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# Bicultural identity and alcohol abuse among aboriginal Canadians : the protective benefits of aboriginal cultural affiliation

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Running Head: BICULTURAL IDENTITY AND ALCOHOL ABUSE

Bicultural Identity and Alcohol Abuse among Aboriginal Canadians: The protective  
benefits of Aboriginal Cultural Affiliation

by

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Abstract

Research has revealed that poverty, unemployment, historical oppression and substance abuse have contributed to the third world status of Canadian Aboriginal Reserves. Identification with Aboriginal culture has been shown to buffer stress and prevent substance abuse. Theories of acculturation and bicultural identification indicate that cultural value conflict may prevent Aboriginal Canadians from connecting with their heritage culture. This cultural value conflict may also result in a state of dissonance that the individual will be motivated to escape by consuming alcohol. A combined experimental manipulation and correlational design was presented as a questionnaire package to 28 Aboriginal Canadian adults. Half of the participants received a cultural value conflict priming task prior to a measure of current desire to drink alcohol, while half received the value conflict task after the measure of desire to drink. It was expected that those first made aware of cultural conflict would indicate a stronger desire to drink alcohol. It was also expected that cultural value conflict would positively correlate with substance abuse measures and negatively correlate with identity integration (Benet-Martinez, et al., 2002), identification with Aboriginal culture (Cameron, 2004), and acculturation (Ryder, et al., 2000). Results indicate that dissonance predicted excessive drinking for those with elevated levels of confusion. Furthermore, there was a trend towards confusion mediating the relationship between Aboriginal identity and alcohol abuse. Significant negative correlations between Aboriginal identity and measures of excessive drinking and alcohol abuse lend additional support to the benefits of reconnecting with Aboriginal culture and the importance of qualitative research in providing further insight into the evolving nature of Aboriginal cultural identity.

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Bicultural Identity and Alcohol Abuse among Aboriginal Canadians: The protective benefits of Aboriginal Cultural affiliation

Alcohol intoxication, with its historical roots in classical Greek mythology, has been associated with festivals, privilege and religious ceremonies. These days chronic alcohol intoxication has more negative connotations than those first adopted by the religious conviction of the Greeks. The dichotomy of this drug as social lubricant and as pathology makes it difficult to delineate aetiology and treatment. This disease of alcohol abuse is not relegated to a specific age, gender, culture, or socio-economic status (Anderson, 2006). Its power is far reaching, and can exert its lethal influence through a variety of means such as motor vehicle accidents, or chronic health diseases such as cirrhosis. Research has attempted to shed light on the causes of such a debilitating and chronic condition, with no conclusive causal factors having emerged (Anderson, 2006).

The literature has, however, indicated that although alcohol abuse is present across cultural groups and ages, it is more prevalent among certain groups (Anderson, 2006). Canadian Aboriginals have an increased risk of abusing alcohol and drugs and warrant increased attention from the research community (Anderson, 2007). Moreover, many Aboriginal adults are migrating from reserves to urban areas or are being exposed to more than one culture through the media, which can have implications for their self-identity and cultural values (Anderson, 2007). This paper will explore the association between cultural identity and the risks of engaging in substance abuse, specifically alcohol. In particular it is reasoned that competing cultural values when elicited simultaneously can produce a state of dissonance, and that those who aren't able to reconcile this cultural conflict escape the self by consuming alcohol.

*Immigration and Aboriginal Statistics*

*Immigration Statistics.* The literature on cultural value conflict and acculturation focuses primarily on immigrants, rather than on Aboriginal Canadians. Therefore, although the purpose of this paper is on Aboriginal Canadians I will be drawing on the immigration literature and extending it to explore how cultural conflict may relate to substance abuse in the Canadian Aboriginal population. Immigration literature is relevant to the research conducted on Aboriginal Canadians, as both groups identify with more than one culture and thus may face conflicting cultural values and characteristics.

The imperative of conducting culturally based research on alcohol abuse can be understood when considering the relevant statistics. The diversity of the North American society continues to progress as the number of those who identify as belonging to more than one culture increases yearly through immigration.

According to Statistics Canada, immigration represents roughly 70% of the current population growth within Canada (Statistics Canada, 2006). This population trend will bare further importance over the next 25 years as immigration is projected to be the only source of Canada's net population growth, as "...deaths will outnumber births" (Statistics Canada, 2005, p. 40). This population trend will increase cultural diversity in Canada, as these immigrated individuals will have internalized more than one culture within their self-identity. The position of this paper is that alcohol abuse can stem from cultural uncertainty brought about by incompatible value sets from the different cultures. This could result in the increased likelihood of cultural strain leading to devastating consequences for Canadian society.

*Aboriginal Statistics.* Within Canada, there is a growing number of Aboriginals who are integrated within the mainstream culture and reside in metropolitan and urban regions (Statistics Canada, 2006). Therefore it is becoming even more imperative for research to focus not only on those Aboriginals living on reserves but also those who are integrated and reside within urban areas. According to the 2006 Canada Census 54% of the population that identified as Aboriginal lived in an urban area, a 4% increase since 1996 (Statistics Canada, 2006).

Canadian Census (2006) reported a 45% increase of those who identified themselves as First Nations, Metis or Inuit (Statistics Canada, 2006). By contrast, the non-Aboriginal population grew significantly less (3.4%) from 1996 to 2001 (Statistics Canada, 2001). Another emerging Aboriginal population trend centers on Aboriginal Canadians being younger than their Euro-Canadian counterparts (Statistics Canada, 2006). More specifically, the Canadian Census (2006) reported that 48% of the Aboriginal population in Canada are younger than 24 years old; a drastic increase when compared with the 31% for the non-Aboriginal population (Statistics Canada, 2006). These trends highlight some of the substance and alcohol abuse risks associated with being Aboriginal. Arnett's (1992) developmental perspective of reckless behaviour in adolescence reports the transition from late teens to adulthood as peak periods of increased destructive behaviours, such as binge drinking, unprotected sex, etc. Cultural affiliation plays an indirect role related to the type of socialization the adolescent receives, which informs the likelihood of engaging in risky behaviours (Arnett, 1992). As previously stated there will be an influx of immigrants into Canada, along with an increase in Aboriginals who are younger and migrating from the reserves into urban

areas. All of these individuals will be exposed to a broader range of cultural values, some of which may be experienced as conflicting. These factors warrant prudent research that would explore the relevance of culture and cultural identity to alcohol abuse and consumption.

### *Theories of Substance Use/Abuse*

Despite both international and national interest in health problems and costs associated with alcohol use, there remains no singular theory that accounts for all aspects of the aetiology of addiction (Craig, 2004). Theorists have attempted to determine why some individuals begin and become addicted to alcohol and drugs. As the priority of this paper resides within the domain of alcohol abuse, this theoretical section will be limited to alcohol addiction. Some theorists believe that there are variables and processes involved that distinguish the vulnerability of engaging in substance use from those that lead to substance abuse, such that an individual may engage in substance use but not develop an addiction (Glantz & Pickens, 1992, as cited in Craig, 2004). The likelihood of becoming addicted to a specific substance like alcohol is enhanced by specific risk markers, including attributes, attitudes, traits or environmental circumstances such as poverty (Craig, 2004). Conversely, some individuals who use substances without becoming addicted may possess protective variables that negate any of the risk markers for developing substance abuse problems (Craig, 2004).

The aetiology of addiction can be understood as involving two distinct categories of variables: exogenous or endogenous (Craig, 2004). Exogenous or external variables associated with models of addiction include variables that are ecological (e.g. poverty, deviant familial environment, etc.); developmental (failed transition points during life

cycle); learning and conditioning (acquiring ineffective behaviours); and psychodynamic (unconscious processes). Those are contrasted with the Endogenous or internal variables that are genetic, internal environments (biochemistry, physiology, metabolism), and neuropsychological (Craig, 2004). Discussion of endogenous and exogenous variables associated with alcohol abuse will be limited to psychological and sociological theories, which comprise the exogenous variables, and biological and genetic models that constitute the endogenous variables respectively.

### *Endogenous Variables*

*Biological and Genetic Models.* The study of the biological basis of addiction, specifically alcoholism first began in 1946 when E.M. Jellinck wrote about five types of alcoholics, creating the disease concept of alcoholism. According to Jellinck (1946) the alpha alcoholic self-medicates with alcohol for psychological relief, yet is not physically dependent and does not lose control. The beta alcoholic is more severe than the alpha type as these individuals have medical problems associated with chronic drinking, even though this individual is not physically or psychologically dependent on alcohol, and does not experience withdrawal symptoms (Craig, 2004; Jellinck, 1946). Jellinck associated this type with social and culturally sanctioned drinking, however, this type would not be considered to have the disease of alcoholism (Craig, 2004). The gamma alcoholic was considered the most prevalent in the United States at the time that this theory was developed and was characterized by physical dependence with cravings, withdrawal and loss of control. The gamma alcoholic is the prototypical diseased alcoholic. The delta alcoholics are able to abstain from drinking for a specified period of time, as a means of demonstrating that they are not alcoholics, however once their point

has been proven they return to alcoholic behaviours. Finally, the Epsilon alcoholics have the capacity to abstain and remain sober for extended periods of time lasting weeks to months; however, they drink periodically and to excess (Jellinck, 1946). Binge drinking behaviours are found amongst the Epsilon alcoholic category (Craig, 2004). Jellinck's work suggests that alcoholism is associated with several types of patterns and that not all forms of problem drinking are diseases (Craig, 2004).

There are converging lines of evidence for the disease theory of alcoholism. Animal studies have shown that specific strains of rats can become physically dependent to alcohol. The Indiana selection studies have bred rats that differ in their preference for ethanol solutions (Murphy et al., 2006). Results from these studies reveal that low sensitivity and great tolerance for alcohol's sedating effects at high doses is seen in rats who are bred for preferring alcohol versus those bred nonpreferring lines (Murphy et al., 2006). The breeding of these offspring across several successive generations has yielded an apparent predisposition to physical dependence on alcohol upon exposure. Therefore this line of evidence, albeit from rats, suggests that alcohol dependence can be genetically transmitted across generations. Another line of evidence supporting the disease model of alcoholism involves familial incidence of alcoholism. Alcoholics are more likely to have a close relative who was or is also an alcoholic.

Goodwin (1984) compared those whose parents were alcoholics with those adopted into non-alcoholic families. More specifically, 55 sons whose fathers (85%) and mothers (15%) had a previous hospitalization due to alcoholism, and 78 sons of non-alcoholics, adopted into a similar non-alcoholic environment prior to six weeks of life (Craig, 2004; Goodwin, 1984). For this sample, results supported a genetic model of

alcoholism as the rate of alcoholism was approximately four times higher (18%) among sons of alcoholics than controls (5%), regardless of whether they were raised by their biological or adopted families (Craig, 2004). Based on this study and others conducted, Goodwin proposed that one form of alcoholism is genetically based, and is characterized by an early age of onset, and is typically found among males (Craig, 2004).

### *Endogenous Variables*

*Psychological Models.* The psychology models of substance abuse suggest that the pathology of addiction resides in the individual; however, unlike genetic models, these theories recognize the influence environment plays in the development of substance abuse (Craig, 2004). These theories can be further subdivided into three central theoretical approaches: personality models, social learning theories, and expectancy theories. One of the most well-known personality theories of addiction is the addictive personality. This theory posits that it is “not the drug that creates an addict but the impulse to use it” (Rado, 1984 [1933], p.60, as cited in Craig, 2004). Therefore, the addictive personality resides within the individual prior to engaging in substance use and abuse. The addictive personality theory has not been consistently supported by research (Craig, 2004). Instead studies have found that addictive personality traits are the results of substance abuse rather than the cause (Craig, 2004). This refutation of the addictive personality theory eventually led to the development of the self-medication hypothesis, which some consider a transformation of the original Addictive Personality Theory (Craig, 2004). The Self-Medication Hypothesis asserts that certain personality types treat underlying psychological conditions, such as anxiety and painful emotions, by using drugs and/or alcohol (Craig, 2004). According to this theory, substance abuse is not a



product of fads, peer influences or epidemics occurring in the individual's environment (Craig, 2004). Rather, these theorists assert that substance abuse results from an interaction between the pharmacological properties of the specific drug and the individual's underlying personality (Khantzian, 1999, as cited in Craig, 2004).

Khantzian believed that cocaine addicts used cocaine to relieve underlying depression, as cocaine is a stimulant and would counteract a depressed system (Khantzian & Treece, 1985). This hypothesis strongly rooted in psychodynamic theory, assumes substance abuse results from an individual's inability to tolerate strong emotions (Hall & Queener, 2007). A deficit or lack of internal coping mechanisms or means to modulate these strong emotions is thought to be at the core of an individual's inability to tolerate any negative affect (Hall & Queener, 2007). Alexithymia is another concept that Khantzian associated with substance use in his Self-Medication Hypothesis (Hall & Queener, 2007). Alexithymia, defined as an individual's inability to identify or describe one's emotional state, was thought to leave an individual confused and ambiguous especially with respect to their emotions (Hall & Queener, 2007). This theory, although true for some addicts, has not been substantiated for the majority of addicts (Craig, 2004).

Substance abuse must be conceptualized as a multifaceted phenomenon with different dynamical levels, including individual, cultural and societal. There are several critical limitations to the personality theories of substance abuse. The majority of these theories are unable to distinguish cause and effect due to confounds and difficulties distinguishing drug effects and personality characteristics (Craig, 2004). Personality theories for substance abuse also highlight the importance of depression when conceptualizing addiction. However, research suggests that prolonged substance abuse

induces depression rather than depression being the underlying cause of addiction (Rounsavile, Kosten, Weissman, & Kleber, 1985; as cited in Craig, 2004).

Research in the area of temperament has also provided a possible framework for the role of dispositional factors that increase the risk for substance abuse (Wills, Shinar, & Sandy, 1999). Longitudinal studies have shown that certain temperament factors measured during childhood can be associated with substance use upon assessment during adolescence and adulthood (Masse & Tremblay, 1997). Cloninger's theory of dispositional constructs has been implicated in several studies. According to this theory there are four constructs that increase the risk of substance use; they include novelty seeking, harm avoidance (sensitivity to threat cues), task reward dependence or persistence, and social reward dependence (Cloninger, 1987). These constructs have been investigated and linked to the use of alcohol among adolescents and adults (Wills, Windle, & Cleary, 1998).

