<td>Step 2</td>
<td>0.38***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS AS</td>
<td>0.534</td>
<td>0.953</td>
<td>0.083</td>
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</tr>
<tr>
<td>Post-change Coping Motives</td>
<td>-14.901</td>
<td>3.164</td>
<td>-0.657</td>
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</tr>
<tr>
<td>Step 3</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS AS x Post-change Coping Motives</td>
<td>1.179</td>
<td>0.672</td>
<td>0.929</td>
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</table>

*p ≤ 0.05, ** $p$ ≤ 0.01, ***$p$ ≤ 0.001

Table 7

*Results from the Hierarchical Linear Regression Analyses of the Association Between Anxiety Sensitivity, Conformity Motives and Confidence to Resist Drinking in Situations Involving Social Pressure to Use*

<table>
<thead>
<tr>
<th>Step</th>
<th>$\Delta R^2$</th>
<th>$B$</th>
<th>SE b</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td>0.572</td>
<td>1.434</td>
<td>0.066</td>
<td></td>
</tr>
<tr>
<td>Pre-change Conformity Motives</td>
<td>0.142</td>
<td>0.127</td>
<td>0.186</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>0.26**</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>SURPS AS</td>
<td>2.046</td>
<td>1.225</td>
<td>0.283</td>
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</tr>
<tr>
<td>Post-change Conformity Motives</td>
<td>-16.137</td>
<td>4.603</td>
<td>-0.598</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>0.17**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS AS x Post-change Conformity Motives</td>
<td>2.765</td>
<td>0.883</td>
<td>1.820</td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ 0.05, ** $p$ ≤ 0.01, ***$p$ ≤ 0.001
Table 8

Results from the Hierarchical Linear Regression Analyses of the Association Between Sensation Seeking, Enhancement Motives and Confidence to Resist Drinking in Situations Involving Pleasant Emotions

<table>
<thead>
<tr>
<th></th>
<th>$\Delta R^2$</th>
<th>$B$</th>
<th>SE b</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>0.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td>1.555</td>
<td>1.818</td>
<td>0.149</td>
<td></td>
</tr>
<tr>
<td>Pre-change Enhancement Motives</td>
<td>0.289</td>
<td>0.152</td>
<td>0.331</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>0.47***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS SS</td>
<td>-2.376</td>
<td>1.217</td>
<td>-0.273</td>
<td></td>
</tr>
<tr>
<td>Post-change Enhancement Motives</td>
<td>-13.249</td>
<td>3.046</td>
<td>-0.551</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS SS x Post-change Enhancement Motives</td>
<td>-0.683</td>
<td>1.113</td>
<td>-0.503</td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001

Table 9

Results from the Hierarchical Linear Regression Analyses of the Association Between Impulsivity, Coping Motives and Confidence to Resist Drinking in Situations Involving Urges and Temptations

<table>
<thead>
<tr>
<th></th>
<th>$\Delta R^2$</th>
<th>$B$</th>
<th>SE b</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>0.16*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td>1.693</td>
<td>1.653</td>
<td>0.179</td>
<td></td>
</tr>
<tr>
<td>Pre-change Coping Motives</td>
<td>0.365</td>
<td>0.142</td>
<td>0.450</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IMP</td>
<td>-0.873</td>
<td>1.346</td>
<td>-0.102</td>
<td></td>
</tr>
<tr>
<td>Post-change Coping Motives</td>
<td>-8.465</td>
<td>4.001</td>
<td>-0.315</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IMP x Post-change Coping Motives</td>
<td>-1.839</td>
<td>1.985</td>
<td>-0.614</td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001
Table 10

*Results from the Hierarchical Linear Regression Analyses of the Association Between Impulsivity, Conformity Motives and Confidence to Resist Drinking in Situations Involving Urges and Temptations*

<table>
<thead>
<tr>
<th></th>
<th>ΔR²</th>
<th>B</th>
<th>SE b</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.16*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td>1.693</td>
<td>1.653</td>
<td>0.179</td>
<td></td>
</tr>
<tr>
<td>Pre-change Conformity Motives</td>
<td>0.365</td>
<td>0.142</td>
<td>0.450</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>0.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IMP</td>
<td>-0.344</td>
<td>1.415</td>
<td>-0.040</td>
<td></td>
</tr>
<tr>
<td>Post-change Conformity Motives</td>
<td>-5.411</td>
<td>4.801</td>
<td>-0.177</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IMP x Post-change Conformity Motives</td>
<td>-3.222</td>
<td>2.374</td>
<td>-1.076</td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001

Table 11

*Results from the Hierarchical Linear Regression Analyses of the Association Between Impulsivity, Enhancement Motives and Confidence to Resist Drinking in Situations Involving Urges and Temptations*

<table>
<thead>
<tr>
<th></th>
<th>ΔR²</th>
<th>B</th>
<th>SE b</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.16*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td>1.693</td>
<td>1.653</td>
<td>0.179</td>
<td></td>
</tr>
<tr>
<td>Pre-change Enhancement Motives</td>
<td>0.365</td>
<td>0.142</td>
<td>0.450</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>0.15*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IMP</td>
<td>-1.191</td>
<td>1.316</td>
<td>-0.139</td>
<td></td>
</tr>
<tr>
<td>Post-change Enhancement Motives</td>
<td>-8.444</td>
<td>3.171</td>
<td>-0.386</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SURPS IMP x Post-change Enhancement Motives</td>
<td>-0.386</td>
<td>1.460</td>
<td>-0.159</td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ 0.05, ** p ≤ 0.01, ***p ≤ 0.001
Table 12

*Results from the Hierarchical Linear Regression Analyses of the Association Between Impulsivity, Social Motives and Confidence to Resist Drinking in Situations Involving Urges and Temptations*

<table>
<thead>
<tr>
<th>Step</th>
<th>( \Delta R^2 )</th>
<th>( B )</th>
<th>( SE_b )</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.16*</td>
<td>1.693</td>
<td>1.653</td>
<td>0.179</td>
</tr>
<tr>
<td>Pre-change AUDIT C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-change Social Motives</td>
<td>0.365</td>
<td>0.142</td>
<td>0.450</td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>0.09</td>
<td>-1.070</td>
<td>1.374</td>
<td>-0.125</td>
</tr>
<tr>
<td>SURPS IMP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-change Social Motives</td>
<td>-6.241</td>
<td>3.196</td>
<td>-0.296</td>
<td></td>
</tr>
<tr>
<td>Step 3</td>
<td>0.01</td>
<td>0.784</td>
<td>1.393</td>
<td>0.339</td>
</tr>
<tr>
<td>SURPS IMP x Post-change Social Motives</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*\( p \leq 0.05, ** p \leq 0.01, ***p \leq 0.001 \)
Figure 1. Two-way interaction between coping motives and SURPS introversion/hopelessness profile in relation to confidence to resist drinking in situations that involve unpleasant emotions.
Figure 2. Two-way interaction between conformity motives and SURPS anxiety sensitivity in relation to confidence to resist drinking in situations that involve social pressure to use alcohol.
References


Personality, Motives, and Confidence to Resist Drinking

10.1080/02791072.1990.10472537


Personality, Motives, and Confidence to Resist Drinking


Personality, Motives, and Confidence to Resist Drinking


countries: The prospective epidemiological study of myocardial infarction (PRIME).

*British Medical Journal, 341, 6077.* doi: 10.1136/bmj.c6077


review. *Substance Abuse, Treatment, Prevention, and Policy, 4*(20), 1-11. doi:
10.1186/1747-597X-4-20

social/environmental predictors of alcohol and drug use 2 years following substance abuse
id=14771

Meszaros, K. (2002). Anxiety as a predictor of relapse in detoxified alcohol-dependent
patients. *Alcohol & Alcoholism, 37*(6), 609-612. http://myaccess.library.utoronto.ca/login
id=14771


Witkiewitz, K. (2013). Temptation to drink as a predictor of drinking outcomes following
psychosocial treatment for alcohol dependence. *Alcoholism: Clinical and Experimental

Witkiewitz, K., & Bowen, S. (2010). Depression, craving, and substance use following a
randomized trial of mindfulness-based relapse prevention. *Journal of Consulting and

intervention on the relation between negative mood and heavy drinking following


Appendices
HAVING YOU CHANGED YOUR DRINKING IN THE PAST 5 YEARS?