Adolescence constitutes a time of increased novelty seeking, risk taking and poor self control (Wills et al., 1999). Wills and colleagues (1999) sought to test an "epigenetic model" of substance abuse, and hypothesized that dispositional factors such as novelty seeking along with poor self control and risk-taking may predispose some to being exposed to situational variables, such as a deviant peer group. This study found that novelty seeking and harm avoidance were predominantly mediated by poor self-control constructs, which were then related to an increased proximal risk for adolescent substance use. This finding is consistent with clinical and pharmacological research and supports the theory than an individual's vulnerability or protection against substance use is largely influenced by cognitive and emotional self-regulation (Koob & Le Moal, 1997).

*Social learning and behavioural theories.* There is support in the literature that learning and conditioning play a role in the acquisition of substance abuse; however, the degree to which it plays a role must be explored. The reinforcing effects of substance use were first espoused by Wikler (1973). Wikler (1973) argued that initially use of the drug is socially reinforced, however, after repeated use, the suppression of withdrawal symptoms reinforces continued use of the drug (Craig, 2004). Therefore, social reinforcement is replaced by pharmacological reinforcement (Craig, 2004). Therefore, alcohol and drugs are used to avoid the aversive effects of withdrawal rather than the positive effects of taking the drug itself. Using more drugs reinforces the instrumental drug seeking and reduces the withdrawal syndrome.

#### *Sociological Models*

Sociological models of addiction emphasize the importance of the environment in the aetiology of substance abuse. According to Winick (1974) substance abuse occurs most often in groups who have access to alcohol and drugs but who are detached and unaware of the negative effects of their use, and among those who experience role strain (as cited in Craig, 2004). Role strain was first conceptualized by Goode (1960) to denote difficulties in performing multiple roles, which could become a source of psychological stress and social instability (Sieber, 1974). This theory attributes the frequent drug use that occurs at post-secondary institutions as resulting from an environment that values competition and experimentation, and which has increased drug availability (Craig, 2004).

Individuals in lower-socio economic groups have been found to have more harmful drinking patterns than those in higher socio-economic groups (Anderson, 2006).

This correlation between socio-economic level and problematic alcohol consumption has been pervasive across such countries as China (Anderson, 2006; Siegrist et al., 1990), Brazil (Anderson, 2006; Moreira et al., 1996), Nigeria (Anderson, 2006; Bunker et al., 1992), France, Italy, Spain and Switzerland (Anderson, 2006), the United Kingdom and the United States (Anderson, 2006). In England, men between the ages of 25-69 years old and who have a lower socio-economic status (SES) reportedly had a 15-fold increased risk of alcohol-related mortality than those identified as being in a higher SES category, such as professionals (Anderson, 2006; Harrison & Gardiner, 1999). Therefore, it comes as no surprise that the risk of abusing alcohol and thus becoming dependent is amplified for individuals who reside in communities where there are real or perceived higher levels of substance use, poverty, and where alcohol and drugs are more readily available (Anderson, 2006).

### *Substance use and ethnic minorities*

Substance use amongst ethnic minorities has been the focus of an abundance of research. One of the earliest experiments to compare differences across cultures was conducted by Sue, Zane, and Ito (1979). Sue and colleagues compared alcohol drinking patterns between Asian and Caucasian Americans, and attempted to account for the lower prevalence of alcohol consumption among Chinese-Americans. The results of this study generated two important theories that were proposed to account for the observed ethnic differences in alcohol consumption (Craig, 2004). The first theory was biological and focused on the alcohol sensitivity and aversion among different genetic and/or racial groups (Craig, 2004). The second theory attributed ethnic differences in alcohol

consumption to the attitudes and values of alcohol use among different ethnic-cultural groups (Craig, 2004).

Wolff's (1972) comparison of the reactivity to alcohol consumption between Caucasian and Asian men and women, provided initial support for the genetic hypothesis of substance abuse (Sue et al, 1979). Wolff found that Asian adults and infants exhibited more face flushing than Caucasians after the consumption of alcohol. Wolff (1972) hypothesized that Asians inherited greater autonomic nervous system responsivity to alcohol, as compared to Caucasians. Ewing and colleagues (1974) provided additional support that this discrepancy is physiological rather than cultural. Ewing et al (1974) proposed that the aversion to alcohol by Asians may be similar to reactions experienced with the administration of alcohol-disulfiram (Antabuse), which causes an accumulation of acetaldehyde in the blood resulting in nausea, flushed face, etc.. Conversely, many theorists believe in the cultural basis for lower rates of alcohol consumption among Asians. The belief that culture can account for the discrepancy between rates of alcohol ingestion has been cited in numerous studies (Barnett, 1955; Chu, 1972 as cited in Craig, 2004). In particular Chafetz (1964) attributes this discrepancy to Western influences, and suggests that drinking patterns vary according to cultural values and the erosion of those values. The initial study cited by Sue et al (1979), further supports the cultural explanation of different rates of alcohol consumption.

Studies have revealed salient differences in substance type and use among different ethnic minorities. A study conducted in the United States by the Centers for Disease Control and Prevention (2004) reveal that the use of inhalants, cocaine, lifetime heroin use, and lifetime methylenedioxymethamphetamine (MDMA, aka Ecstasy) use are

highest among Latinos (4.3%, 5.7%, 3.9%, 13%; respectively), compared with Caucasians (3.6%, 3.8%, 2.6%, 11%; respectively), and African Americans (3%, 2.2%, 2.6%, 6%; respectively). Another study comparing rates of substance use within the Latino culture found that 12<sup>th</sup> grade Latinos had the highest rates of alcohol, crack, heroin, and Rohypnol use (Fosados et al., 2007). Furthermore, a study investigating the prevalence of alcohol, marijuana, MDMA, and heroin over the past decade, observed that Latinos reported the highest use across all drug classes with the exception of amphetamines (Johnston et al., 2005; Johnston, 2003, as cited in Fosados et al., 2007).

Immigrants and Aboriginals have heritage cultures that are not part of the dominant mainstream culture. They may share similar experiences of identifying with more than one culture and dealing with conflicts between the values of those cultures. Therefore knowledge gleaned from immigration statistics and research can enhance our understanding of cultural identity, while also providing opportunities for comparisons to be made. The current study seeks to ascertain the role of acculturation and cultural value conflict in the development of substance abuse among Aboriginal Canadians, a population experiencing significant problems with substance abuse and other forms of reduced individual and community well-being.

### *Substance Abuse among Aboriginals*

*Prevalence.* Substance abuse, especially alcohol consumption, has become a serious health concern for young individuals residing in Canada (Anderson, 2007; Hingson et al., 2005). The impact and prevalence of substance abuse is most rampant among the Aboriginal population. This health concern is among one of many contributing to the undeveloped conditions on the Aboriginal reserves in Canada.

Sources have compared many Aboriginal reserves to third world countries. The Human Development Report commissioned by the United Nations reported in 2003 that Canada, which was once rated first, had dropped to the 8<sup>th</sup> best country in the world to reside. This was primarily due to housing and health concerns in First Nation communities within Canada. Additional research has shown that First Nation living conditions and quality of life ranks 63<sup>rd</sup>, equivalent to third world conditions, according to an Indian and Northern Affairs Canada study (1998) (as cited in Assembly of First Nations, n.d.). Statistics, however, only provide a numerical value, and do not communicate as much depth as first hand accounts of the horrid conditions of these Canadian reserves.

The Grassy Narrows reserve has received considerable attention over the past quarter century. This isolated reserve located in Northern Ontario has provoked considerable speculation and disbelief at how its inhabitants have survived the social climate and conditions on this reserve (Shkilnyk, 1985). There has been a steady increase in the violent deaths that were associated with relocating the reserve in the 1960s. Grassy Narrows is known as “the place where sudden violence is most likely” (Shkilnyk, 1985, p. 16). Anastasia Shkilnyk (1985) was particularly disturbed not by the poverty, and isolation of the Grassy Narrows reserve, but by “the numbness of human spirit” (p. 4). Shkilnyk, who had visited impoverished third world countries, had never seen such hopelessness as observed among the inhabitants of Grassy Narrows. These devastating conditions are not limited to one reserve, but are pervasive throughout Canada’s reserves. In 2007 the National chief of the Assembly of First Nations, Phil Fontaine, reportedly announced that First Nations people in Canada are living in Third World conditions that

lack access to clean water and decent housing (CBC News, 2007; First Nations Centre, 2005). In the Ojibway community of Pikangikum, the majority of homes have no sewers, no road out and astoundingly high rates of suicide among the youth (OCAP, 2004). These Aboriginal Canadians have been identified as generally having poorer health outcomes, lower educational attainment, and lower average incomes compared to other Canadians (First Nations Centre, 2005; Kendall, 2001).

Given the third world conditions of many reserves it is not surprising that substance abuse is rampant. One such manifestation of these third world conditions is the high mortality rates due to substance use reported among the Aboriginal population. In 2000 the cause of death due to alcohol use was 43.7 per 100,000 in the Aboriginal population, almost twice the rate of the general population (23.6 per 100,000) (National Native Addictions Partnership Foundation Inc., 2000).

According to the 1991 Aboriginal Peoples Survey 73% of Aboriginal Canadians on reserves and settlements thought that alcohol abuse was a problem in their community, while 59% reported that drug abuse was a problem (Health Canada, 1998). One study conducted by the National Native Addictions Partnership Foundation Inc. (NNAPF) (2000) reported that the primary addiction or substance of abuse for clients in the NNADAP treatment centres was alcohol (58.4%). A report from Health Canada (1998) also reported that the use of alcohol (87.75%) and illegal drugs (77%) were deemed the most frequent, or constant problems by service providers and community leaders.

Statistics Canada's 2002 survey highlighted the importance of studying Aboriginal youths who reside in urban areas rather than on reserves. Strikingly, the Canadian Community Health Survey (CCHS) found that although Aboriginal and Non-



Aboriginal urban residents did not differ in the reported frequency of weekly alcohol consumption, Aboriginals did report higher levels of heavy drinking, which was defined as consuming 5 or more alcoholic drinks on one occasion at least once a month over the past year (Statistics Canada, 2002).

Similarly, a study conducted by Anderson (2007) found that compared with the general Canadian population, the Aboriginal population was found to be half as likely to consume alcohol on a regular weekly basis (18%), but more than twice as likely to binge drink (consuming more than 4 drinks per episode) once or more times a week (16%). Conversely, their non-Aboriginal counterparts were more likely to consume alcohol on a regular weekly basis (44%), and less likely to binge drink (6%) (Anderson, 2007). This means that although Aboriginal individuals may be less likely to consume alcohol daily, they are more likely to engage in binge drinking when they do decide to drink (SAMHSA, 2004).

These substance abuse statistics depict the bleak reality facing many Aboriginal Canadians. These statistics, however, cannot be fully appreciated without understanding the context leading to the entanglement of the Aboriginal culture. The historical context sheds light on possible reasons and aetiology of Aboriginal substance use and abuse.

*Aetiology of Aboriginal Substance Use.* Research aimed at discerning the causality of substance abuse among Aboriginal or indigenous people has generally used American Indians. Native Americans, like Aboriginal Canadians, represent a heterogeneous group where alcohol use can vary between tribes, bands, and individual community members (Caetano, Clark, & Tam, 1998). Mail and Johnson (1993) examined alcohol consumption differences between the Navajo and Hopi tribes. They found that the

Navajo viewed social drinking as acceptable, while the Hopi tribe considered drinking, of any kind, to be irresponsible (Mail & Johnson, 1993). Although there are differences observed between bands and tribes, there have also been universal factors across Native Americans and Aboriginal Canadians that have been proposed to account for their alcohol use and abuse.

The widespread addiction facing the Aboriginal culture cannot be understood in isolation of its historical roots. North American Aboriginals were considered for thousands of years as prosperous, thriving off the land, and yet have as a collective begun to manifest conditions similar to those in third world countries (Chansonneuve, 2007).

A growing number of researchers maintain that contemporary social problems, such as alcohol abuse, among North American Aboriginals must be considered in the context of historical trauma associated with colonization (Yellow Horse Brave Heart & DeBruyn, 1998; Duran, & Duran, 1995). The colonization of American and Canadian Aboriginals by European settlers resulted in loss of land, forced removal, and attempts at annihilation and "...systematic genocide"(Duran, & Duran, 1995, p. 28). The North American Aboriginal population, estimated to be 7 million prior to the arrival of the Europeans, was dramatically decreased by diseases such as small pox and influenza, war, forced displacement, poverty and starvation, culminating in the elimination of 90% of the original population (Chansonneuve, 2007). These experiences have created historical trauma resulting in unresolved grief that continues to have adverse effects for the survivors (Duran & Duran, 1995). Duran and Duran (1995) attribute high rates of alcoholism within the Aboriginal community to the psychological ramifications of massive unresolved trauma. They argue that this trauma has been internalized, resulting

in a state of self-hatred. The cumulative effects of historical trauma caused by colonial domination was experienced as a 'soul wound' among the American Indians, as soul and culture are inextricably linked to one another (Duran, & Duran, 1995). This trauma is further compounded intergenerationally and experienced at an individual as well as collective or community level. The vast majority of evidence supporting the relationship between historical trauma and health outcomes among American Indians is anecdotal. Several researchers have documented high rates of psychological disorders, such as depression (Chansonneuve, 2007), PTSD (Duran, & Duran, 1995), and alcohol abuse (Chansonneuve, 2007) among Aboriginal peoples, but empirical evidence for the link between these problems and historical trauma has not yet been provided.

Historical trauma theory suggests that both the unresolved grief and self-destructive behaviours used to cope with that grief have been passed along from one generation to the next (Duran & Duran, 1995). This historical trauma is not a historical artefact, but rather endures within our contemporary society. In Canada, Aboriginal people have faced, and continue to face cultural oppression as manifested by policies, institutionalization, and the residential school system (Ross, 2006). Some theorists believed that the Canadian Government made repeated and deliberate attempts to eradicate all traces of the Aboriginal culture, specifically targeting the key elements of language, beliefs, customs, and spiritual traditions (Chansonneuve, 2007). These theorists cite Federal policies including the Act for Gradual enfranchisement of Indians (1869); the Indian Act (1876); and the creation of Residential schools (1892) as attempts to annihilate and then assimilate Aboriginals within mainstream society (Chansonneuve, 2007). The residential school system was the ultimate attempt to destroy the Aboriginal family unit

(Duran & Duran, 1995) and/or forever disrupt the Aboriginal cultural identity (Chansonneuve, 2007).

The Residential School system satisfied the prevailing belief of the time, that Aboriginals were savage and wild and needed to be civilized by mainstream society (Chansonneuve, 2007). The church and state (Government) believed that a residential boarding school was the ideal way to indoctrinate Aboriginal children into Canadian Society (Chansonneuve, 2007; Fournier & Crey, 1977). These church and government officials felt that the control and influence of the church would be enhanced once these children were separated and removed from their “immoral and evil” Aboriginal families, communities, and surroundings, making the assimilation process easier (Chansonneuve, 2007). Close to five generations of Aboriginal families spent entire childhoods institutionalized against their will (Chansonneuve, 2007). These school environments also subjected these Aboriginal children to purposeful criticism, which was executed for the purpose and goal of assimilating the young and vulnerable into mainstream culture (Chansonneuve, 2007). This was accomplished by getting rid of Aboriginal language, beliefs, and cultural identity. Furthermore, these Aboriginal children were dressed and groomed like mainstream children, as a means “to strip them of their Native American-ness” (Duran & Duran, 1995, p. 34). The residential schools essentially assisted the assimilation process by killing “...what was Indian.” (Chansonneuve, 2007, p. 19).

The forced assimilation that resulted in loss and grief left several generations of Aboriginals grieving the loss of their cultural identity (Chansonneuve, 2007). This generational trauma has been cited as a key factor that has contributed to a breakdown in the family networks/households and social structures among Aboriginal Canadians

(Chansonneuve, 2007). Communities and families experienced and continue to experience overwhelming stress as they were left to support an ever increasing number of those who had unresolved trauma, grief and anger from childhoods spent in Residential School environments (Chansonneuve, 2007). These historical atrocities along with current psychosocial conditions, such as poverty, on the reserves contribute and perpetuate the cycle of intergenerational trauma, which has systemically remained untreated and unhealed (Chansonneuve, 2007). This unhealed trauma was passed along from generation to generation whereby Aboriginal children grew up in dysfunctional learning environments where they were detached from their families and communities, failing to develop appropriate and healthy attachment styles (Chansonneuve, 2007; Duran & Duran, 1995). A lack of effective Native parenting role models and the lack of nurturing as well as abuse in boarding schools have resulted in uninvolved, non-nurturing, punitive, and authoritarian parents of differing degrees (Yellow Horse Brave Heart 1999). Residential school survivors have reported "...difficulties in forming trusting attachments with others, including their spouses, children, and grandchildren" (Chansonneuve, 2007, p. 20).

The consequences of the boarding school legacy and spiritual oppression that prohibited Aboriginal ceremonies and teachings, including poor spiritual foundations, weak Native identity, and poor family affiliation, have been associated with American Indian youth alcohol and other substance abuse (Yellow Horse Brave Heart 1999; Oetting & Beauvais 1987). Some theorists have speculated that these survivors turned to addictive behaviours and other negative coping ways to numb their grief and pain. In a similar vein, violence within the Aboriginal community may also be considered a grief

reaction directed towards family and the community (Channoneuve, 2007; Duran, & Duran, 1995). This violence creates a pattern of unhealthy relationships and destructive coping skills that some believe mirror those in the residential schools (Chansonneuve, 2007). Therefore, these violations of Aboriginal rights and their resulting widespread trauma are partial causes of addictive behaviours within these communities (Channoneuve, 2007).

Researchers have also suggested that socio-economic status is associated with substance and alcohol abuse. American Indian communities have high unemployment rates, low school completion rates, and have underdeveloped support systems (Beauvais, 1998). It has been suggested that this places increased stress on family and community social structures, which can lead to alcohol problems. One study found an unemployment rate of 14.4% for American Indians, while non-Indians in the same area had a 9.9% rate of unemployment (Beauvais, 1992 as cited in Beauvais, 1998). These American statistics, although relatively comparable, do not fully capture the magnitude observed among Canadian reserves. Recent reports indicate that one out of every four First Nation children in Canada lives in poverty, as compared to one in six Canadian children (Assembly of First Nations, 2004). In addition and according to the Assembly of First Nations more than half of all First Nations citizens are unemployed. This discrepancy between Canadian and American Aboriginals conveys the urgent and severe reality of many Canadian reserves.

Poverty and lack of employment opportunities have been associated with boredom and loss of purpose among the Aboriginal population. On the Northern Plains American Indian reserve, boredom, for some tribal members, was found to be associated

with alcohol and drug abuse, violence and other illegal activities (Jervis, Spicer, & Manson, 2003). Conrad (1999) conceptualized boredom as a "... failure to engage, to make a connection with a thing or activity" (as cited in Jervis, Spicer, & Manson, 2003, p.40). The idea of how an individual connects with their culture(s) and society is an important consideration for the current research project, as a lack of identity or affiliation with Aboriginal culture may increase the risk of substance abuse (Wardman & Quantz, 2005). Boredom has also been associated with restlessness, irritability and discomfort, which being uncomfortable internal states may motivate individuals to use alcohol and/or drugs (Jervis, Spicer, and Manson, 2003). For those of the Grass Creek reservation, boredom was embedded in the notion of there being "nothing to do" on the reservation (Jervis, Spicer, & Manson, 2003, p. 45). Upon further analysis Jervis et al (2003) found that boredom was associated with scarce employment, limited recreational options, and transportation difficulties. Therefore, drinking and partying became entertainment, a means of relieving frustration stemming from few opportunities and available activities, and an escape from the uncomfortable state produced by the boredom (Barbalet, 1999).

Cultural identity and loss have been associated with both risk and protective factors for substance abuse among Aboriginals. Many American Indians believe that their problems with alcohol are caused by disconnection with traditional American Indian culture (Beauvais, 1998). Several studies have cited the growing concern that Aboriginal traditional culture and language are dying (Herman-Stahl et al., 2003; Jervis, Spicer, & Manson, 2003). There is a widespread observation that Aboriginal youth are becoming more interested in popular or mainstream culture than their native culture. This trend was also observed among Canadian Inuit youth. Condon (1987) found that when Canadian

Inuit youth had increased exposure to 'southern' lifestyles and leisure activities, such as movies or bowling, that they reported increased boredom when considering their own life on the reservation. Exposure to the Southern mainstream society has infiltrated the isolated Inuit communities via television and media programs, where these Inuit youth have been consistently exposed to mainstream values, beliefs, norms and behaviours (Condon, 1987). According to Condon (1987) these Inuit youth are caught between the lifestyle of their traditional culture and that of western (mainstream) society. Researchers and older tribal members alike speculate that the Aboriginal youth are becoming increasingly bored with reservation life because they are defining the self and values by the norms of mainstream culture rather than by Aboriginal standards (Jervis, Spicer, & Manson, 2003). The American cultural values that were becoming integrated into the identities of these Aboriginal youths were the notion that individual happiness was entitled, that pleasure is derived from external objects and things, and that boredom should be blamed on an inadequate external world (Jervis, Spicer, & Manson, 2003).

Researchers have found that American Indians who identified more with mainstream culture were three times more likely to be heavy drinkers compared with more American Indian-oriented individuals (Herman-Stahl et al., 2003). Tribal elders have reported that many of the current problems afflicting Aboriginals result from a loss of traditional Native American beliefs and culture. Empirical research supports the elders' accounts and has found that higher rates of substance use occur among those who identify more with non-Native American values. The notion of cultural identity acting as a protective force against alcohol and substance abuse is further supported by recent research conducted by Wardman and Quantz (2005). The study by Wardman and Quantz



(2005) found that cultural participation served as a protective factor that prevented further binge drinking episodes. Specifically, a majority of the participants stated that when they disregard thoughts of their own culture they revert back to binge drinking, and also endorsed returning to participate in cultural events such as sweats, round dances, and smudging on a regular basis as part of their abstinence process. Another study lends additional support as American-Indian teenage subjects who received an alcohol and substance abuse treatment that incorporated bicultural competence skills self reported a reduction in rates of tobacco, alcohol and drug use at posttest and a 6 month follow up when compared to those in the control condition (Schinke et al., 1988).

Overall, it appears that cultural identity plays a role in the aetiology of alcohol use and abuse as well as a protective factor for the Aboriginal population. Those who desire to identify with the mainstream culture are faced with perceived barriers to full cultural identification, such as a lack of resources, unemployment and isolation. This is further complicated when these Aboriginals are made aware of the historical trauma and oppression forced onto them and their people by those they desire to identify with in the mainstream culture. This awareness can induce a state of ambivalence or uncertainty. Personal uncertainty brought about by intergenerational trauma from colonization, socio-economic despair and the resulting boredom, coupled with a desire to identify with North American culture, may have caused a gap in the cultural identity of many Aboriginals. This uncertainty prevents the individual from connecting with their Aboriginal identity, which has been shown to be a protective factor against alcohol abuse. In addition, this personal uncertainty may act to induce a state of internal discomfort or dissonance, motivating an individual to escape with alcohol and drugs. In order to fully appreciate

how Aboriginal substance abuse is a systemic problem resulting from a conflict between cultural identities, it is prudent to understand the process of acculturation.

*Theories of Acculturation*

Acculturation has been conceptualized by Berry (2005) as a parallel "...process of cultural and psychological change..." (p. 698) that occurs within an individual who is exposed to more than their own cultural group. The individual can react to a foreign culture and adopt new cultural principles and practices or blend their culture with that of another dominant culture (Berry, 2005; Cheah & Nelson, 2004). The majority of research and theory on acculturation deals with immigrants. The current research project is extending this area of research to incorporate the Aboriginal population in Canada.

Researchers have determined that immigrants within a culture vary in the degree to which they maintain the heritage culture and the degree to which they affiliate with and adopt the values and beliefs of the mainstream culture (Cheah & Nelson, 2004).

Literature suggests that the process of acculturation can be conceptualized as unidimensional or bidimensional. Unidimensional models of acculturation assume that any changes to the cultural identity occur along a single polar continuum, having those who assimilate with mainstream culture at one end and those who retain their traditional cultural values at the other end (Ryder, Alden, & Paulhus, 2000). Furthermore, this acculturation model is mutually exclusive, so that in order to be in the process of acculturation one must give up their traditional values, attitudes and behaviours while also taking on ones from the mainstream (Ryder, Alden, & Paulhus, 2000). According to this model a bicultural individual lies between both extremes, having given up part of their traditional culture while also having adopted aspects of the new culture (Ryder,

Alden, & Paulhus, 2000). By contrast, the bidimensional models conceptualize acculturation as having separate and independent processes for both the heritage and mainstream cultural identities (Ryder, Alder, & Paulhus, 2000). Therefore, an individual does not have to give up the values of their heritage culture in order to develop new mainstream ones, as these are distinct and separate processes (Ryder, Alden, & Paulhus, 2000). The bidimensional model of acculturation in the context of self-identity has been supported by research and will therefore be the model considered in this paper.

The bidimensional model rests on two core assumptions. The first is that there is variance in how relevant and important culturally based values, beliefs, behaviours and customs are in the self-concept of the individual (Ryder, Alden, & Paulhus, 2000). This means that some individuals define their self-identity by their culture, while for others this is irrelevant as they are defined by other factors such as their athletic ability (Ryder, Alden, & Paulhus, 2000). Secondly, unlike the unidimensional model, the bidimensional model assumes that cultural identities are independent of one another, and therefore individuals are able to have more than one as part of their self-identity (Ryder, Alden, & Paulhus, 2000). Furthermore, these cultural identities may vary in strength (Ryder, Alden, & Paulhus, 2000). John Berry's bidimensional model of acculturation has been one of the most extensively researched in this field (Ryder, Alden, & Paulhus, 2000).

According to Berry (2005) there are two fundamental dimensions of acculturation, and not all groups or individuals undergo acculturation in the same manner. For this reason the variations of how individuals undergo acculturation has been termed acculturation strategies (Berry, 2005). Berry (2005) has proposed four acculturation strategies that have been derived from two dimensions facing all individuals who are in

the process of acculturation. The first dimension focuses on the preference for maintaining the original cultural identity and the second dimension focuses on the preference for participating in the mainstream or dominant culture. The negotiation of these two central issues generates Berry's four general acculturation strategies: integration, assimilation, separation, and marginalization (Berry, 2005).

The strategy of integration occurs when individuals maintain their original culture, yet seek interaction with other cultures (Ryder, Alden, & Paulhus, 2000). Assimilation occurs when individuals are relatively unconcerned with preserving their original culture, and seek daily interaction with other cultures, thus becoming absorbed in the dominant culture (Berry, 2005). On the other hand, separation involves maintaining the original culture while avoiding other cultures, essentially these individuals are solely focused on their heritage culture (Berry, 2005). Finally, marginalization occurs when individuals do not maintain their original cultural identity nor do they desire to interact with other cultures, thereby rejecting both cultures (Berry, 2005). The level of cultural identification for ethnic cultures, especially for second and older generation groups, has no bearing on levels of identification with mainstream culture, and vice versa (Ryder, Alden, & Paulhus, 2000; Tsai, Ying, & Lee, 2000).

Recent research has focused on the bidimensional model of acculturation related to substance abuse. Berry's general acculturation strategies have been associated with acculturative stress, which increases one's risk of substance abuse (Fosados et al., 2007). There is a general trend for those who are classified as marginalized to be at an increased risk for lifetime use of alcohol and drugs (Fosados et al., 2007). Literature suggests that the process of marginalization is most stressful, as it is associated with significant cultural

heritage loss and fewer healthy coping strategies. This is further exacerbated by life/environmental stressors that together increase an individual's vulnerability to engage in substance use (Berry, 2005; Sussman et al., 1993).

The current study seeks to determine the degree to which cultural value conflict associated with dissonance, increases the likelihood of using alcohol and engaging in substance use. We believe that stress can be associated with acculturation and may motivate individuals to escape the dissonant state by engaging in alcohol and/or substance abuse. Specifically, Aboriginal Canadians exposed to mainstream culture may possess more than one cultural identity, which become activated by environmental cues determining culturally appropriate behaviours.

*Cultural Frame Switching.* Research literature has shown that individuals can possess dual cultural identities that operate simultaneously (Benet-Martinez et al., 2002). Those individuals who identify with more than one culture have been termed bicultural. As a dynamic constructivist approach to biculturalism, Cultural Frame Switching (CFS) involves using "... different cultural interpretative frames or cultural meaning systems" when primed by cultural cues (Benet-Martinez, Lee, & Leu, 2006, p. 387). The constructivist approach to culture is based on the premise that culture is a "system composed of loose domain-specific cognitive structures" (Hong et al., 2000, p. 710). This means that bicultural individuals have different cultural meaning systems that become activated in response to environmental cues (Pouliasi & Verkuyten, 2007). The second premise is that bicultural individuals have the capacity to develop more than one cultural meaning system, which can be activated simultaneously when confronted with conflicting information or constructs (Benet-Martinez, et al., 2006). As previously stated, cultural

cues in the environment inform the individual as to which frame or meaning system to apply to a given social situation (Benet-Martinez, et al., 2006). Cultural cues are pervasive and can be obvious, such as spoken language, or "... subtle and implicit features of the situation", such as expectations or goals (Benet-Martinez, et al., 2006, p.387).