Department of Applied Psychology and Human Development
OISE / University of Toronto

If you...
- have stopped drinking, reduced your drinking, or tried to reduce your drinking in the past 5 years on your own or with help
- currently live in Canada
- are at least 19 years old
- are fluent in written English
- can provide a valid email address for us to contact you
- have access to the internet to complete the survey online

You are eligible for this study!
Replies to this ad are confidential

What will you be asked to do?

Online survey
- Fill out an online survey about your past alcohol use and attempt to reduce or stop drinking (approximately 30 mins)

Optional Telephone Interview
- If you are interested in the follow-up interview and randomly chosen to be contacted, the researcher will ask you more about your experience (maximum 30 mins)
You will have the chance to win an online $25 gift card from Amazon.ca

To learn more please contact us:
mallory.campbell@mail.utoronto.ca

or scan the QR code with your smartphone
Appendix B
Informed Consent Form

Consent to Participate in a Research Study
The purpose of an informed consent is to ensure that you understand the purpose of the study and the nature of your involvement. The informed consent must provide sufficient information so you have the opportunity to decide if you would like to participate in the study.

You must be at least 19 years of age to participate in this study.

Principal Investigator
Mallory Campbell, M.A. Candidate, Counselling Psychology, OISE, University of Toronto

Faculty Supervisor
Abby Goldstein, Ph.D., C.Psych., Assistant Professor, Department of Applied Psychology and Human Development, OISE, University of Toronto

Purpose

- You are being asked to agree to participate in a study examining the relationship between individuals’ personality, motives, and changes in alcohol use following a decision to stop or decrease alcohol consumption
- The goal of this study is to better understand how motivations and the situations encountered influence changes to drinking
- By identifying factors that contribute to changes in drinking, we hope to develop better ways of working with individuals who have decided to reduce or stop their drinking
- We hope that a total of 100 adults will participate

Procedure

Online Survey

- If you agree to participate in this research study, you will be asked to complete a series of online questionnaires that require you to respond to survey questions
- Participation in the study will involve answering questions about:
- Background information and personality characteristics
- Details about how you decreased or stopped your drinking
- Details about your use of, experiences you may have had with, and motives for using alcohol before, during, and after you decided to decrease or stop your drinking
- Situations you may have encountered after you decided to decrease or stop your drinking

- The entire survey will take approximately 30 minutes to complete
- You will have the option to enter your e-mail address into a raffle to win an online $25 gift card from Amazon.ca towards the purchase of books, electronics, music, movies, TV shows, software, video games, etc. for your participation

Follow-Up Telephone Interview (OPTIONAL)

- If you agree to participate in this research study, at the end of the online survey you will also be asked if you would like to complete a follow-up telephone interview with the principal investigator
- You will be asked to provide your first name and a valid telephone number so that the principal investigator is able to contact you
- 10 interested participants who complete the online survey will be chosen at random to complete a 30 minute telephone interview
- The follow-up telephone interview will be used to gather further details about your personal experience of alcohol use and change that may have been otherwise missed in a survey

Right to Refuse

- Participation is completely voluntary, and you are under no obligation to agree to participate in this study
- You have the right to withdraw from the research at any time without penalty
- You may choose to skip questions you find objectionable for any reason without penalty
- You may complete the online survey and choose not to participate in a follow-up telephone interview with the principal investigator
- If you choose to withdraw from the study during of the online survey, simply click on the “Withdraw” button at the bottom of each screen
- If you choose to withdraw from the study during the follow-up phone interview (if applicable), simply tell the investigator this at any point during the conversation
- If you choose to withdraw from the study following completion of the online survey or during the follow-up phone interview, you may contact us with your anonymous ID code which the researchers will then use to locate your data and delete your information from the database
Risks

- Although there are no known risks with participating in this study, completing the questionnaires may raise concerns about your drinking and attempt to decrease or stop drinking alcohol
- These sensitive issues may make some participants feel uncomfortable or upset
- We will provide you with the contact information for resources that you may access if you would like to discuss any of these issues

Benefits

- By sharing your experiences, you may gain a better understanding of how your personality, motives, and experiences may have contributed to your current functioning
- By sharing your experiences, you will provide us with a better understanding of factors that influence a person’s ability to reduce or stop drinking alcohol
- This information will help us to develop better practices for working with adults who have experiences similar to yours and are trying to decrease or stop drinking alcohol
- You will also receive a list of helpful contacts for future reference

Compensation

- You will have the option to enter your e-mail address into a raffle to win an online $25 gift card from Amazon.ca towards the purchase of books, electronics, music, movies, TV shows, software, video games, etc. for your time in completing the online survey, in appreciation for your assistance with the study
- Each winner will be notified and forwarded their $25 gift card from Amazon.ca to the e-mail address provided during the survey

Confidentiality

- All information will be kept confidential
- You will not be asked to report your name on any of the questionnaires you complete
- Your first name, e-mail address, and phone number will be stored in a separate database from your survey and phone interview (if applicable) responses
- All contact information and survey and interview responses will be stored in two separate password-protected databases
- An alphanumeric ID code is the only potentially identifying piece of information that will link your contact information to your online survey and phone interview (if applicable) responses. However, only research personnel affiliated with the study will have access to these separate encrypted and password-protected databases and alphanumeric codes.
• Your contact information will be promptly deleted upon completion of the follow-up interviews or should you request this to be done by contacting the principal investigator of the study (Ms. Mallory Campbell) directly with your ID code
• Your name (or other identifying information) will not appear in any reports or presentations that may arise from this study
• **Limits to confidentiality:** As is the case with all research, the information you provide remains confidential with some exceptions. We are required to report the following...
  a) indications that a participant may be at risk of harming themselves or others
  b) reports of child abuse or neglect by written or verbal communication (i.e., abuse or neglect perpetrated to anyone under 16 years of age)
  c) reports of sexual abuse on the part of a health care professional
  d) if mandated by law

**Other Information**
If you are interested in obtaining a brief report of the results, please feel free to contact the principal investigator.

**Questions**
**Should you have any questions or concerns about this study, or if any issues arise because of your participation, please feel free to contact the Investigator or Supervisor.**
Ms. Mallory Campbell, Principal Investigator
M.A. Candidate, Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education, University of Toronto
252 Bloor Street West, Toronto, Ontario, Canada, M5S 1V6
Tel.: (416) 978-0702
E-mail: mallory.campbell@mail.utoronto.ca

Dr. Abby Goldstein, Faculty Supervisor
Department of Applied Psychology and Human Development
Ontario Institute for Studies in Education, University of Toronto
252 Bloor Street West, Toronto, Ontario, Canada, M5S 1V6
Tel.: (416) 978-0703
E-mail: abbyl.goldstein@utoronto.ca

**Should you have any questions about your rights as a research participant, please feel free to contact the Office of Research Ethics at the University of Toronto.**
Office of Research Ethics, University of Toronto
Tel: (416) 946-3273
I have read the above form and understand the conditions of my participation. My participation in this study is voluntary, and if for any reason, at any time, I wish to leave the study I may do so without having to give an explanation and with no penalty whatsoever. I am also aware that the data gathered in this study are confidential and anonymous with respect to my personal identity. I also confirm that I am 19 years or older.

Please print this screen if you would like a copy of this page for your own records.

Clicking the “I consent” button indicates that you have agreed to participate in the present online survey.

☐ I consent and confirm that I am 19 years or older.
Appendix C
Online Questionnaire

Page 1

Before we begin, how did you hear about this study?

______________________

Page 2

We would like to learn more about your decision to change your alcohol use.

When responding to these questions, please think about a time in the past **FIVE** years when you made the decision to either cut back on your drinking or stop drinking altogether.

Because everyone has a unique story about their decision to change their drinking, at the end of the survey we’ve provided a space for you to add additional comments. At the end of the survey, we will ask you to let us know if we’ve missed something. We want to know about YOUR experiences so please feel free to elaborate in this space.