Hong, Morris, Chiu, and Benet-Martinez (2000) afforded the first empirical research of cultural frame switching. In this study, Hong Kong Chinese students were presented with a set of cultural icons designed to activate the cognitive structures that would produce cultural biases in attribution, such as the fundamental attribution error (Ross, 1977 as cited in Hong et al., 2000). The fundamental attribution error is seen more in western than eastern cultures and is argued to be a uniquely western cognitive bias. The rationale for using the fundamental attribution error is that Asian American biculturals could essentially think like an American in some conditions and like an Asian in others, thereby only showing the fundamental attribution error when the right cultural cues are introduced. Hong et al. (2000), wanted to see whether these Asian American biculturals could flip from one attributional style to the other depending on cultural cues. The results of this study supported the CFS model as bicultural Chinese Americans made more internal attributions after being primed with American cues (Hong et al., 2000). Furthermore, when primed with Chinese cues these bicultural Chinese Americans made more external attributions, denoting East Asian attribution style (Benet-Martinez, Lee, & Leu, 2006). Therefore, these Chinese American biculturals implemented different attribution styles (American or Chinese) depending on the environmental cultural cues that were primed.

The acculturation literature suggests that there are variations in how bicultural individuals manage dual identities, especially in the extent to which these individuals believe both cultures to be compatible and integrated (Benet-Martinez et al., 2002). Bicultural individuals are faced with challenges of integrating different sets of cultural demands and cues, conflicting interpersonal expectations, and the potential of discrimination (LaFromboise et al., 1993), all of which has an impact on whether or not they have an integrated cultural identity. Despite these challenges, many bicultural individuals succeed at developing a compatible bicultural identity (LaFromboise et al., 1993; Phinney & Devich-Navarro, 1997). These individuals are thought to identify with both cultures. For instance research conducted by Phinney and Devich-Navarro (1997) found that when bicultural participants were asked to describe whether they are ethnic and/or American, they were more likely to say “I am both” or “I am African American” (p. 15), rather than selecting one or the other. Moreover, these bicultural individuals were less likely to perceive the mainstream and ethnic cultures as being mutually exclusive or in conflict with one another, and more likely to integrate both cultures in their daily lives (Phinney & Devich-Navarro, 1997).

Conversely, acculturation literature also describes another type of bicultural experience, where bicultural individuals perceive mainstream and ethnic cultures as highly distinct, separate and sometimes oppositional (Gil, Vega, & Dimas, 1994; Phinney & Devich-Navarro, 1997). Although these individuals consider themselves bicultural, they have a greater awareness of the differences between each culture, which can cause internal conflict (Benet-Martinez et al., 2002). As a result, these individuals who fit Phinney and Devich-Navarro’s (1997) ‘alternating biculturalism’ attempt to keep their

cultural identities separate depending on the environment (ie. home vs. school), and report that it is easier to be one or the other but hard to be both simultaneously. For instance, when asked to describe their ethnicity these bicultural participants were likely to say, “[I am] Black in America” rather than a “...Black American” (Phinney & DeVich-Navarro, 1997, p. 22).

Recent work done by Benet-Martinez et al. has elaborated on the notion of Bicultural Identity Integration (BII), defined as the “...extent to which [bicultural individuals] perceive their cultural identities as largely integrated and compatible (high BII) or dissociated and difficult to integrate (low BII) (Benet-Martinez, Lee, & Leu, 2006, p. 395). This research has found that individuals with low BII respond in incongruent ways to primed cultural cues (Benet-Martinez et al, 2006). For instance they behave in a prototypically ethnic way when faced with Anglo-American cues and in a prototypical American way when exposed to ethnic cues (Benet-Martinez et al., 2002). Consequently, the evidence suggests that individuals with low BII display a behavioural “reactance” against the cultural expectations that are embedded within a given situation that may be maladaptive. BII is considered an individual difference dimension that affects how well an individual frame switches.

*Acculturation Complexity Model (ACM)*. The Frame-Switching theory describes an individual who has already internalized a new cultural network and is therefore considered bicultural (Tadmor & Tetlock, 2006). By contrast, the ACM theory explains the process of reconciling and internalizing the heritage and mainstream cultures into a new cultural network on the path towards becoming bicultural (Tadmor & Tetlock, 2006).



The culture to which one ascribes provides individuals with habits or patterns that guide culturally appropriate behaviours and attitudes (Tadmor & Tetlock, 2006). These habits become automatic in familiar situations and essentially “filter how individuals view their world” (Tadmor & Tetlock, 2006, p. 177). The Acculturation Complexity Model (ACM) asserts that an individual who encounters a new culture is no longer able to respond automatically based on previous behavioural habits or patterns (Tadmor & Tetlock, 2006). As the new cultural setting contains ambiguous and unfamiliar stimulus cues, values, and norms, an individual can no longer rely on previous responses and must put more effort and attention into noticing and analysing the new environment (Tadmor & Tetlock, 2006). By increasing conscious attention and not remaining on ‘auto-pilot’ an individual gathers more information and cues, which may have been dismissed, avoided or filtered out (Tadmor & Tetlock, 2006).

The ACM delineates how two different cultures that advocate incompatible behaviours for one situation, or hold conflicting values, can result in conflict, stress and dissonance for the bicultural individual (Kim, 1988 as cited in Tadmor & Tetlock, 2006). There are three reasons why this type of stress is uncomfortable and ultimately aversive (Tadmor & Tetlock, 2006). Firstly, because each culture is different and holds varying degrees of importance for the individual, it is difficult to compare the conflicting cultural values (e.g. "how much harmony am I willing to give up to show that I have some of the American individualist in me?") (Tadmor & Tetlock, 2006, p. 179). Secondly, most experience value conflict as emotionally painful, where those who sacrifice core values experience heightened levels of dissonance (Tadmor & Tetlock, 2006). Thirdly, an individual who chooses one cultural value over another may feel embarrassed, as the

individual may feel they are rejecting the non-selected culture (Tadmor & Tetlock, 2006). The current study will focus on the dissonance-arousing effects of bicultural value conflict.

According to the ACM, the amount of dissonance or strain experienced for any of the previously stated reasons depends on the arrangement of accountability demands placed on the individual. For instance, upon being exposed to a new conflicting culture an individual may experience minimal dissonance if that individual values one cultural identity above the other. Otherwise said the value sets are unequal and the individual is therefore only accountable to the valued cultural audience (Tadmor & Tetlock, 2006). When dissonance occurs, the individual is motivated to restore balance to their internal environment, thereby reducing the negative emotional state of dissonance (Festinger, 1964). This is accomplished by adjusting or changing behaviours and/or thoughts, which requires some amount of cognitive work (Tadmor & Tetlock, 2006).

*Resolving Dissonance through Integrative Complexity.* According to Tadmor and Tetlock (2006) when cultural differences produce low levels of dissonance an individual will use cognitively simple solutions, such as focusing on only one set of cultural values, to reduce any negative or unpleasant emotions (Brehm, 1956; Festinger, 1964). This situation typically occurs for those bicultural individuals who adopt the separating or assimilating acculturation strategies (Tadmor & Tetlock, 2006). However, more cognitively complex solutions must be implemented when an individual experiences strong or intense dissonance (Tadmor & Tetlock, 2006).

Tetlock (2002) believed that a more complex solution could be achieved via a coping strategy he designated pre-emptive self-criticism. Pre-emptive self criticism

functions such that an individual engages in a reflective and self-critical pattern of thinking, weighs the pros and cons of both perspectives, and ultimately attempts to anticipate reasonable criticisms and to construct an integrated position. This strategy would require the individual to acknowledge the merits of both sets of cultural values (Tadmor & Tetlock, 2006).

As an individual proceeds through the acculturation process they will continue to be confronted with new cultural information that will generate value conflicts needing to be resolved (Tadmor & Tetlock, 2006). Tadmor and Tetlock (2006) contend that the process of resolving the dissonance produced by each cultural conflict leads an individual closer to becoming a cognitively complex bicultural individual. The term cognitive complexity has been defined as the “degree to which a person possesses the ability to perceive behaviour in a multidimensional manner.” (Schneier, 1977, p. 541). Furthermore, it is used to highlight cognitive structures involved in the organization and storage of cognitive content, such as differentiation, articulation, and abstraction (Curseu, Schrujjer, & Boros, 2007; Benet-Martinez et al., 2006). Differentiation refers to aspects of an issue that an individual recognizes. Rather than simplistically classifying specifics of a situation along a single continuum, the differentiating individual recognizes the complexity of the situation which may include multiple and contradictory aspects (Tetlock, 1983). Those who have higher levels of cognitive complexity are better able to cluster information. This study proposes that since those high in complexity are able to accommodate conflicting perspectives, they would also see cultural value conflicts with greater complexity, resulting in less dissonance, less need to escape with alcohol, and a greater capacity to identify with both cultures.

Ultimately, situational cues and the relevance of the audience to whom the individual is accountable, will inform the level of dissonance and discomfort one experiences when confronted with conflicting cultural values (Tadmor & Tetlock, 2006). If severe enough, people are motivated to reduce this dissonance. One such mechanism is to put effort toward developing an integratively complex resolution to the value conflict. Even when felt dissonance is high, some individuals are not able to adopt integratively complex resolutions. It is important to remember that complexity is both an individual difference dimension and a function of the immediate situation (Tadmor & Tetlock, 2006).

The historical oppression and desire of some Aboriginal Canadians to identify with mainstream culture may prevent them from engaging in integratively complex resolutions to cultural value conflict. These individuals, therefore, may seek to escape the dissonance instead through substance use. The purpose of the current study is to see whether primed awareness of cultural value conflicts increases the desire to escape by drinking alcohol. Dissonance, associated with value conflict leading to substance use, has been explored recently by McGregor and colleagues (1999; 2001) in theoretically similar work on compensatory conviction and personal uncertainty.

#### *Escaping Dissonance with Alcohol*

McGregor et al. (2001) proposed a relatively recent theory to account for how an individual negotiates the uncertainty within their environment, termed compensatory conviction. McGregor's compensatory conviction shares some similarities with the self-affirmation theory. Self-affirmation theory asserts that when an individual is confronted by something that threatens their global sense of self-integrity they engage in 'fluid

compensation' processes as a means of reducing the internal affective strain (McGregor, Zanna et al., 2001). The term 'fluid compensation' refers to the highly flexible compensation processes that an individual may employ as a means of coping with self-threatening information (Brunstein & Gollwitzer, 1996). This model proposes that an individual can respond to self-image threatening events by rationalizing the specific threat, or by affirming other unrelated aspects of the self to reinforce their overall self-integrity (Steele, Spencer, & Lynch, 1993). For instance an individual who smokes cigarettes and whose rationalizations for smoking have been shown to be incorrect may still cope with the threat to their self-concept by focusing on another aspect of their self-identity, such as being in good health, as a means of reaffirming their self-adequacy (Steele, Spencer, & Lynch, 1993). Confirming an unrelated aspect of the self has been found to eliminate dissonance when self-integrity has been challenged (Steele & Liu, 1983; Steele, Spencer, & Lynch, 1993).

McGregor's work offers evidence that compensatory conviction can also eliminate the dissonance aroused by the awareness of threatening cognitions (McGregor et al., 2001). Compensatory conviction refers to a coping mechanism where an individual "...spontaneously emphasizes certainty and conviction about unrelated attitudes, values, personal goals, and identifications (McGregor et al., 2001, p. 473). McGregor's research has investigated fluid compensation as outlined by Steele et al., however, this compensatory conviction focuses on personal uncertainty rather than self-integrity being compromised. McGregor et al. (2001) defined personal uncertainty as "...an acute type of identity crisis occurring when an individual becomes aware of inconsistent or unclear self-relevant cognitions" (p. 473). McGregor's studies have demonstrated that

compensatory conviction can be activated by personal uncertainty resulting from three self-integrity threats, including social issues, groups, and oneself (McGregor et al., 2001).

This theory asserts that when people are confronted by ambiguous situations they turn to their cultures to assist them in determining what to think and do. Haji and McGregor (2002) assigned Canadian undergraduate students to either ruminate about a current personal dilemma termed the personal uncertainty condition, or to complete a neutral task involving thinking of their friend's dilemmas (as cited in McGregor, 2007). Researchers then assessed Canadian national pride along with opinions about Islam. They found that those assigned to the uncertainty condition were more likely to be zealous with their cultural convictions and praise Canada. In addition, those in the uncertainty condition also reacted with more disdain for Islam (Haji & McGregor, 2002 as cited in McGregor, 2007). Participants who scored higher on the Preference for Consistency (PFC) scale, which assesses discomfort with self-inconsistency, were more likely to use compensatory conviction. Researchers therefore speculate that those who are more sensitive to cognitive conflict are more likely to use compensatory conviction when faced with personal uncertainty, as a means of reducing self-related uncertainty (Haji & McGregor, 2002 as cited in McGregor, 2007).

McGregor's research on compensatory conviction also makes use of Steele and Colleagues concept of alcohol myopia. Alcohol myopia refers to a state of alcohol intoxication where cognitive dissonance is alleviated by preventing the individual from noticing both sides of a cognitive conflict (McGregor, 2007). McGregor and colleagues have conducted two relevant experiments investigating alcohol intoxication as a defensive reaction to personal uncertainty. One study conducted by Mills and McGregor

(as cited by McGregor, 2007), asked undergraduate students to rate their weekly alcohol consumption. These students were then randomly assigned to dilemma-based uncertainty or control conditions. The participants were then invited to sample either beer or a sports drink as often as necessary to form an opinion about how much they liked each. A three-way interaction was observed, where those high on preference for self-consistency who were heavy drinkers responded to the personal uncertainty manipulation with the highest beer consumption (McGregor, 2007). The researchers speculate that those who are averse to cognitive conflict, and who have experienced the effects of alcohol myopia turn to alcohol when faced with cognitive conflict.

McGregor's research on compensatory conviction resulting from personal uncertainty demonstrated how value conflict when salient can lead to substance abuse behaviours. This motivation to escape value conflict by drinking alcohol has not considered the unique cultural identities of Aboriginal Canadians. The current study will explore how cultural value conflict can induce a state of dissonance similar to that reported by McGregor (2001), which these Aboriginal Canadians may alleviate by consuming alcohol.

### Present Study

The current study examined how the acculturation process contributed to an elevated risk of substance abuse among Aboriginal Canadians. There is a significant problem with substance abuse among Aboriginal Canadians (Anderson, 2007; Health Canada, 2003). Currently, systemic problems of boredom, poverty, and historical oppression caused by residential schools and colonialization have been explored and proposed as potential causes of substance use and abuse (Channoneuve, 2007).

Conversely, identification with the Aboriginal culture has been shown to be a potential buffer against engaging in substance abuse (Wardman & Quantz, 2005).

Research and theory on acculturation, frame switching and ACM were explored to identify factors that may prevent the bicultural individual from connecting with the Aboriginal identity. Based on this research, cultural value conflict was identified as a potential issue preventing bicultural identification and integration. ACM proposes that such value conflict may produce dissonance under certain conditions. As highlighted by McGregor (2001; 1999), such states of uncertainty or dissonance may motivate people to consume alcohol.

In the current study, I proposed that awareness of cultural value conflict in Aboriginal Canadians produces the experience of dissonance, and that some individuals would seek to escape this dissonance through substance use. In addition, this study aimed to determine whether the personal uncertainty of cultural value conflict acts as a barrier, preventing the bicultural individual from connecting with their Aboriginal identity, which has been shown to promote well-being by acting as a protective factor against alcohol and substance abuse (Wardman & Quantz, 2005).

Although research has considered and explored the role of cultural identity, cultural value conflict related to substance and alcohol abuse within the Aboriginal population has been untested. There remain gaps in our current understanding of how these factors interact for Aboriginals as the majority of research conducted has used qualitative data and/or immigrant populations. Therefore exploring the relationship between these two constructs will serve to increase the growing body of empirical knowledge and research in the area of substance abuse and acculturation. The current



study implemented a combined experimental manipulation and correlational design aimed at clarifying how the awareness of personal uncertainty as primed by cultural value conflict can result in alcohol use and abuse. The specific hypotheses of this study were:

1. The cultural value conflict exercise would prime self-inconsistency, resulting in a state of dissonance that some participants would seek to escape with an elevated desire to drink alcohol. If the awareness of conflict increases the urge to drink, then those who are first made aware of the conflict should indicate a stronger desire to drink an advertised alcoholic beverage in the present moment than those who are asked their desire to drink before being made aware of the conflict. This effect may be moderated by personal need for consistency (as per McGregor et al., 2001).
2. It was expected that self-reported self-inconsistency, in the form of reported degree of cultural value conflict, would positively correlate with substance abuse scales (SASSI and DCS), and negatively correlate with measures of identity integration (Benet-Martinez et al., 2002), identification with Aboriginal culture (Cameron, 2004), and acculturation (Ryder, Alden, & Paulhus, 2000). Furthermore, cultural identification may mediate the relationship between cultural value conflict and substance abuse, such that value conflict predicts substance abuse because of its additional effects on Aboriginal cultural identity.
3. Those who generated integratively complex descriptions of a value conflict (Tetlock, 2002) should have experienced less dissonance (or

self-inconsistency) and be less likely to endorse a history of alcohol use and abuse. Integrative complexity was measured by coding participants' descriptions of their cultural value conflict using Tetlock's coding scheme.

4. Research has found that Aboriginal cultural identification can act as a protective factor against engaging in substance use and abuse (Wardman & Quantz, 2005). Therefore, measures of Aboriginal cultural identification were hypothesized to be negatively correlated with substance abuse measures and positively correlated with well-being measures (PANAS and SWL).

## Method

### *Participants*

Aboriginal Canadians were recruited from Lakehead University and several community contacts including Friendship Centres and First Nations' health and wellness programs. Surveys were administered to 28 Aboriginal Canadians with a mean age of 32.8. Furthermore, of those who participated 35.7% were male and 64.3% were female.

### *Materials and Procedure*

Participants were recruited through the university and Thunder Bay community. As an incentive, those participants who are in the introduction to Psychology course received an additional percentage for their participation; while all other participants received gift certificates from Tim Hortons. Participants were invited to the lab at Lakehead University where they individually completed an anonymous questionnaire package and consent forms. For those who resided in the community, participants were

given the anonymous questionnaire package and consent forms at the Friendship Centres or First Nations' Health and Wellness locations throughout Thunder Bay.

The questionnaire package and proposed research design were reviewed and discussed with members of three Aboriginal community organizations prior to conducting the study. For instance, the Aboriginal Student Liaison/Advisor who was with the Aboriginal Cultural & Support Services at Lakehead University provided direction and input regarding the appropriateness of items contained in the questionnaire package. The example in the cultural value conflict exercise was modified as a result of the consultation, such that the terms "bush life" were changed to "traditional ways of life". These consultations provided direction and input as to the appropriate means of gathering information from participants that are accurate, valid, and respectful.

When participants arrived the researcher provided a cover letter (see Appendix A) describing the study and a consent form (see Appendix B) that detailed any associated risks and benefits of participating in the study, confidentiality, and the procedures for completing the questionnaire package (see Appendix C). The researcher obtained free and informed consent, and the prospective participants were advised that they could withdraw their participation at any time. The full purpose of the study was kept from the participants so as to not bias responses in the questionnaire. Instead, participants were told that the present study was designed to assess how cultural values and personality variables influence problem solving strategies and ultimately impact their well-being. This enabled the participants to anticipate being administered certain types of scales, specifically the acculturation, cultural identity, and well-being scales and the cultural value conflict exercise. The urge to drink measure was embedded under the guise of a

measure of participants' perceptions of various ads. Specifically, in the questionnaire package participants viewed one page advertisements of a new alcoholic beverage high in percentage alcohol and another advertisement of a new sports drink. Instructions were located at the top of each page while several questions all designed to appear legitimate were located at the bottom of each page. Their current urge to drink the alcoholic beverage was the main question being assessed. The sports drink advertisement and questions were included in the questionnaire package to obscure and disguise the purpose of the new alcoholic beverage advertisement.

Based on the historical deceptions and oppression of the Aboriginal population, there exists issues of trust directed towards institutions like Universities, which presented as a barrier. Due to these already fragile trust dynamics, the current research procedure attempted to keep the level of deception in this study to a minimum. It was crucial for the legitimacy of the study to conceal the urge to drink scale, as knowledge of its purpose would have biased and discredited the results, and knowledge surrounding this important topic.

A hardcopy of the questionnaire was administered and completed in the presence of the researcher and took no more than 1 hour to complete. There were two scale-order conditions, and participants were randomly assigned to one of each, with the experimenter and participant being blind to the condition. In half of the surveys, the urge to drink scale or alcohol ad was placed at the beginning and in the other half it was placed following the measures of cultural value conflict.

The following measures comprised the questionnaire packages administered to each participant. As previously stated half of the participants received the questionnaire

package with the urge to drink scale preceding the cultural value conflict exercise, while the other half had the urge to drink scale following that exercise. For the purpose of clarity, the measures section is grouped according to independent variables, dependent variables, and moderator variables, however, this does not represent the questionnaire layout itself. For a detailed overview of the design for both types of the questionnaire packages refer to Appendix E.

### *Demographic Information*

Participants were asked to provide demographic information that included their age, gender, marital status, and ethnicity.

### *Independent Variables*

*Cultural Value Conflict.* The placement of the value conflict exercise within the questionnaire package represented the independent variable of the experimental manipulation, and has been adapted from McGregor's uncertainty-related value threat measure (McGregor, Zanna, Holmes, & Spencer, 2001). The cultural value exercise itself primes conflict. Participants received a blank sheet included in their questionnaire package that acted as a placeholder for the experimental manipulation, which informed the participant to stop and contact the researcher for further information. The blank sheet of paper enabled the researcher to remain blind from the participants condition, as the researcher was unaware of which questionnaire package the participant had received. The researcher then spent a couple of minutes speaking with the participant about cultural values and potential conflicts that can arise. This assisted the participant in understanding and becoming more cognitively invested in the cultural value conflict exercise. The researcher then handed the participant the cultural value conflict exercise sheets, and

informed the participants that they could contact the researcher if they required further clarity. In the exercise sheets, participants were asked to think about and describe a cultural value conflict currently being experienced. Participants were provided with a brief example of a cultural value conflict. The example provided was of an Aboriginal Canadian youth, raised on a reserve by his/her parents, who had been taught to value the traditional culture of 'traditional ways of life'. According to the Aboriginal culture, a youth should contribute to the community by hunting for food. On the other hand, the youth has been exposed to Canadian culture, and values watching MTV and playing videogames. This represents a cultural value conflict as the Aboriginal and Canadian values conflict.

After writing down a short description of their own dilemma, participants were asked to summarize the general values associated with each side of the conflict, and to ruminate for 10 minutes (McGregor, et al., 2001). This value question was meant to directly confront participant's personal cultural values (McGregor, et al., 2001).

The participants' free-hand descriptions of their cultural value conflicts were coded for complexity using Tetlock's coding scheme. Integrative complexity has two essential components: differentiation and integration. Differentiation refers to being able to discern a variety of dimensions when examining an issue or cultural value conflict. Integration refers to the ability to identify the relationships between differentiated concepts or perspectives (Baker-Brown, Ballard, Bluck, de Vries, Suedfeld, & Tetlock, 1992). Therefore, in order to measure integrative complexity, differentiation and integration must be rated. The integrative complexity of participants' written descriptions of cultural value conflict were rated on a 7 point scale, with higher scores indicating more

complex decisions. Each level of this 7 point scale represents a particular combination of various degrees of differentiation and integration. For instance, a score of 1 indicates that the response failed to differentiate alternatives, and therefore completely lacks integration. Conversely, a score of 7 indicates that several alternatives have been differentiated, and each alternative has been explored to a reasonable extent.

Another measure that was used to assess for cultural value conflict was a brief cultural value conflict measure (as adapted from the Cultural Value Conflict Scale by Inman et al., 2001). This scale consisted of 6 questions designed to assess the severity, occurrence and significance of cultural value conflicts for Aboriginal Canadians. Severity of cultural value conflict was assessed by items that include “These cultural value conflicts cause me distress” and “I am bothered by these cultural value conflicts”. Those items that measured occurrence of cultural value conflict included the following: “These cultural value conflicts come up often” and “these cultural value conflicts happen rarely (reverse keyed).” The significance of cultural value conflicts was assessed by the items: “In my opinion these cultural value conflicts are upsetting,” and “there is significant difference between the values of my Aboriginal cultural and those of the Canadian Culture.” All items were rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The mean value across the 6 items was calculated to determine the degree of cultural value conflict with higher scores reflecting greater conflict.

*Acculturation Measures.* Participants then completed measures of Aboriginal and Canadian cultural identification and acculturation. Cameron’s identity scale (2004) consists of 12 items for each culture, and was used to assess the participants’ levels of

identification with Aboriginal and Canadian cultures. Cameron's scale consists of three components to social identity: cognitive centrality, ingroup affect, and ingroup ties. Cognitive centrality measures the amount of time spent thinking about being a (cultural) group member. Ingroup affect measures positive feelings associated with membership in the group. Ingroup ties measures perceptions of similarity, bonds and belongingness with other group members (Cameron, 2004). Cameron's tripartite measure of social identity has been replicated in the measurement of ethnic identification among diverse populations (Cameron, 2004). Correlational and regression analyses of Cameron's scale and various related constructs lend evidence for convergent and discriminant validity (Cameron, 2004). Internal consistencies of total scales and subscales have been found to be acceptable in prior research. Ingroup ties has shown alpha coefficients from 0.76 to 0.84; centrality from 0.67 to 0.82; and ingroup affect from 0.77 to 0.82 (Cameron, 2004).

Participants were then administered the Canadian and heritage subscales of the Vancouver Index of Acculturation measure (Ryder et al., 2000), which measured acculturation strategy. This 10-item scale was designed to measure the extent to which a participant takes part in and identifies with their traditional culture (in this case Aboriginal culture) and the mainstream Canadian culture. Participants were asked to rate themselves on a scale of 1 (strongly disagree) through 10 (strongly agree) with how much they agree with statements such as: "I enjoy social activities with people from the same Aboriginal culture as myself". The mean was obtained to determine a total acculturation to heritage culture score. Research has demonstrated that the VIA is reliable with good internal consistency, and convergent validity. This index was modified such that each reference made to American or America will be changed to Canada or Canadian.



The Bicultural Identity Integration Scale- Version (BIIS-I) measures two orthogonal dimensions: cultural conflict and cultural distance (Benet-Martinez & Horitatos, 2005). Cultural conflict captures experience of feeling torn between two cultural orientations (Benet-Martinez & Horitatos, 2005). In contrast, cultural distance taps the perception of having non-overlapping, compartmentalized cultural identities. Benet-Martinez and Horitatos (2005) compared Asian and American cultures, and therefore, this scale was modified to capture Canadian and Aboriginal cultures by replacing the term “American” with “Canadian” and the term “Asian” with “Aboriginal”. Respondents rated their agreement with each item on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). These eight items have been shown reliable with an alpha of 0.74 for the conflict scale and an alpha of 0.69 for the distance scale (Benet-Martinez & Horitatos, 2005). Those who have higher scores on this scale indicated a higher level of integration of both Canadian and Aboriginal cultures and thus had a higher BII (Benet-Martinez & Horitatos, 2005).

#### *Dependent Variables*

*Current Desire to Drink Measure.* The current desire to drink was disguised as a measure of participants’ perception of two selected advertisements: one for a new alcoholic beverage, and the other for a new sports drink. The sports drink advertisement and questions acted to disguise the purpose of the new alcoholic beverage advertisement. Both advertisements were placed at one of two points in the questionnaire package, either before or after the value conflict exercise. In order to minimize potential defensiveness associated with the alcohol advertisement, a one page statement was included prior to both advertisements informing participants that the experimenters were interested in their

perceptions of two randomly assigned advertisements. Instructions were located at the top of the page. In order to evade any suspicions from participants the ad and questions were designed to be visually appealing and professional. The alcohol ad clearly stated that this was a new beverage high in alcohol concentration (50%). The instructions on the alcohol ad page asked participants to look over the ad carefully for a minute and then to answer a number of questions related to their perceptions of the ad. The question of interest in the current study was how much they felt like consuming this new drink right now on a scale from 1 to 10, where 1 represents not at all to 10 representing very much. To further disguise the true purpose of this measure, additional questions were asked of the participant regarding their thoughts on the effectiveness of the advertisement. The sports drink advertisement was also included with the same questions to further disguise the purpose.