Thank you for taking the time to complete this survey.
Demographics

Today’s Date is:
______/____/____(YYYY/MM/DD)

Gender
  o Female
  o Male
  o __________________________

Where are you currently living?
  o Yukon
  o Northwest Territories
  o Nunavut
  o British Columbia
  o Alberta
  o Saskatchewan
  o Manitoba
  o Ontario
  o Quebec
  o Newfoundland and Labrador
  o New Brunswick
  o Nova Scotia
  o Prince Edward Island

WHO AM I?

1. People sometimes identify themselves by ethnicity or race. Do you consider yourself:
   o Single race
   o Bi-racial
   o Multi-racial (3 or more)

2. Check all the boxes that show how you identify yourself:
   o Aboriginal or First Nations. Group/Band: __________________________
   o White
   o Chinese
   o Filipino
   o Latin American
   o Japanese
   o Korean
   o Black (e.g., African, Haitian, Jamaican, Somali)
   o South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
Personality, Motives, and Confidence to Resist Drinking

- Arab / West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)
- South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)
- Other, please specify... __________________________

3. What is your sexual orientation?
   - Heterosexual (“straight”)
   - Gay/Lesbian
   - Bisexual
   - Unsure

4. a) Your YEAR of Birth:
   __________________________

4. b) How old are you now?
   __________________________
SURPS

For each statement shown below, please indicate the degree to which you agree or disagree that the statement describes you:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>1. I am content.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>2. In stressful situations, I often think what if no one reaches me in time?</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>3. I often don’t think things through before I speak.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>4. I would like to skydive.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>5. I am happy.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>6. When I cannot concentrate I worry I might be going crazy.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>7. I often involve myself in situations that I later regret being involved in.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>8. I enjoy new and exciting experiences even if they are unconventional.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>9. I have faith that my future holds great promise.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>10. Its frightening to feel dizzy or faint.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>11. The most interesting and exciting things are usually illegal or immoral.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>12. I like doing things that frighten me a little.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>13. Sometimes I think I am no good at all.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>14. It frightens me when I feel my heart beat change.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>15. I usually act without stopping to think.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>16. I would like to learn how to drive a motorcycle.</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td></td>
<td>17. I feel proud of my accomplishments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>18. I get scared when I’m too nervous.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19. Generally, I am an impulsive person.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20. I am interested in the experience for its own sake even if it is illegal.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21. I feel that I am a failure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>22. I get scared when I experience unusual body sensations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23. I am stubborn and strong minded.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24. I would enjoy hiking long distances in wild and uninhabited territory.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25. I feel pleasant.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>26. It scares me when I am unable to focus on a task.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>27. I feel I have to be manipulative to get what I want.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>28. I am very enthusiastic about my future.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
AUDIT-C

BEFORE, DURING, AND AFTER THE CHANGE

Click the response that best describes your answer to each question: Please keep in mind the following measurements when you are answering these questions.

*One drink means:
  - One bottle of beer
  - One alcoholic cooler (wine, malt, or liquor-based coolers or any prepackaged cocktails with alcohol and mixer already combined in the container)
  - One 4-oz. glass of wine
  - Or one 1.5-oz. shot of liquor (double shots of liquor count as 2 drinks)

1. How often did you have a drink containing alcohol?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Monthly or less</th>
<th>2-4 times a month</th>
<th>2-3 times a week</th>
<th>4 or more times a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 3 months BEFORE you decided to reduce or stop drinking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>b) At the time of your decision to reduce or stop drinking alcohol</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c) 3 months AFTER you decided to reduce or stop drinking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

2. How many drinks containing alcohol did you have on a typical day when you were drinking?

<table>
<thead>
<tr>
<th></th>
<th>1 or 2</th>
<th>3 or 4</th>
<th>5 or 6</th>
<th>7 to 9</th>
<th>10 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 3 months BEFORE you decided to reduce or stop drinking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>b) At the time of your decision to reduce or stop drinking alcohol</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c) 3 months AFTER you decided to reduce or stop drinking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
3. How often did you have five or more drinks on one occasion?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Less than monthly</th>
<th>Monthly</th>
<th>Weekly</th>
<th>Daily or Almost daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 3 months BEFORE you decided to reduce or stop drinking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>b) At the time of your decision to reduce or stop drinking alcohol</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c) 3 months AFTER you decided to reduce or stop drinking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
What did you do to reduce or stop drinking?

1. Did you go anywhere or see anyone for a reason that was related in any way to your drinking—a physician, counselor, Alcoholics Anonymous, or any other community agency or professional?

   - Yes
   - No

2. Below is a list of community agencies and professionals. For each one, please indicate if you contacted the resource when you decided to reduce or stop your drinking by clicking Yes or No.

   a) Alcoholics Anonymous, Narcotics or Cocaine Anonymous meeting, or any 12-step meeting?

      - Yes
      - No

      If yes, length of attendance (days):

   b) Family services or other social service agency?

      - Yes
      - No

      If yes, length of attendance (days):

   c) Alcohol or drug detoxification unit or clinic?

      - Yes
      - No

      If yes, length of attendance (days):

   d) Inpatient unit of a psychiatric or general hospital or community mental health program?

      - Yes
      - No

      If yes, length of attendance (days):

   e) Outpatient clinic, including outreach programs and day or partial hospital program?

      - Yes
      - No

      If yes, length of attendance (days):

   f) Alcohol or drug rehabilitation program?

      - Yes
      - No

      If yes, length of attendance (days):
g) Emergency room for any reason related to your drinking?
   - Yes
   - No
   If yes, length of attendance (days):

h) Halfway house, including therapeutic communities?
   - Yes
   - No
   If yes, length of attendance (days):

i) Crisis Center for any reason related to your drinking?
   - Yes
   - No
   If yes, length of attendance (days):

j) Employee Assistance Program (EAP) for any reason related to your drinking?
   - Yes
   - No
   If yes, length of attendance (days):

k) Clergy, priest, rabbi, or any other spiritual leader for any reason related to your drinking?
   - Yes
   - No
   If yes, length of attendance (days):

l) Private physician, psychiatrist, psychologist, social worker, or any other professional for any reason related to your drinking?
   - Yes
   - No
   If yes, length of attendance (days):

m) Any other agency or professional for any reason related to your drinking?
   - Yes
   - No
   If yes, please specify...
   If yes, length of attendance (days):
3. Below is a list of personal and social supports. For each one, please indicate if you received support when you decided to reduce or stop your drinking by clicking Yes or No.

a) Family member(s)

Who? (please specify their relation to you):

b) Friend(s)

c) Relationship partner

Who? (please specify their relation to you - e.g., husband, wife, girl/boyfriend, etc):

d) I made this change without external support
The next section asks about your patterns, motives, situations, and level of alcohol use at 3 timepoints: 3 months \textbf{BEFORE} you decided to change (i.e., pre-change), \textbf{AT THE TIME} of your decision to change your drinking (i.e., change), and 3 months \textbf{AFTER} you decided to change (i.e., post-change).

This means we’ll be asking you the same questions 3 times...sorry if this gets repetitive and please bear with us!

\textbf{How long ago did you change your drinking? (Please enter number of months)}
Demographics

BEFORE THE CHANGE

Let’s begin by getting to know a bit about you 3 MONTHS BEFORE you decided to change your drinking.

Please answer the following questions thinking to 3 MONTHS BEFORE you decided to decrease or stop drinking.

5. Were you in school?
   - Yes
   - No

6. If yes, what grade level?
   - Below grade 10
   - Grade 10
   - Grade 11
   - Grade 12
   - Community College
   - University
   - Other, please specify... ______________________

7. If you were not in school at the time, what was the highest grade you had completed at that point?
   - Some elementary school (primary to grade 5)
   - Completed elementary school (completed grade 5)
   - Some middle school (grade 6 to grade 8)
   - Completed middle school (grade 8)
   - Some high school (grade 9 to grade 12)
   - Graduated high school (completed grade 12)
   - General Educational Development (GED)
   - Some community college or some university
8. Overall, what marks did you usually get in school?