*Substance Abuse Measures.* SASSI-3 (Substance Abuse subtle screening inventory) is a brief and easily administered screener that identifies individuals over 18 years old who have a high probability of having a substance abuse disorder. Additionally the SASSI-3 has subscales that provide clinically relevant information regarding an individual's attitude towards the assessment, such as defensiveness, ability to acknowledge problems, and risk of legal problems. The SASSI-3 takes approximately 15 minutes to complete, and 5 minutes to score and interpret (Laux, Salyers, & Kotova, 2005). The psychometric findings support its use with undergraduate students, as it has good test-retest stability, internal consistency, and item-to-scale agreement. Recently research has found that the SASSI-3's psychometric properties for college samples

exceed those of the Michigan Alcoholism Screening Test, the CAGE, and the MacAndrew Alcoholism Scale-Revised (Laux, Salyers, & Kotova, 2005).

The Drinking Context Scale (DCS) is a self-reported measure that assessed the likelihood of drinking excessively in three contexts: convivial circumstances, intimate circumstances and coping with negative emotion. This scale was designed for college students between the ages of 18-25, however, it can be used for adults as well. The DCS took approximately 2 minutes to complete. This scale appears to have good discriminant validity as well as concurrent validity (O'Hare, 2001).

*Well-Being Measures.* The Positive and Negative Affect Scale (PANAS) is a scale that comprises ten specific mood-related adjectives, rated on five-point scales. The PANAS is based on Watson's et al. (1988) view that positive affect (PA) and negative affect (NA) are broadly independent dimensions of affect. Overall the PANAS scales have good reliability (Watson, Clark, & Tellegen, 1988), are correlated with other indicators of affect, and are sensitive to changes across time. Internal consistency coefficients range from 0.84 to 0.90. There are, however, cross-cultural limitations when using the PANAS. Therefore, studies have been conducted to produce a 10-item international PANAS short form aimed at being cross-culturally sensitive and easy to understand with non-native English speakers (Thompson, 2007). This study therefore used the newly developed international PANAS short form (I-PANAS-SF). Studies have reported that the I-PANAS-SF had PA and NA subscales with Cronbach alphas of 0.78 and 0.76 respectively, indicating adequate reliability (Thompson, 2007). This scale has been shown to have adequate temporal stability, temporal reliability, and convergent and criterion-related validities (Thompson, 2007).

Another measure that was used to assess well-being was the Satisfaction with Life Scale (SWL). Diener et al (1985) reported strong internal reliability and moderate temporal stability with coefficient alphas of 0.87 and 0.82 at a 2-month retest, respectively (Pavot & Diener, 1993).

#### *Moderator Variables*

*Self-consistency measure.* Following McGregor and colleagues (2001), the preference for consistency (PFC) scale was used to assess for self-consistency. This scale assessed discomfort with self-inconsistency, and has been shown by McGregor to moderate the effects of compensatory conviction on alcohol consumption, such that those averse to cognitive conflict used alcohol when faced with cognitive conflict/dissonance (McGregor, 2007). The PFC scale (brief form) consists of 9 statements rated on a 9-point scale, where 1 means strongly disagree and 9 means strongly agree. The PFC scale brief form (PFC-B) has been found to have an alpha of 0.81 (Cialdini et al., 1995). Statements include “I typically prefer to do things the same way” and “it doesn’t bother me much if my actions are inconsistent”, which would be reverse coded. The PFC-B correlates highly with the PFC and is psychometrically reliable (Cialdini et al., 1995).

Upon completion of the survey, participants received a one-page debriefing form (see Appendix D). This form included the complete purpose of the present study, along with the rationale for having kept the purpose of the urge to drink scale covert, and the researchers contact information. Those who were interested had the opportunity to request a summary of the results once the study had been completed. The raw questionnaire data was given a random participation number and stored in a locked filing cabinet at Lakehead University and archived for 5 years.

## Results

*Preliminary Analyses*

Frequencies were analyzed to ensure that data entry was free of errors. Analysis of the scales used in the questionnaire package showed acceptable levels of reliability with the exception of the BIIS distance subscale (.248). The low reliability of this scale was raised by eliminating one item (“I am simply a member of my Aboriginal culture who lives in Canada”) that was least correlated with the rest. This increased the reliability of this scale to .518. Cronbach’s alpha values for the other measures were between .75 and .93. To view reliabilities and descriptive statistics including means and standard deviations for each scale see Table 1.

Table 1

*Reliabilities, Means, and Standard Deviations*

Scale	Alpha	Mean	SD	Min	Max
BIIS					
Distance	.248	2.42	.880	1.00	4.67
Conflict	.759	2.71	.900	1.25	4.75
Cameron					
Canadian	.863	3.74	.607	2.42	4.67
Aboriginal	.865	3.84	.724	1.92	5.00
Vancouver					
Canadian	.917	3.93	.759	1.90	5.00
Aboriginal	.859	4.07	.589	2.70	5.00
CVCS	.886	3.37	.900	1.00	4.83
SASSI-3					
Alcohol	.895	.490	.534	.00	2.00
Drug	.924	.182	.305	.00	1.07
DCS					
Convivial	.859	2.36	1.28	1.00	4.33
Personal	.808	1.61	.797	1.00	3.33
Negative Emotion	.937	1.74	1.23	1.00	4.67
Overall	.896	1.90	.923	1.00	3.78
PANAS					
Positive Affect	.760	3.80	.767	2.20	5.00
Negative Affect	.801	1.87	.752	1.00	3.60
Confusion	.865	1.87	.636	1.00	3.73
SWL	.856	3.89	.827	2.00	5.00
PFC	.798	3.59	.655	1.83	4.50

Histograms were generated to check the scales for outliers, skewness and kurtosis. Outliers were identified and deleted for the Canadian subscale of the Cameron Scale and the Drug subscale of the SASSI. Log transformations were conducted across the following scales to reduce skewness and kurtosis: Alcohol and Drug subscales of the SASSI, Personal and Negative Coping subscales of the Drinking Context Scale, Canadian subscale of the Vancouver Index Scale, and the confusion subscale of the PANAS. Following the transformations all scales, except for the Drug subscale of the SASSI, were within acceptable limits of normalcy.

### *Hypotheses*

*Hypothesis 1.* As the awareness of cultural value conflict was expected to produce dissonance thereby increasing the urge to drink, the desire to drink, disguised as an alcohol advertisement, was subjected to a one-way analysis of variance (ANOVA) by condition. There was no significant effect of condition on current desire to drink,  $F(1, 24) = .496, p = .488$ . Further to hypothesis 1, it was expected that preference for consistency may moderate the effects of the prime on the current desire to drink measure. Following the recommendation of Aiken and West (1991), this possibility was tested using coded multiple regression analyses. No significant moderating effects were found for PFC on the relationship between the cultural value conflict condition and the continuous measure of desire to drink,  $\beta = -.029, F(1, 19) = .002, p = .962$ .

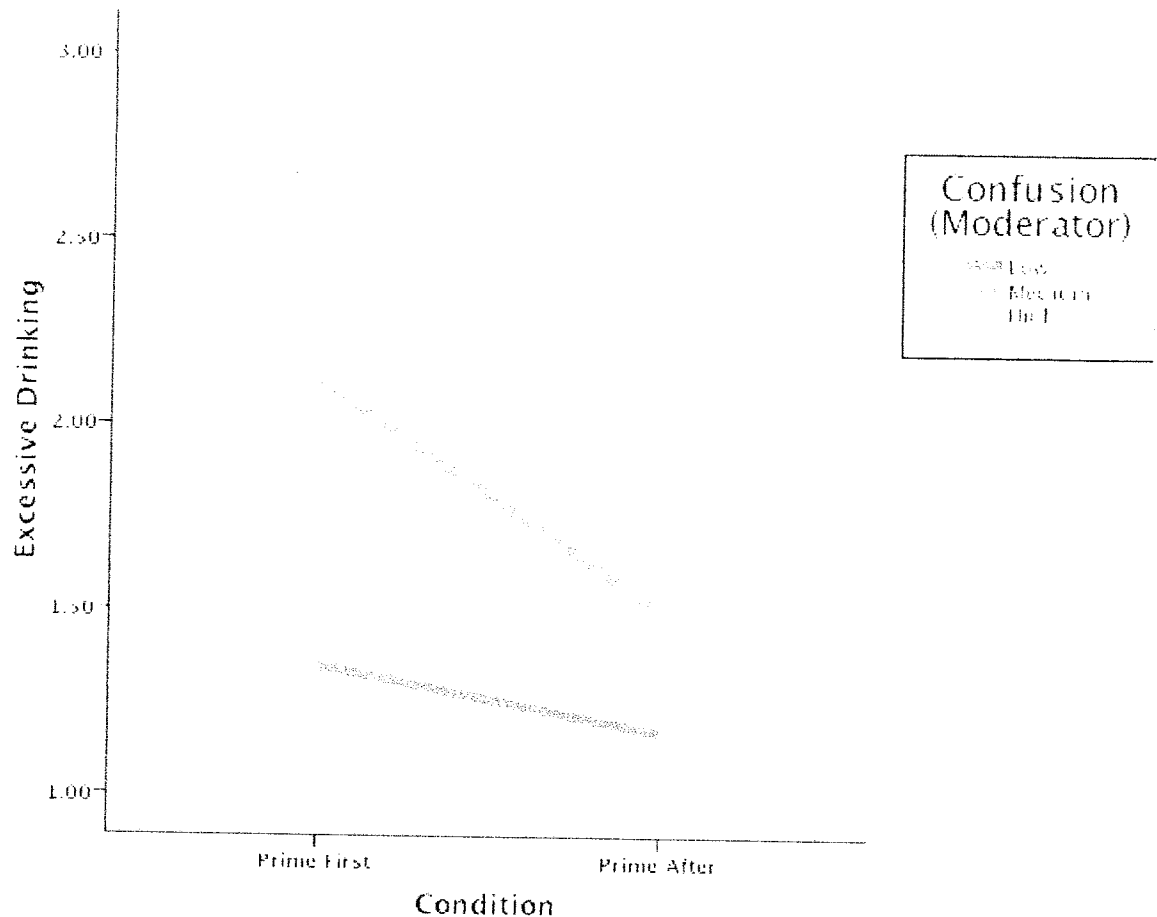
Exploratory analyses were conducted to determine if there was an effect of condition on substance abuse/excessive drinking measures and well-being measures. One-way ANOVAS were performed on the PANAS, SWL, SASSI-3 and DCS. The results of these analyses were significant for several subscales of the DCS scale,

including excessive drinking  $F(1,22)=8.506, p=.008$ ; social drinking  $F(1,22)=6.064, p=.022$ ; and personal or intimate drinking  $F(1,22)=5.569, p=.028$ . These analyses indicated that those who were exposed to the dissonance prime first, followed by viewing an alcohol advertisement, and then completing the remaining substance and well-being measures reported increased levels of excessive drinking ( $M=2.34, SD=.96$ ), social drinking ( $M=2.90, SD=1.25$ ), and intimate/personal drinking ( $M=.24, SD=.22$ ) as compared to those who received the alcohol ad first followed by the prime and then the substance and well-being measures (excessive drinking  $M=1.38, SD=.55$ ; social drinking  $M=1.73, SD=1.04$ ; and intimate/personal drinking  $M=.07, SD=.11$ ).

Based on the significant exploratory findings, and alcohol myopia theory it was reasoned that greater levels of confusion may enhance the experience of dissonance thereby causing increased reports of excessive drinking (DCS). A coded multiple regression was conducted where the dependent variable (DCS) was regressed on the independent variable (condition), moderator (confusion) and interaction variable, which was the product of the moderator and dichotomous independent variable (Baron & Kenny, 1986). There was a weak trend towards an effect of confusion as moderator between condition and DCS,  $F(1,20)=3.221, p=.088$ . More specifically, there were significant effects of condition on excessive drinking when confusion levels were high and medium,  $\beta=-.578, t(20)=-2.956, p=.008$  and  $\beta=-.338, t(20)=-2.698, p=.014$  respectively. But no significant effect of condition on excessive drinking at low levels of confusion,  $\beta=-.097, t(20)=-.575, p=.572$ . This indicates that confusion moderates the effects of condition on reported excessive drinking, such that effects are only seen when higher levels of confusion are present (see Figure 1).

Figure 1

*Confusion moderating effects of dissonance condition on excessive drinking*



*Hypothesis 2.* It was predicted that cultural value conflicts would positively correlate with measures of alcohol abuse and negatively correlate with measures of identity integration, identification with Aboriginal culture and acculturation. Pearson product moment correlations were performed between the self-report cultural value conflicts scale and measures of identity integration, identification with Aboriginal culture, acculturation and substance abuse scales. There was a significant positive correlation ( $r=.425, p=.039$ ) between cultural value conflicts and the BIIS distance subscale, which measures perceptions non-overlapping cultural identities (Benet-Martinez & Horitatos, 2005).



Therefore, those who reported more cultural value conflicts also reported perceiving Aboriginal and Canadian cultures as highly distinct and incompatible. There were no other significant correlations.

An additional part of the second hypothesis was to test a mediational model between cultural identification, cultural value conflict and substance abuse. It was expected that cultural identification would mediate the relationship between cultural value conflict and substance abuse, such that cultural value conflict would predict substance abuse because of its additional effects on one's ability to identify with Aboriginal culture. A series of regression analyses were conducted as per Baron and Kenny (1986) and the initial assumption that cultural value conflict should predict substance abuse was violated,  $\beta=.227$ ,  $t(22)=-1.09$ ,  $p=.286$ , and therefore mediation was not established.

An exploratory mediational analysis was conducted to determine whether confusion would mediate the relationship between Aboriginal identification and substance abuse as measured by the SASSI-3. In the previous mediational analysis Aboriginal identification, which was evaluated as a mediator, was found to significantly predict alcohol abuse,  $\beta=-.52$ ,  $t(23)=-2.92$ ,  $p=.008$ , indicating that those who identify more highly with Aboriginal culture are less likely to engage in alcohol abuse. Therefore, a series of regressions were conducted to analyze the role of confusion as a mediator with Aboriginal identification as the independent variable. As previously reported, Aboriginal identity significantly predicted substance abuse satisfying the first mediational requirement. Then confusion (mediator) was regressed onto Aboriginal identity and found to be a trend towards an effect,  $\beta=-.388$ ,  $t(22)=-1.976$ ,  $p=.061$ . Confusion was then

regressed onto alcohol abuse and found to be significant,  $\beta=.703$ ,  $t(22)=4.635$ ,  $p<.001$ .

When alcohol abuse was regressed on both Aboriginal identity and confusion, the results indicated a significant mediation effect. Mediation was established as Aboriginal identity was no longer significant in predicting alcohol abuse and the value of Beta dropped,  $\beta=-.288$ ,  $t(21)=-1.845$ ,  $p=.08$ , while confusion (mediator) remained a significant predictor of alcohol abuse,  $\beta=.591$ ,  $t(21)=3.782$ ,  $p=.001$ . This indicates that those who identify highly with Aboriginal culture drink less because they experience lower levels of confusion. To determine whether the change in Beta was significantly attributable to the addition of the mediator, the Sobel test was calculated and found to be a trend toward mediation,  $z = -1.77$ ,  $p=.077$  (see Figure 2).

Figure 2.

*Trend of confusion mediating relationship between Aboriginal identity and alcohol abuse.*



The use of multiple regression to estimate mediational models requires the assumption that the dependent variable (alcohol abuse) not cause the mediator (confusion) (Baron & Kenny, 1986). To investigate if the dependent variable of alcohol

abuse predicted confusion (mediator) the dependent variable and mediator were interchanged and a series of multiple regressions were performed to determine whether similar values existed, specifically for the path between the independent variable and dependent variable when the mediator was included in the regression. A mediation analysis was confirmed when the mediator and outcome variables were interchanged, as the regression between Aboriginal identity and confusion was marginally significant  $\beta = -.388$ ,  $t(22) = -1.976$ ,  $p = .061$  and became insignificant when alcohol abuse (mediator) was included in the regression,  $\beta = -.033$ ,  $t(22) = -.183$ ,  $p = .856$  (see Figure 3). In other words, this analysis suggests that it is plausible that Aboriginal identity predicts reduced levels of confusion because of its lowering effects on substance abuse, rather than that Aboriginal identity predicts lower rates of substance abuse because of its lowering effects on confusion. These results indicate that specification error due to reverse causal effects cannot be ruled out, thus the results of the mediational analysis should be interpreted with caution (Baron & Kenny, 1986).

Figure 3.

*Specification error due to reverse causal effects when alcohol abuse was interchanged with confusion in the mediation regression analysis.*

*Hypothesis 3.* Pearson product moment correlations were conducted to evaluate the relationship between integrative complexity (Baker-Brown, Ballard, Bluck, de Vries, Suedfeld, & Tetlock, 2008) and substance abuse. While all measures of substance abuse were negatively correlated with the measure of integrative complexity as expected, none of these findings reached significance. For instance, the measure of excessive drinking was negatively correlated ( $r = -.344, p = .117$ ) with integrative complexity as measured by Tetlock's coding scheme (Baker-Brown et al., 2008) (refer to table 2).

Table 2.

*Correlations coefficients between integrative complexity and substance abuse and well-being measures.*

Scale	Tetlock Integrative Complexity	
	Pearson Correlation	Significance (2 tailed)
SASSI-3		
Alcohol	-.225 (n=23)	.302
Drug	-.229 (n=22)	.306
DCS		
Convivial	-.301 (n=22)	.173
Personal	-.227 (n=22)	.310
Negative Emotion	-.286 (n=22)	.196
Overall	-.344 (n=22)	.117
PANAS		
Positive Affect	.012 (n=22)	.958
Negative Affect	-.325 (n=22)	.140
Confusion	-.411 (n=22)	.057
SWL	.272 (n=22)	.221

*Hypothesis 4.* Correlations were conducted to examine the relationship between identification with Aboriginal culture (Cameron, 2004) and measures of substance abuse and well-being. There were significant negative correlations between Aboriginal identity and alcohol abuse (SASSI-3) and excessive drinking (DCS),  $r = -.520, p = .008$  and  $r = -.392, p = .058$ , respectively. Furthermore, trend correlations were observed between

Aboriginal identity and social drinking,  $r = -.385$ ,  $p = .063$ , and confusion,  $r = -.388$ ,  $p = .061$  (see Table 3). These results indicate that those who identify more with Aboriginal culture are less likely to endorse excessive drinking, including social drinking behaviours. Furthermore, those who identified more with their Aboriginal culture were less likely to report feeling confused, which has been shown to be predictive of substance abuse (as per hypothesis 2).

Table 3

*Correlations coefficients between identification with Aboriginal culture and measures of substance abuse and well-being.*

Scale	Aboriginal Identity	
	Pearson Correlation	Significance (2 tailed)
SASSI-3		
Alcohol	-.520 (n=25)	.008
Drug	.016 (n=22)	.944
DCS		
Convivial	-.385 (n=24)	.063
Personal	-.312 (n=24)	.137
Negative Emotion	-.216 (n=24)	.311
Overall	-.392 (n=24)	.058
PANAS		
Positive Affect	.306 (n=24)	.145
Negative Affect	-.206 (n=23)	.345
Confusion	-.388 (n=24)	.061
SWL	.280 (n=24)	.185

## Discussion

The purpose of the present study was to explore how the acculturation process may contribute to an elevated risk of substance abuse among Aboriginal Canadians. Significant problems with substance abuse among Aboriginal Canadians (Anderson, 2007) have been explored in terms of historical oppression, colonization, and poverty (Channoneuve, 2007). Based on theories of acculturation, and Acculturation Complexity Model (ACM), cultural value conflict was identified as a potential barrier preventing

bicultural Aboriginal Canadians from integrating and identifying with Aboriginal culture, which has been shown to buffer against engaging in substance abuse (Wardman & Quantz, 2005). Furthermore, these value conflicts may produce states of uncertainty or dissonance that may motivate people to escape by consuming alcohol (McGregor, 2001; 1999). The present study aims to contribute to the limited yet growing body of literature on this topic by extending the research to bicultural Aboriginal Canadians.

*Hypothesis 1*

It was hypothesized that a cultural value conflict exercise would prime dissonance resulting in an elevated desire to drink an advertised alcohol beverage in the present moment. The results of the analyses run contrary to this hypothesis as condition of prime exposure did not significantly affect desire to drink. Furthermore, preference for consistency (PFC), which was suggested to moderate the effect of cultural value conflict condition on desire to drink, was not significant in a coded multiple regression and therefore no moderating effect was found.

One possible explanation for the lack of support for hypothesis one is that the dissonance generated by the cultural value conflict exercise may not have had time to affect participants' desire to drink given the design of the survey. Dissonance (Steele, Spencer, & Lynch, 1993; Walster & Festinger, 1962), uncertainty (McGregor & Marigold, 2003), and Terror Management (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994) studies have explored the importance of including a filler or delay task following exposure to a prime. Terror Management Theory has shown that a filler task is required as thoughts of death are initially suppressed and require sufficient time to emerge (Greenberg et al., 1994). Recently, uncertainty has been shown to parallel

mortality salience, and therefore, may operate under similar mechanisms as Terror Management (McGregor & Marigold, 2003; Van den Bos, Poortvliet, Maass, Miedema, & van den Ham, 2005). Theories suggest once uncertainty or dissonance is primed, a delay task is needed as there is an initial and transient thought suppression (Wichman, Brunner, & Weary, 2008). A recent study conducted by Wichman, Brunner, and Weary (2008) supports the relevance of a filler task, as primed uncertainty assessed following a delay task showed that an inhibition effect weakened over time. Therefore, in order to assess the impact of uncertainty or dissonance on dependent variables, such as alcohol abuse, a filler task is needed to alleviate the temporary inhibition of dissonance.

In the current study, following exposure to a prime it is believed that the alcohol advertisement did not function as an outcome measure, but rather as a filler task following the exposure to the cultural value conflict prime. Based on this assertion, exploratory analyses were conducted to determine whether condition had an effect on outcome variables that were placed after the alcohol advertisement or filler task. Results indicated that those who were made to feel dissonant prior to viewing the alcohol advertisement reported higher levels of excessive drinking and less satisfaction with life than those who were made to feel dissonant after viewing the advertisement. The dissonance or uncertainty induction task, in our case the cultural value conflict exercise, required processing time to show an effect, and the alcohol advertisement acted as a filler task that enabled this processing time (Steele, Spencer, & Lynch, 1993; Walster & Festinger, 1962). In other words, the alcohol advertisement provided participants with sufficient time for cognitions to be activated and fully expressed (Wickman et al., 2008). By contrast, those in the other condition viewed the alcohol advertisement prior to the

dissonance prime did not experience a filler task, and therefore, potentially experienced dissonance below baseline levels as the result of inhibitory effects (Wickman, et al., 2008).

The dissonance prime affected reported drinking on the measures of alcohol abuse and excessive drinking when the alcohol advertisement followed the cultural value conflict exercise. Although the DCS and SASSI alcohol scales are considered to be relatively stable, it has been recognized that both “indicate the extent of usage that clients are willing to acknowledge” (Miller, Robers, Brooks, & Lazowski, 1997, p. 32). Therefore, willingness and/or motivation to acknowledge and report drinking behaviour could be influenced by situational factors. The dissonance activated by the cultural value conflict could represent such a situational factor, resulting in heightened self-assessments of drinking behaviour when coupled with the filler task. This phenomenon has been shown with self-esteem measures, and can be conceptualized in terms of self-schema theory, such that the primed internal networks guide how the individual processes and interprets self-relevant information (Stake, Huff, & Zand, 1995).

The concept of alcohol myopia specifies that the state of alcohol intoxication alleviates cognitive dissonance as it prevents the individual from noticing both sides of a cognitive conflict (McGregor, 2007). Theorists suggest that confusion as it relates to self-identity plays a role in both the development and progression of alcohol related problems (Corte, 2007; Swaim & Wayman, 2004). Recently, a study conducted with adolescents found that those who endorsed an unclear sense of self (confusion) had increased difficulty with problem solving, which in turn influenced their subsequent alcohol use (Knauth, Skowron, & Escobar, 2006). Therefore, greater levels of confusion may



enhance the experience of dissonance thereby causing increased reports of excessive drinking following the dissonance prime. In other words, perhaps an individual's level of state or trait confusion moderates the effect of dissonance on reported drinking. To explore this possibility, a moderated regression was conducted and it was found that confusion moderated the effects of condition on reported excessive drinking, such that effects were only seen when high or medium levels of confusion were present. Therefore, alcohol myopia and self-identity theories support the current findings that dissonance predicted excessive drinking for those with elevated levels of confusion. Furthermore, these theories support the assertion that confusion related to self-identity may have impaired participants' cognitive problem solving abilities when confronted with the dissonance exercise (Knauth, Skowron, & Escobar, 2006). The poorly developed self-identity may render an individual confused or without a sense of direction, resulting in the use of alcohol as a maladaptive coping technique (Corte, 2007).

### *Hypothesis 2*

It was hypothesized that significant correlations would be found between cultural value conflict and substance abuse scales, identity integration, identification with Aboriginal culture and acculturation. Cultural value conflict was significantly positively correlated with the distance subscale of the Bicultural Identity Integration Scale (BIIS). This suggests that those who reported more cultural value conflicts in everyday life also reported perceiving each culture as distinct and incompatible. These results are in line with acculturation literature that has shown that those who perceive mainstream and ethnic cultures as highly distinct experience internal conflict causing them difficulty in holding multiple cultural identities simultaneously (Benet-Martinez et al., 2002; Phinney

& Devich-Navarro, 1997). These individuals are more likely to notice and experience more unpleasant reactions from cultural value conflicts than those who perceive Canadian and Aboriginal cultures as more compatible.

A mediational analysis was conducted to determine whether confusion mediated the relationship between Aboriginal identity and alcohol abuse. Identifying with Aboriginal culture has been shown to act as a buffer against alcohol and drug use (Wardman & Quantz, 2005). Higher levels of confusion have been shown to influence subsequent drinking behaviours as it may impact an individual's ability to problem solve (Knauth, Skowron, & Escobar, 2006). Therefore, it was reasoned that confusion may mediate the relationship between the protective factor of Aboriginal identity and alcohol abuse. There was a trend towards confusion mediating the relationship between Aboriginal identity and alcohol abuse. This indicates that those who identify highly with Aboriginal culture drink less partly because they experience lower levels of confusion. This finding supports and elaborates other research showing that Aboriginal cultural identification acts as a protective factor against the use of alcohol (Wardman, & Quantz, 2005) by suggesting that one reason that it has this effect is that it lowers feelings of confusion.

### *Hypothesis 3*

Integrative complexity was construed as a process of resolving dissonance such that a bicultural individual can continue to develop an ability to perceive things dynamically. Those individuals higher in integrative complexity are better able to cluster information and accommodate conflicting perspectives (Tadmor, & Tetlock, 2006), such that they may experience less dissonance resulting in less need to escape by drinking.

Therefore, it was hypothesized that integrative complexity would negatively correlate with substance abuse. Although there were no significant findings between integrative complexity and measures of substance abuse, all correlations were in the predicted negative direction. As the primary focus of the cultural value conflict exercise was to prime dissonance, and then the free hand descriptions were coded for integrative complexity, participants were asked to not resolve the conflict. Therefore, the majority of participants were able to differentiate and classify cultural values of each culture separately in order to illustrate a cultural value conflict. The majority, however, lacked the integrative element in their description of value conflicts, such that they did not identify relationships or similarities between conflicting cultural values indicative of more cognitive complexity. Therefore, how the exercise was designed could have potentially resulted in less integratively complex descriptions, restricting the range of this variable. However, given that the correlations were in the predicted direction, further studies should be conducted that examine the role of integrative complexity relative to substance abuse.

Furthermore, several participants verbally discussed integrative cultural identities between their Aboriginal and Canadian cultures. These participants stated that they do not consider Aboriginal and Canadian cultures to be distinct from one another, but one and the same. These individuals when writing their free hand descriptions were less likely to differentiate cultural value conflicts and more likely to draw parallels and integrate both cultures into these descriptions. For these participants generating and writing about a cultural value conflict was difficult as their cultural identity was a symbiosis of both cultures.