- A (80% - 100%)
- B (67% - 79%)
- C (60% - 66%)
- D (50% - 59%)
- Less than D (below 50%)

9. What was your relationship status?

- Single
- Casually dating
- In an exclusive relationship
- Married or Common Law
- Separated
- Divorced
- Widowed
- ______________________

10. What was your employment status?

- Employed full-time
- Employed part-time
- Unemployed

11. I was employed as (Please enter your job title; e.g., teacher, sales associate, store manager, etc.)

__________________________
12. How would you describe your level of income?

- Less than $20,000
- $20,000 - $30,000
- $30,000 - $40,000
- $40,000 - $50,000
- $50,000 - $60,000
- $60,000 - $70,000
- $70,000 - $80,000
- $80,000 - $90,000
- $90,000 - $100,000
- $100,000 +

13. I lived in a (Please enter the type of housing you lived in; e.g., apartment, house, group home, dorm, etc.)

- [ ]

14. Who did you live with at the time?

- Alone
- Roommates
- Parents
- Other Relatives
- Partner/Spouse
- Other (e.g., group home, foster home), please specify... ______________________
Below we have provided a list of experiences that many people report in connection with their drinking. Please read each experience carefully and click “Yes” if it happened to you 3 months **BEFORE** you decided to reduce or stop drinking.

*One drink* means:

- **One bottle of beer**
- **One alcoholic cooler** (wine, malt, or liquor-based coolers or any prepackaged cocktails with alcohol and mixer already combined in the container)
- **One 4-oz. glass of wine**
- **Or one 1.5-oz. shot of liquor** (double shots of liquor count as 2 drinks)

1) 3 months **BEFORE** you decided to reduce or stop drinking...

Did you...

a) ...find that your usual number of drinks had much less effect on you than it once did?  

   - Yes  
   - No

b) ...find that you had to drink much more than you once did to get the effect you wanted?  

   - Yes  
   - No

c) ...want to stop or cut down on your drinking?  

   - Yes  
   - No

d) ...try to stop or cut down on your drinking but found you couldn't do it?  

   - Yes  
   - No

e) ...start drinking even though you decided not to or promised yourself you wouldn't?  

   - Yes  
   - No

f) ...end up drinking much more than you meant to?  

   - Yes  
   - No

g) ...keep on drinking for a much longer period of time than you had intended to?  

   - Yes  
   - No
### 2) 3 months **BEFORE** you decided to reduce or stop drinking...

Did you have any of the following experiences when the effects of alcohol were wearing off, several hours after drinking, or the morning after drinking? For example, did you...

<table>
<thead>
<tr>
<th>Experience</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ...have trouble falling asleep or staying asleep?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) ...find yourself shaking when the effects of alcohol were wearing off?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) ...feel depressed, irritable, or nervous?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) ...feel sick to your stomach or vomit when the effects of alcohol were wearing off?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) ...have a very bad headache?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) ...find yourself sweating or your heart beating fast when the effects of alcohol were wearing off?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g) ...see, feel, or hear things that weren’t really there?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h) ...have fits or seizures when the effects of alcohol were wearing off?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DMQ-R

BEFORE THE CHANGE

The following is a list of reasons people give for drinking alcohol. Thinking about 3 months BEFORE you decided to reduce or stop drinking, how often would you say that you drank for each of the following reasons?

Please rate the frequency by clicking the column on the 5-point scale below.

3 months BEFORE you decided to reduce or stop drinking

<table>
<thead>
<tr>
<th>Reason</th>
<th>Almost never/Never</th>
<th>Some of the time</th>
<th>Half of the time</th>
<th>Most of the time</th>
<th>Almost always/Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To forget your worries</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. Because your friends pressure you to drink</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>3. Because it helps you enjoy the party</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>4. Because it helps you when you feel depressed or nervous</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>5. To be sociable</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>6. To cheer up when you are in a bad mood</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>7. Because you like the feeling</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>8. So that others won’t kid you about not drinking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>9. Because it’s exciting</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>10. To get high</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>11. Because it makes social gatherings more fun</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>12. To fit in with a group</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>13. Because it gives you a pleasant feeling</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
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<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>14. Because it improves parties and celebrations</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>15. Because you feel more self-confident and sure of yourself</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>16. To celebrate a special occasion with friends</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>17. To forget your problems</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>18. Because it’s fun</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>19. To be liked</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
<tr>
<td>20. So you won’t feel left out</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
BSCQ

BEFORE THE CHANGE

Listed below are 8 different situations in which some people experience problems related to their drinking.

Imagine yourself as you were 3 months BEFORE you decided to reduce or stop drinking in the following types of situations. On the scale below, indicate how confident you are that you would have been able to resist drinking heavily in each situation by clicking and dragging the slider from 0% “Not At All Confident” to 100% “ Totally Confident”.

3 months BEFORE you decided to reduce or stop drinking

I would have been able to resist the urge to drink heavily in situations involving . . .

1) UNPLEASANT EMOTIONS

(e.g., If I were depressed about things in general; If everything was going badly for me)

2) PHYSICAL DISCOMFORT

(e.g., If I would have trouble sleeping; If I felt jumpy and physically tense)

3) PLEASANT EMOTIONS

(e.g., If something good would happen and I would feel like celebrating; If everything were going well)

4) TESTING CONTROL OVER MY USE OF ALCOHOL

(e.g., If I would start to believe that alcohol were no longer a problem for me; If I would feel confident that I could handle several drinks)
5) URGES AND TEMPTATIONS
(e.g., If I suddenly had an urge to drink; If I were in a situation where I had often used to drink heavily; If I began to think of how good a rush or high had felt)

6) CONFLICT WITH OTHERS
(e.g., If I had an argument with a friend; If I were not getting along well with others at work)

7) SOCIAL PRESSURE TO USE
(e.g., If someone would pressure me to “be a good sport” and drink with them; If I would be invited to someone’s home and they would offer me a drink)

8) PLEASANT TIMES WITH OTHERS
(e.g., If I wanted to celebrate with a friend; If I would be enjoying myself at a party and wanted to feel even better)
Demographics

AT THE TIME OF CHANGE

Now we would like to know a bit about you AT THE TIME you decided to change your drinking.

Please answer the following questions now thinking AT THE TIME you decided to decrease or stop drinking.

15. Were you in school?
   - Yes
   - No

16. If yes, what grade level?
   - Below grade 10
   - Grade 10
   - Grade 11
   - Grade 12
   - Community College
   - University
   - Other, please specify... ______________________

17. If you were not in school at the time, what was the highest grade you had completed at that point?
   - Some elementary school (primary to grade 5)
   - Completed elementary school (completed grade 5)
   - Some middle school (grade 6 to grade 8)
   - Completed middle school (grade 8)
   - Some high school (grade 9 to grade 12)
   - Graduated high school (completed grade 12)
   - General Educational Development (GED)
   - Some community college or some university
18. Overall, what marks did you usually get in school?

- A (80% - 100%)
- B (67% - 79%)
- C (60% - 66%)
- D (50% - 59%)
- Less than D (below 50%)

19. What was your relationship status?

- Single
- Casually dating
- In an exclusive relationship
- Married or Common Law
- Separated
- Divorced
- Widowed
- ____________________

20. Did you become pregnant or father a child?

- Yes
- No
- Not sure

21. Were you a parent at the time?

- Yes
22. **If yes**, how many children did you have?

23. **If yes**, how many children were living with you at the time?

24. What was your employment status?
   - Employed full-time
   - Employed part-time
   - Unemployed

25. I was employed as (Please enter your job title; e.g., teacher, sales associate, store manager, etc.)

26. How would you describe your level of income?
   - Less than $20,000
   - $20,000 - $30,000
   - $30,000 - $40,000
   - $40,000 - $50,000
   - $50,000 - $60,000
   - $60,000 - $70,000
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   - $80,000 - $90,000
   - $90,000 - $100,000
   - $100,000 +
27. I lived in a (Please enter the type of housing you lived in; e.g., apartment, house, group home, dorm, etc.)

28. Who did you live with at the time?
   - Alone
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   - Other Relatives
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   - Other (e.g., group home, foster home), please specify... ______________________
Below we have provided a list of experiences that many people report in connection with their drinking. Please read each experience carefully and click “Yes” if it happened to you AT THE TIME you decided to reduce or stop drinking.

*One drink means:
- One bottle of beer
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- One 4-oz. glass of wine
- Or one 1.5-oz. shot of liquor (double shots of liquor count as 2 drinks)

1) AT THE TIME you decided to reduce or stop drinking...

Did you...

a) ...find that your usual number of drinks had much less effect on you than it once did?  
   - Yes  
   - No

b) ...find that you had to drink much more than you once did to get the effect you wanted?  
   - Yes  
   - No

c) ...want to stop or cut down on your drinking?  
   - Yes  
   - No

d) ...try to stop or cut down on your drinking but found you couldn't do it?  
   - Yes  
   - No

e) ...start drinking even though you decided not to or promised yourself you wouldn't?  
   - Yes  
   - No

f) ...end up drinking much more than you meant to?  
   - Yes  
   - No

   - Yes  
   - No
2) **AT THE TIME** you decided to reduce or stop drinking...

Did you have any of the following experiences when the effects of alcohol were wearing off, several hours after drinking, or the morning after drinking? For example, did you...

- a) ...have trouble falling asleep or staying asleep?  
  - Yes  
  - No

- b) ...find yourself shaking when the effects of alcohol were wearing off?  
  - Yes  
  - No

- c) ...feel depressed, irritable, or nervous?  
  - Yes  
  - No

- d) ...feel sick to your stomach or vomit when the effects of alcohol were wearing off?  
  - Yes  
  - No

- e) ...have a very bad headache?  
  - Yes  
  - No

- f) ...find yourself sweating or your heart beating fast when the effects of alcohol were wearing off?  
  - Yes  
  - No

- g) ...see, feel, or hear things that weren’t really there?  
  - Yes  
  - No

- h) ...have fits or seizures when the effects of alcohol were wearing off?  
  - Yes  
  - No
DMQ-R

AT THE TIME OF CHANGE

The following is a list of reasons people give for drinking alcohol. **AT THE TIME** of your decision to reduce or stop drinking alcohol, how often would you say that you drank for each of the following reasons?

Please rate the frequency by clicking the column on the 5-point scale below.

**AT THE TIME** you decided to reduce or stop drinking

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<td>3. Because it helps you enjoy the party</td>
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<td>○</td>
<td>○</td>
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<td>8. So that others won’t kid you about not drinking</td>
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<td>9. Because it’s exciting</td>
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<td>Number</td>
<td>Motive</td>
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<td>14.</td>
<td>Because it improves parties and celebrations</td>
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<tr>
<td>15.</td>
<td>Because you feel more self-confident and sure of yourself</td>
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<td>16.</td>
<td>To celebrate a special occasion with friends</td>
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<td>17.</td>
<td>To forget your problems</td>
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<td>18.</td>
<td>Because it’s fun</td>
<td></td>
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<td>19.</td>
<td>To be liked</td>
<td></td>
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<tr>
<td>20.</td>
<td>So you won’t feel left out</td>
<td></td>
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</tbody>
</table>
Listed below are 8 different situations in which some people experience problems related to their drinking. Imagine yourself as you were **AT THE TIME** you decided to reduce or stop drinking in the following types of situations. On the scale below, indicate how confident you are that you would have been able to resist drinking heavily in each situation by clicking and dragging the slider from 0% “Not At All Confident” to 100% “Totally Confident”.

**AT THE TIME** you decided to reduce or stop drinking

I would have been able to resist the urge to drink heavily in situations involving . . .

1) **UNPLEASANT EMOTIONS**

(e.g., If I were depressed about things in general; If everything was going badly for me)

2) **PHYSICAL DISCOMFORT**

(e.g., If I would have trouble sleeping; If I felt jumpy and physically tense)

3) **PLEASANT EMOTIONS**

(e.g., If something good would happen and I would feel like celebrating; If everything were going well)

4) **TESTING CONTROL OVER MY USE OF ALCOHOL**

(e.g., If I would start to believe that alcohol were no longer a problem for me; If I would feel confident that I could handle several drinks)
5) URGES AND TEMPTATIONS

(e.g., If I suddenly had an urge to drink; If I were in a situation where I had often used to drink heavily; If I began to think of how good a rush or high had felt)

6) CONFLICT WITH OTHERS

(e.g., If I had an argument with a friend; If I were not getting along well with others at work)

7) SOCIAL PRESSURE TO USE

(e.g., If someone would pressure me to “be a good sport” and drink with them; If I would be invited to someone’s home and they would offer me a drink)

8) PLEASANT TIMES WITH OTHERS

(e.g., If I wanted to celebrate with a friend; If I would be enjoying myself at a party and wanted to feel even better)
Demographics

**AFTER THE CHANGE**

Lastly, we would like to know a bit about you **3 MONTHS AFTER** you decided to change your drinking.

Please answer the following questions now thinking to **3 MONTHS AFTER** you decided to decrease or stop drinking.

29. **Were you in school?**
   - Yes
   - No

30. **If yes, what grade level?**
   - Below grade 10
   - Grade 10
   - Grade 11
   - Grade 12
   - Community College
   - University
   - Other, please specify... ______________________

31. **If you were not in school at the time, what was the highest grade you had completed at that point?**
   - Some elementary school (primary to grade 5)
   - Completed elementary school (completed grade 5)
   - Some middle school (grade 6 to grade 8)
   - Completed middle school (grade 8)
   - Some high school (grade 9 to grade 12)
   - Graduated high school (completed grade 12)
   - General Educational Development (GED)
   - Some community college or some university
32. Overall, what marks did you usually get in school?

- A (80% - 100%)
- B (67% - 79%)
- C (60% - 66%)
- D (50% - 59%)
- Less than D (below 50%)

33. What was your relationship status?

- Single
- Casually dating
- In an exclusive relationship
- Married or Common Law
- Separated
- Divorced
- Widowed
- ____________________

34. Did you become pregnant or father a child?

- Yes
- No
- Not sure

35. Were you a parent at the time?

- Yes
36. **If yes**, how many children did you have?

37. **If yes**, how many children were living with you at the time?

38. What was your employment status?

   - Employed full-time
   - Employed part-time
   - Unemployed

39. I was employed as (Please enter your job title; e.g., teacher, sales associate, store manager, etc.)

40. How would you describe your level of income?

   - Less than $20,000
   - $20,000 - $30,000
   - $30,000 - $40,000
   - $40,000 - $50,000
   - $50,000 - $60,000
   - $60,000 - $70,000
   - $70,000 - $80,000
   - $80,000 - $90,000
   - $90,000 - $100,000
   - $100,000 +
41. I lived in a (Please enter the type of housing; e.g., apartment, house, group home, dorm, etc.)

42. Who did you live with at the time?

- Alone
- Roommates
- Parents
- Other Relatives
- Partner/Spouse
- Other (e.g., group home, foster home), please specify... ______________________
Below we have provided a list of experiences that many people report in connection with their drinking. Please read each experience carefully and click “Yes” if it happened to you 3 months AFTER you decided to reduce or stop drinking.

*One drink means:

- One bottle of beer
- One alcoholic cooler (wine, malt, or liquor-based coolers or any prepackaged cocktails with alcohol and mixer already combined in the container)
- One 4-oz. glass of wine
- Or one 1.5-oz. shot of liquor (double shots of liquor count as 2 drinks)

1) 3 months AFTER you decided to reduce or stop drinking...

Did you...

a) ...find that your usual number of drinks had much less effect on you than it once did?  
   - Yes  
   - No

b) ...find that you had to drink much more than you once did to get the effect you wanted?  
   - Yes  
   - No

c) ...want to stop or cut down on your drinking?  
   - Yes  
   - No

d) ...try to stop or cut down on your drinking but found you couldn't do it?  
   - Yes  
   - No

e) ...start drinking even though you decided not to or promised yourself you wouldn't?  
   - Yes  
   - No

f) ...end up drinking much more than you meant to?  
   - Yes  
   - No

g) ...keep on drinking for a much longer period of time than you had intended to?  
   - Yes  
   - No
2) 3 months **AFTER** you decided to reduce or stop drinking...

Did you have any of the following experiences when the effects of alcohol were wearing off, several hours after drinking, or the morning after drinking? For example, did you...

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) ...have trouble falling asleep or staying asleep?</td>
<td>o Yes o No</td>
</tr>
<tr>
<td>b) ...find yourself shaking when the effects of alcohol were wearing off?</td>
<td>o Yes o No</td>
</tr>
<tr>
<td>c) ...feel depressed, irritable, or nervous?</td>
<td>o Yes o No</td>
</tr>
<tr>
<td>d) ...feel sick to your stomach or vomit when the effects of alcohol were wearing off?</td>
<td>o Yes o No</td>
</tr>
<tr>
<td>e) ...have a very bad headache?</td>
<td>o Yes o No</td>
</tr>
<tr>
<td>f) ...find yourself sweating or your heart beating fast when the effects of alcohol were wearing off?</td>
<td>o Yes o No</td>
</tr>
<tr>
<td>g) ...see, feel, or hear things that weren’t really there?</td>
<td>o Yes o No</td>
</tr>
<tr>
<td>h) ...have fits or seizures when the effects of alcohol were wearing off?</td>
<td>o Yes o No</td>
</tr>
</tbody>
</table>
The following is a list of reasons people give for drinking alcohol. Thinking about 3 months AFTER you decided to reduce or stop drinking, how often would you say that you drank for each of the following reasons?

Please rate the frequency by clicking the column on the 5-point scale below.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Almost never/Never</th>
<th>Some of the time</th>
<th>Half of the time</th>
<th>Most of the time</th>
<th>Almost always/Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To forget your worries</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2. Because your friends pressure you to drink</td>
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</tr>
<tr>
<td>3. Because it helps you enjoy the party</td>
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<tr>
<td>4. Because it helps you when you feel depressed or nervous</td>
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<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>5. To be sociable</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>6. To cheer up when you are in a bad mood</td>
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<td>○</td>
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<tr>
<td>7. Because you like the feeling</td>
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14. Because it improves parties and celebrations

15. Because you feel more self-confident and sure of yourself

16. To celebrate a special occasion with friends

17. To forget your problems

18. Because it’s fun

19. To be liked

20. So you won’t feel left out
Listed below are 8 different situations in which some people experience problems related to their drinking.

Imagine yourself as you were 3 months **AFTER** you decided to reduce or stop drinking in the following types of situations. On the scale below, indicate how confident you are that you would have been able to resist drinking heavily in each situation by clicking and dragging the slider from 0% “Not At All Confident” to 100% “Totally Confident”.

3 months **AFTER** you decided to reduce or stop drinking

I would have been able to resist the urge to drink heavily in situations involving . . .

1) **UNPLEASANT EMOTIONS**

(e.g., If I were depressed about things in general; If everything was going badly for me)

2) **PHYSICAL DISCOMFORT**

(e.g., If I would have trouble sleeping; If I felt jumpy and physically tense)

3) **PLEASANT EMOTIONS**

(e.g., If something good would happen and I would feel like celebrating; If everything were going well)

4) **TESTING CONTROL OVER MY USE OF ALCOHOL**

(e.g., If I would start to believe that alcohol were no longer a problem for me; If I would feel confident that I could handle several drinks)
5) **URGES AND TEMPTATIONS**

(e.g., If I suddenly had an urge to drink; If I were in a situation where I had often used to drink heavily; If I began to think of how good a rush or high had felt)

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<th>0% Not at all confident</th>
<th>100% Totally confident</th>
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6) **CONFLICT WITH OTHERS**

(e.g., If I had an argument with a friend; If I were not getting along well with others at work)

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7) **SOCIAL PRESSURE TO USE**

(e.g., If someone would pressure me to “be a good sport” and drink with them; If I would be invited to someone’s home and they would offer me a drink)

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<th>100% Totally confident</th>
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8) **PLEASANT TIMES WITH OTHERS**

(e.g., If I wanted to celebrate with a friend; If I would be enjoying myself at a party and wanted to feel even better)

| 0% Not at all confident | 100% Totally confident |
Is there anything else you would like us to know about your decision to change your drinking?
Thank you for completing our online survey. As some final questions, we would appreciate knowing how this study was experienced by you.

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at all</th>
<th>So-so</th>
<th>A lot</th>
</tr>
</thead>
<tbody>
<tr>
<td>How interesting did you find these study questions?</td>
<td>o o o o o o</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How distressing did you find these study questions?</td>
<td>o o o o o o</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How clear did you find these study questions?</td>
<td>o o o o o o</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I gained something from filling out this questionnaire.</td>
<td>o o o o o o</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completing this questionnaire upset me more than I had expected.</td>
<td>o o o o o o</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had I known in advance what completing this questionnaire would be like for me, I still would have agreed.</td>
<td>o o o o o o</td>
<td></td>
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</tbody>
</table>


You are eligible to enter a raffle to win an online $25 gift card from Amazon.ca using the email address you have already provided to us.

Would you like to enter this email address into the raffle?

- Yes, please enter the email address I have provided into the raffle
- No thanks, I do not want to enter the raffle

THANK YOU FOR YOUR PARTICIPATION!

REMEMBER TO CLICK SUBMIT TO COMPLETE THE SURVEY!

Follow-Up Telephone Interview (OPTIONAL)

A survey can only capture so much of someone’s experience with decreasing or stopping their drinking, so we would like to contact some people to learn more. If you are interested in participating in a brief follow-up telephone interview (max. 30 minutes), please provide your first name and a telephone number where you can be reached in the spaces below.

Please note, not all participants will be contacted for the follow-up interviews.

I give permission for the principal investigator (Ms. Mallory Campbell) to contact me using the information below should my name be selected...

- Yes, please consider me for a follow-up telephone interview
  - If so, please enter your FIRST NAME ONLY:  
  - If so, please enter your telephone number:  

- No thanks, I do not want to participate in a follow-up telephone interview
Appendix D
Privacy and Resource Sheet

THANK YOU FOR PARTICIPATING IN OUR ONLINE SURVEY!

Please READ and PRINT the information on this page. You or someone you know may find this information useful:
A. Ensuring Your Privacy
B. Helpful Resources

Ensuring Your Privacy

To ensure privacy and confidentiality, we recommend doing the following, which will help remove any survey-related information from your computer.

1. Clear Your Browser History

If you would like to clear your browser history of completing this survey please print this page and follow the steps below:

1. Go to your home page or other web page
2. Select "Ctrl" and "H" together
3. Right click on "Today" from the "History" (or "Library") list that appears in a new window
4. Left click on "Today" and select "delete" to clear your browser history for today

2. Clear Your Cookies

If you would like to clear your computer of any web cookies from FluidSurveys (the online survey tool), please click on the link http://www.wikihow.com/Clear-Your-Browser%27s-Cookies for a how-to on clearing cookies.

3. Delete any Survey-Related Emails

Finally, please feel free to also delete the e-mail you received with your ID code and link to this survey from your "inbox" and "trash" files of your e-mail.
Helpful Resources

National Alcohol and Mental Health Resources

Web Databases

AA
Learn about the AA program and/or discuss your drinking with others in the AA discussion forum by clicking (http://www.aacanada.com/forum/). To find AA meetings in your area, go to the second site listed below (http://www.aa.org/index.cfm?Media=PlayFlash), then click (How to find AA Meetings), then click (Click here), and click your province.

Website: http://www.aacanada.com/
Or http://www.aa.org/index.cfm?Media=PlayFlash

Canadian Centre on Substance Abuse: Treatment Services
Search for treatment services relating to drug use across Canada using this database.

Website: http://www.ccsa.ca/Eng/KnowledgeCentre/OurDatabases/TreatmentServices/Pages/default.aspx

Canadian Rehab Programs
Provides a free online directory of alcohol rehabilitation programs across Canada.

Website: http://www.canadadrugrehab.ca/

eMentalHealth.ca
You can search for resources (e.g., helplines, community centres) across Canada using this database.
e.g., Search: Type in > “Telephone crisis lines”; Where: Type in > Name of your province.

Website: http://www.ementalhealth.ca/

Provincial Alcohol and Mental Health Resources

A. Yukon
B. Northwest Territories
C. Nunavut
D. British Columbia
E. Alberta
F. Saskatchewan
G. Manitoba
H. Ontario
I. Quebec
J. New Brunswick
K. Prince Edward Island
L. Nova Scotia
M. Newfoundland & Labrador

Yukon

Government Website

Alcohol Use
Provides useful information on a range of topics and contact information to provincial services addressing the use of alcohol.

Website: http://www.hss.gov.yk.ca/ps_addiction.php

Mental Health
Provides useful information on mental health and contact information for provincial mental health services, as well as other social services.

Website: Mental Health: http://www.hss.gov.yk.ca/mental_health.php
Social Services: http://www.hss.gov.yk.ca/socialservices.php

Telephone Helplines & Online Resources

Alcohol and Drug Information and Referral Services (ADIRS) helpline
Free provincial helpline providing confidential and anonymous information and referral services relating to alcohol use over the phone.

Tel: Toll-free: 1-866-980-9099
Availability: 24 hours/day, 7 days/week
Languages: Multilingual

Website: http://www.hss.gov.yk.ca/ads.php
Or http://bc211.ca/adirs2.html

Mental Health Services
Community mental health clinic based out of Whitehorse, Yukon offering information on assessment, individual and group therapy, supportive counselling and referral services for a range of emotional, behavioural, and mental health concerns over the phone.
Personality, Motives, and Confidence to Resist Drinking

Tel:
Toll-free/Outside Whitehorse within Yukon: 1-800-661-0408, extension 8346
Whitehorse: 867-667-8346
Availability: Mon-Fri: 8:30am-5pm

Website(s):  http://www.hss.gov.yk.ca/mental_health.php
               http://www.ykhealthguide.org/community/whitehorse_services/

Yukon 800
Free provincial helpline providing confidential information and referral services relating to a range of topics including alcohol use and mental health over the phone.

Tel: 1-800-661-0408
Availability: 24 hours/day, 7 days/week

Website: N/A

Northwest Territories

Government Website

Alcohol Use
Provides useful information on mental health and problematic alcohol use, as well as contact information to community counselling services (Click: NWT Community Counselling Programs).

Website: http://www.hlthss.gov.nt.ca/english/services/addictions/default.htm

Telephone Helpline & Online Resource

Northwest Territories Helpline
Free helpline through which trained volunteers provide confidential support, information, and referral services relating to a wide range of concerns including alcohol use over the phone.

Tel: Toll-free anywhere in Northwest Territories: 1-800-661-0844
     Availability: 7pm-11pm, 7 nights/week
     Languages: English, French

Website: http://www.nwthelpline.ca/
         Local phone numbers listed on homepage of the website.
Government Website

Alcohol Use and Mental Health
Provides useful information on mental health and alcohol & drug use, as well as contact information to local health centres.

Website: Government website:  
Contact information local health centres:  

Telephone Helplines

Keewatin Crisis Line
Free crisis line providing support services over the phone.

Tel: 1-867-645-3333  
Availability: Mon-Fri: 7pm -10pm  
Language: Inuit, English  

Website: N/A

Kugluktuk Awareness Centre
Free crisis line providing support services over the phone.

Tel: 1-867-982-4673  
Language: English  

Website: N/A

Nunavut Kamatsiaqtut Helpline
Free helpline providing confidential and anonymous counselling and contact services for a range of topics including alcohol use and mental health concerns over the phone.

Tel: Toll-free: 1-800-265-3333  
Iqaluit: 1-867-979-3333
Availability: 7pm -12am(midnight), 7 nights/week
Language: English

Website: N/A

**British Columbia**

**Government Website**

**Alcohol Use and Mental Health**
Provides useful information on alcohol & drug use and a range of mental health concerns. Click the first link provided below ([http://www.healthlinkbc.ca/](http://www.healthlinkbc.ca/)), then click (Health Topics A-Z), and enter or select the first letter of the topic that is of interest to you.

Website: [http://www.healthlinkbc.ca/](http://www.healthlinkbc.ca/)
See also: Alcohol: Drinking and Your Health
Substance Abuse: Staying Alcohol- or Drug-Free After Treatment
Substance Abuse Support Groups: Being an Active Member
Substance Abuse and Mental Health Problems & Related Information
Mental Health Problems and Stigma

**Telephone Helplines & Online Resources**

**Alcohol and Drug Information and Referral Services (ADIRS) helpline** Free provincial helpline providing confidential and anonymous information and referral services relating to alcohol problems over the phone.

Tel: Lower Mainland: 604-660-9382
Toll-free anywhere else in BC: 1-800-663-1441
With TTY service: 604-875-0885
Text: 604-836-6381
Availability: 24 hours a day, 7 days a week
Language: Multilingual

Website: [http://www.health.gov.bc.ca/navigation/1-800.html](http://www.health.gov.bc.ca/navigation/1-800.html)
Then click: Alcohol and Drug Information & Referral Service
Or [http://bc211.ca/adirs2.html](http://bc211.ca/adirs2.html)

**British Columbia Mental Health Information Line**
Free information line(s) providing taped information on provincial mental health programs as well as symptoms, causes, treatment, support groups, and publications relating to many mental health concerns over the phone.

Tel: Vancouver: (604) 669-7600
Toll-free anywhere else in BC: 1-800-661-2121
Availability: 24 hours/day, 7 days/week

Website:   http://www.health.gov.bc.ca/navigation/1-800.html
Then click:  Mental Health Information Line

Government Website

Alcohol Use
Provides useful information on alcohol use, provincial programs and services, as well as contact information to local treatment facilities.

Website:   http://www.albertahealthservices.ca/addiction.asp
Programs and Services:
Addictions & Substance Abuse - Programs and Services
See also: http://wwwprograms.alberta.ca/Living/Dynamic.aspx?N=770+125+588
Contact Information:  Addiction & Substance Abuse - Treatment Facilities

Mental Health
Provides useful information on mental health, provincial programs and services, as well as contact information to local treatment facilities.

Website:   http://www.albertahealthservices.ca/mentalhealth.asp
See also:  http://wwwprograms.alberta.ca/Living/Dynamic.aspx?N=770+125+597
Programs and services:  Mental Health & Wellness Programs & Services
Contact information:  Mental Health & Wellness Treatment Facilities

Telephone Helpline & Online Resources

Alberta Addiction Helpline
aka Alberta Alcohol and Drug Abuse Commission (AADAC) Helpline
Free provincial helpline through which Information and Referral Clerks providing confidential support, information and referral services relating to problems with alcohol over the phone or via Skype.

Tel:       1-866-332-2322
Availability: 24 hours/day, 7 days/week
Languages: Interpreter Services provided for 180+ languages

Website:  http://www.albertahealthservices.ca/addiction.asp

Alberta Mental Health Help Line
Free provincial helpline through which health professionals provide confidential and anonymous support, information on mental health programs/services, crisis intervention, and referral services relating to mental health concerns over the phone or via Skype.
Personality, Motives, and Confidence to Resist Drinking

Tel: 1-877-303-2642
Availability: 24 hours/day, 7 days/week

Website: http://www.albertahealthservices.ca/services.asp?pid=service&rid=6810

Government Website

Alcohol Use
Provides useful information on alcohol abuse, prevention, treatment, and provincial services.

Website: http://www.health.gov.sk.ca/alcohol-and-drug-services
Or http://www.health.gov.sk.ca/healthline-online
Then click Alcohol & Drugs

Mental Health
Provides useful information on certain mental health, stigma, and related concerns.

Website: http://www.health.gov.sk.ca/healthline-online
(Click “Mental Health” on the left)

Telephone Helpline & Online Resource

Healthline
Free provincial helpline through which Registered Nurses, Registered Psychiatric Nurses and Social Workers provide confidential health information (e.g., resources in your community) and support services (e.g., crisis counseling, strategies to help you manage your situation) over the phone.

Tel: 1-877-800-0002
Language: English, with translation for over 100 languages available
With TTY service: 1-888-425-4444
Availability: 24 hours/day, 7 days/week

Website: http://www.health.gov.sk.ca/healthline-online
Government Website

Alcohol Use
Provides useful information on issues relating to alcohol use, AFM programs and services, as well as contact information to local treatment facilities.

Website:  http://www.afm.mb.ca/About%20AFM/index.htm
Information:  AFM Library
Programs and Services:  Services
Contact Information:  How to get help

Mental Health
Provides useful information on mental health and telephone numbers of provincial and local district crisis lines.

Website:  http://www.gov.mb.ca/health/mh/index.html
Crisis Lines: Click the orange box at the top of the homepage.

Telephone Helplines & Online Resources

Addictions Foundation of Manitoba
The links and/or toll-free telephone number(s) listed below can be used to contact your local AFM office for more information on the services that would best suit your personal or family’s needs relating to alcohol use.

Tel:  Northern Region  1-866-291-7774
      Western Region  1-866-767-3838
      Winnipeg Region  1-866-638-2561

Website:  http://www.afm.mb.ca/Services/adults.htm
Then click:  How to get help
Or click on your region:  Northern Region
                        Western Region
                        Winnipeg Region

Klinic Crisis Line
Free helpline through which staff counsellors or skilled volunteer counsellors provide confidential counselling, crisis intervention, suicide prevention, support, and referral services relating to a wide range of concerns including alcohol problems over the phone.

Tel:  Toll-free:  1-888-322-3019
      With TTY service:  784-4097
      Availability:  24 hours/day, 7 days/week
Website:  [http://www.klinic.mb.ca/counsel-crisis.htm](http://www.klinic.mb.ca/counsel-crisis.htm)

**Manitoba Farm & Rural Support Services - Stress Line and Live Chat**
Free helpline open to all rural Manitobans through which trained volunteers and Certified (AAS) Crisis Workers with farming backgrounds and strong rural identities provide confidential information, support, counselling and outreach services relating to a wide range of concerns including alcohol & drug use over the phone or via Skype. A free online LiveChat offering similar services is also available.

Tel and Video Conferencing:   1-866-367-3276
Availability: Mon-Fri 10am-9pm

Website:  [http://www.ruralsupport.ca](http://www.ruralsupport.ca)
LiveChat Service: Click: [Go to LiveChat with a Counsellor page](http://www.ruralsupport.ca)
Availability: Mon-Fri 10am-9pm

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**Ontario**

**Government Website**

**Mental Health**
Provides a link to the Open Minds, Healthy Minds - Ontario's Comprehensive Mental Health and Addictions Strategy report.


**Mental Health and Alcohol Use**
Provides contact information for useful resources/services relating to alcohol use problems.


**Telephone Helplines & Online Resources**

**ConnexOntario**
Free provincial helplines through which Information and Referral Specialists provide confidential and anonymous support, health information, and referral services (including contact information for services and supports within the caller’s community if requested) relating to problems with alcohol and mental health over the phone or via website chat.

**Tel:**
- Drug and Alcohol Helpline: 1-800-565-8603
- Mental Health Helpline: 1-866-531-2600
Availability (for all the above): 24 hours/day, 7 days/week
Website:  http://www.connexontario.ca/
Drug and Alcohol Helpline:  http://www.drugandalcoholhelpline.ca/
Mental Health Helpline:  http://www.mentalhealthhelpline.ca/
Availability (for all the above):  24 hours/day, 7 days/week

Government Website

Alcohol Use and Mental Health
Provides useful information and resources on alcohol problems, as well as on mental health
(Click:  Health problems, and then click  Mental health).

Website:  http://www.msss.gouv.qc.ca/
Languages:  Website can be viewed in  Français or  English
Alcohol Use:  Click Social problems
Then click the category of interest to you
Mental Health:  Click Health problems
Then click Mental health

Telephone Helpline & Online Resource

Help and Referrals
Free provincial helpline(s) through which counsellors provide support, confidential and anonymous information and referral services, as well as connect to someone with specialized help in a crisis situation or suicidal emergency over the phone.

Tel:  Toll-free in Quebec: 1-800-265-2626
      Montreal and area: 514-527-2626
Availability: 24 hours/day, 7 days/week
Languages:  French, English

Website:  http://www.drogue-aidereference.qc.ca/
Languages:  Website can be viewed in [Français] or [English]

New Brunswick

Government Website

Alcohol Use
Provides useful information on alcohol use, as well as contact information to local addiction centers.

Website:  http://www.gnb.ca/0378/addiction-e.asp
Languages:  Website can be viewed in Francais or English
Contact Information:  New Brunswick Addiction Centers
Mental Health
Provides useful information on provincial mental health services and contact information to local mental health services by zone (see map provided at the bottom of the homepage using link provided below).

Website:  http://www.gnb.ca/0055/mental-health-e.asp
Languages: Website can be viewed in Français or English

Telephone Helpline & Online Resource

CHIMO Help Line
Free provincial helpline through which counsellors provide confidential and anonymous support, listening ear, crisis intervention, information, and referral services relating to a range of problems including alcohol use problems and other mental health concerns over the phone. The CHIMO Helpline website also provides contact information for local services.

Tel:  Toll-free: 1-800-667-5005
Fredericton Area: 450-HELP (450-4357)
Availability: 24 hours/day, 7 days/week
Languages: English, French

Website:  http://www.chimohelpline.ca/
Languages: Website can be viewed in French or English
Contact Information: Community Directory

Government Website

Alcohol Use
Provides useful information on provincial programs and services related to alcohol and use problems, as well as contact information for community-based outpatient services.

Website:  http://www.healthpei.ca/addictions
Contact Information: Office Locations

Mental Health
Provides useful information on provincial mental health services and contact information to local services.

Website:  http://www.healthpei.ca/mentalhealth
Contact Information for local services listed on homepage of the website.
Personality, Motives, and Confidence to Resist Drinking

Telephone Helpline & Online Resource

**Island Helpline**
Free helpline through which trained staff provide confidential and anonymous support/help during crisis and information services relating to mental health over the phone.

*Tel:* 1-800-218-2885  
*Availability:* 24 hours/day, 7 days/week  
*Languages:* English, French  

**Government Website**

**Alcohol Use**
Provides useful information on alcohol use, provincial programs and services, as well as contact information to regional services.

*Website:* [http://novascotia.ca/hpp/addictions/](http://novascotia.ca/hpp/addictions/)  
*See also:* [http://addictionservices.ns.ca/](http://addictionservices.ns.ca/)  
*Contact Information:* [http://addictionservices.ns.ca/](http://addictionservices.ns.ca/)  
Then scroll down and click your region on the map

**Mental Health**
Provides useful information on mental health and links/telephone numbers to provincial and local district services.

*Website:* [http://novascotia.ca/health/mhs/](http://novascotia.ca/health/mhs/)  
*Contact Information:* visit the online directory

**Telephone Helpline & Online Resource**

**Eastern Regional Help Line**
Free helpline through which trained volunteers provide confidential and anonymous support, crisis and suicide intervention, information, and referral services in English over the phone.

*Tel:* Toll-free: 1-800-957-9995  
1-902-562-HELP (1-902-562-4357)  
*Availability:* 6pm-12am(Midnight), 7 days/week  
*Website:* N/A
Halifax Metro Help Line
Free helpline through which volunteers provide information, non-expert counselling, crisis and suicide intervention, and referral services in English over the phone.

Tel: 1-902-421-1188
Availability: 8am-11:30pm, 7 days/week
Website: N/A

Pictou County Help Line
Free helpline through which trained volunteers provide confidential support, listening ear, crisis and suicide intervention, an answering service for local organizations, information, and referral services over the phone.

Tel: 1-902-752-5952
Availability: 2pm-10pm, 7 days/week
Website: http://www.pictoucountyhelpline.ca/

Newfoundland & Labrador

Government Website

Alcohol Use
Provides useful information on alcohol use, provincial/regional programs and services, as well as contact information to regional services.

Website: http://www.health.gov.nl.ca/health/addictions/index.html
Programs and Services: Addiction Services
Contact Information: Contact Information

Mental Health
Provides useful information on provincial/regional mental health programs and services, as well as links to related organizations serving throughout NFLD/LAB.

Website: http://www.health.gov.nl.ca/health/mentalhealth/index.html
Programs and Services: Mental Health Programs
Related Organizations: Organizational Links
Telephone Helpline

Newfoundland & Labrador Mental Health Crisis Line
Free provincial helpline providing confidential support, crisis intervention, and referral services relating to a wide range of mental health concerns over the phone.

Tel: 1-888-737-4668
Availability: 24 hours/day, 7 days/week

Website: N/A