*Hypothesis 4*

It was hypothesized that identification with Aboriginal culture would negatively correlate with substance abuse and positively correlate with well-being. Excessive drinking and alcohol abuse were significantly negatively correlated with Aboriginal identification. This finding suggests that those who identify more with Aboriginal culture are less likely to endorse excessive drinking, including social drinking behaviours. Furthermore, those who identified more with their Aboriginal culture were less likely to report feeling confused, which has been shown to be predictive of substance abuse (Knauth, Skowron, & Escobar, 2006; Minehan, Newcomb, & Galaif, 2000; Schwartz, Mason, Pantin, Wang, Brown, Campo, & Szapocznik, 2009).

These results support previous findings (Wardman & Quantz, 2005; Schinke et al., 1988) that Aboriginal identification serves as a protective factor against substance abuse. For instance one study showed that implementing bicultural competence skills reduced substance abuse among American-Indian youth (Schinke et al., 1988). Another study focused on treatment related to Aboriginal binge drinking, and found that embracing Aboriginal culture was a key element to reducing binge drinking behaviours (Wardman & Quantz, 2005). Incorporating Aboriginal cultural values into treatment programs is believed to foster cultural identity, pride and connectedness, which for most have been compromised by residential school atrocities, historical oppression and continued poverty (Wardman & Quantz, 2005). This protective effect is contrasted by the increased likelihood of relapse when individuals leave treatment and return to previous environments associated with past drinking behaviors and patterns. Those who

successfully completed treatment, may upon return to normal life, be surrounded by family, friends and community members who are struggling with their own sobriety (Chong, & Lopez, 2008).

#### *Limitations and Future Directions*

Significant limitations of the present study were the lack of participants and the representativeness of those recruited. The study consisted of 28 participants, 22 of which consistently completed all questionnaires. The reduced number of participants reduced the statistical power of the findings, thereby affecting whether the results were statistically significant. Furthermore, and in line with the restricted range of the sample, such that the majority tended to be urban professionals or university students, the limited sample size restricts the generalisability of the findings.

Based on dissonance and research on uncertainty as related to compensatory conviction, the experimental manipulation should have included a delay or filler task between the dissonance prime and current desire to drink. Findings from the current study did not find that cultural value conflict, which presumably primed dissonance, produced an increased desire to drink, and this may have been because dissonance induction required time to process and emerge (Steele et al., 1993; Pyszczynski, Greenberg, & Solomon, 1999). Therefore, future experimental manipulations should consider implementing a filler task and retesting the impact of cultural value conflicts on current desire to drink.

Given the significant health burdens associated with alcohol abuse and the rates of alcohol abuse among Aboriginal Canadians, it is important to continue to accumulate research that guides treatment protocols. Based on the present findings, Aboriginal

identification serves as a protective factor against alcohol use in part by reducing feelings of confusion, and should continue to be incorporated into alcohol treatment programs for Aboriginal Canadians. Alcohol treatments and interventions geared towards Aboriginals and Native Americans have typically implemented spirituality concepts and cultural-specific activities, such as drumming (Eliason, Arndt, & Schut, 2005). In addition, as previously mentioned, research should continue to examine the benefits of incorporating Aboriginal identification as a means of reducing relapse. Several relapse prevention programs have successfully implemented elder mentorship as a means of providing social support and cultural involvement following treatment (Lefler, 1997, as cited in Blume & de la Cruz, 2005; Marlatt et al., 2003).

Another limitation of the current study was the use of quantitative research with Aboriginal participants. Each scale was designed to measure participants bicultural identities using terms “Aboriginal” and “Canadian” cultures, however, there was no additional follow up to determine how each participant defined each term. In addition, given the unique and rich responses provided during the cultural value conflict exercise, it may be prudent to use qualitative studies that explore how Aboriginal Canadians conceptualize both Aboriginal and Canadian cultures, and how these are incorporated within their bicultural identity. Given that participants discussed the constantly evolving nature of Aboriginal culture within the post-industrial society, further research could provide valuable insight into the nature of Aboriginal cultural identity. These results would ultimately influence both how we in mainstream society understand Aboriginal culture and how it is measured in research studies.

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Appendices

*Appendix A. Cover letter [Lakehead University letterhead]*

Dear Potential Participant:

We are doing a research study and are interested in determining how cultural values and identity have a holistic impact on well-being including alcohol consumption. In addition we will present you with one of several advertisements and are interested in your perceptions. If you choose to participate in this study, the information you provide about yourself will be combined with information from other participants, and will be completely anonymous. Nobody will be able to identify your personal responses.

To protect your privacy, there is no need to provide any identifying information (e.g. name, address, etc.) on the questionnaires. There are no right or wrong answers to these questions. It will take a maximum of about one hour to complete the questionnaires package.

If you decide to participate in this study, you will receive an informed consent form and a questionnaire package. You may keep this letter for your information. There is no expected risk for harm to you through participation in this study.

This study has received approval from the Lakehead University Senate Research Ethics Board. The answers you provide to the questionnaires will be kept confidential and not shared with anyone. The information will be held in a secure place at Lakehead University for a period of five years. Your participation is completely voluntary. If you wish to withdraw at any time during the study, you are free to do so without consequence.

Upon completion of this research, you are entitled to receive a \$2 Tim Horton's coupon. Furthermore, once the study has been completed you can ask for a copy of the summary results. If you are interested in participating in this study or have any questions or concerns about the study, you may contact me by telephone or by email at [jharper@lakeheadu.ca](mailto:jharper@lakeheadu.ca). Further concerns or questions can be directed to Dr. Stroink or the Lakehead University Research Ethics Board at (807) 343-8283. I greatly appreciate your participation in this study. Thank you.

Sincerely,

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Julie Harper, Masters of Arts Candidate, Clinical Psychology, Lakehead University

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Dr. Mirella Stroink, Ph.D.

Professor, Department of Psychology, Lakehead University

Telephone: (807) 346-7874

Email: [mstroink@lakeheadu.ca](mailto:mstroink@lakeheadu.ca)

*Appendix B.* Informed consent form for participants [Lakehead University letterhead]

My signature on this form indicates that I agree to participate in a study on culture and well-being by Julie Harper and Dr. Mirella Stroink and it also indicates that I understand the following:

1. All participants are volunteers and can withdraw at any time from the study without consequence.
2. There is no anticipated risk of physical or psychological harm to participants involved in the study.
3. The information collected from participants will be anonymous and will be kept confidential and not be shared with anyone.
4. If you wish, you will receive a summary of the results of the study following the completion of the study.
5. The data will be held in a secure place a Lakehead University for a period of five years.

I have received explanations about the nature of the study, its purpose, and its procedures.

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Authorized Signature

Date

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Signature of Researcher

Date

*Appendix C. Questionnaire Package (Order varied see Appendix E)*

**Demographic Information**

**Instructions:** Please fill in the information below, so that we may obtain some general information on the people participating in this study.

Age: \_\_\_\_\_

Gender: \_\_\_\_\_

Year of study (1st year, 2nd year, etc): \_\_\_\_\_ Major (e.g. psychology, English, etc):  
\_\_\_\_\_

Occupation/Job: \_\_\_\_\_

Ethnicity (mark all that apply):

\_\_\_\_ White

\_\_\_\_ Black

\_\_\_\_ Aboriginal (First Nations, Métis)

\_\_\_\_ Asian

\_\_\_\_ Hispanic

\_\_\_\_ South Asian (Indian, Pakistani)

\_\_\_\_ Other (specify): \_\_\_\_\_



**BIIS**

**Instructions:** Please respond to each of the following statements. Circle the number to the right that most closely reflects how much you agree or disagree with each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I am simply a member of my Aboriginal culture who lives in Canada.	1	2	3	4	5
2. I keep my Aboriginal and Canadian cultures separate.	1	2	3	4	5
3. I feel Aboriginal-Canadian	1	2	3	4	5
4. I feel part of a combined culture.	1	2	3	4	5
5. I am conflicted between the Canadian and Aboriginal ways of doing things.	1	2	3	4	5
6. I feel like someone moving between two cultures.	1	2	3	4	5
7. I feel caught between the Aboriginal and Canadian cultures.	1	2	3	4	5
8. I do not feel trapped between the Aboriginal and Canadian cultures.	1	2	3	4	5

**Cameron's Identity Scale**

**Instructions:** Please respond to each of the following statements twice: once representing your thoughts and feelings about your Canadian culture, and again representing your thoughts and feelings about your Aboriginal culture. Circle the number that most closely reflects how much you agree or disagree with each statement as it reflects each culture.

ANSWER EACH QUESTION TWICE

	My Canadian Culture					My Aboriginal Culture				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. In general, being a member of this culture is an important part of my self-image.	1	2	3	4	5	1	2	3	4	5
2. I often think about the fact that I am a member of this culture.	1	2	3	4	5	1	2	3	4	5
3. I find it difficult to form a bond with other members of this culture.	1	2	3	4	5	1	2	3	4	5
4. In general, I'm glad to be a member of this culture.	1	2	3	4	5	1	2	3	4	5
5. I don't feel good about being a member of this culture.	1	2	3	4	5	1	2	3	4	5
6. I have a lot in common with other members of this culture.	1	2	3	4	5	1	2	3	4	5
7. The fact that I am a member of this culture rarely enters my mind.	1	2	3	4	5	1	2	3	4	5
8. I don't feel a sense of being "connected" with other members of this culture.	1	2	3	4	5	1	2	3	4	5
9. I often regret that I am a member of this culture.	1	2	3	4	5	1	2	3	4	5
10. I feel strong ties to other members of this culture.	1	2	3	4	5	1	2	3	4	5
11. Being a member of this culture has very little to do with how I feel about myself.	1	2	3	4	5	1	2	3	4	5
12. Generally, I feel good when I think about myself as being a member of this culture.	1	2	3	4	5	1	2	3	4	5

**Vancouver Index of Acculturation**

**Instruction:** Please respond to each of the following statements twice: once representing your thoughts and behaviours about your Canadian culture, and again representing your thoughts and behaviours about your Aboriginal culture. Circle the number that most closely reflects how much you agree or disagree with each statement as it reflects each culture.

ANSWER EACH QUESTION TWICE

	My Canadian Culture					My Aboriginal Culture				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I often participate in the traditions of this culture.	1	2	3	4	5	1	2	3	4	5
2. I would be willing to marry a person from this culture.	1	2	3	4	5	1	2	3	4	5
3. I enjoy social activities with people from this culture.	1	2	3	4	5	1	2	3	4	5
4. I am comfortable interacting with people from this culture.	1	2	3	4	5	1	2	3	4	5
5. I enjoy entertainment (e.g. movies, music) from this culture	1	2	3	4	5	1	2	3	4	5
6. I often behave in ways that are typical of this culture.	1	2	3	4	5	1	2	3	4	5
7. It is important for me to maintain or develop the practices of this culture.	1	2	3	4	5	1	2	3	4	5
8. I believe in the values of this culture.	1	2	3	4	5	1	2	3	4	5
9. I enjoy the jokes and humour of this culture.	1	2	3	4	5	1	2	3	4	5
10. I am interested in having friends from this culture.	1	2	3	4	5	1	2	3	4	5



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**Instruction 2:**

After writing down your description of your value conflict, spend 5-10 minutes writing the values associated with each side of the conflict. *For instance, choosing to participate in the 'traditional ways of life' would be connected to the value of contributing to your community.*

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**Cultural Value Conflict Questions**

**Instructions:** Based on the previous exercise and your personal experience, read each item and then mark the appropriate answer in the space next to that word. Use the following scale to record your answers:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. \_\_\_\_ These cultural value conflicts come up often
2. \_\_\_\_ These cultural value conflicts happen rarely.
3. \_\_\_\_ In my opinion these cultural value conflicts are upsetting
4. \_\_\_\_ These cultural value conflicts cause me distress
5. \_\_\_\_ There is a significant difference between the values of my Aboriginal culture and those of the Canadian Culture.
6. \_\_\_\_ I am bothered by these cultural value conflicts.

*\*Adapted from the Cultural Value Conflict Scale (Inman, Ladany, Constantine, & Morano, 2001)*

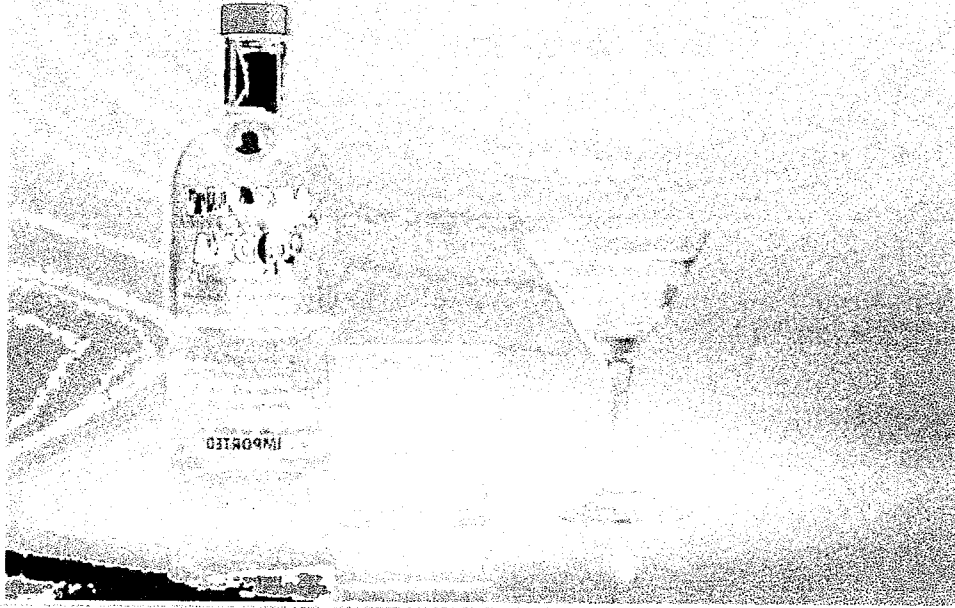
### **Advertisement Instructions**

You are half done the questionnaire, and in order to give you a break you will now take a few minutes to look over some advertisements (ads). There are many different types of Ads, but you will only be given 2 to look at. After reading the instructions and looking at the Ads please answer the questions for each ad at the bottom of the page. There are no right answers and we are interested in your perceptions of the Ads. We thank you once again for your participation.

# Alcohol Advertisement

## Instructions

Look at this alcohol advertisement (ad). Consider all the elements, including color, font, image, etc... and consider as though you were seeing this ad on television, in a newspaper, magazine or billboard for the first time. Once finished answer each question below.



## Questions:

- 1) Circle on a scale from 1 to 10 whether you would drink this immediately (right now)

1

5

10

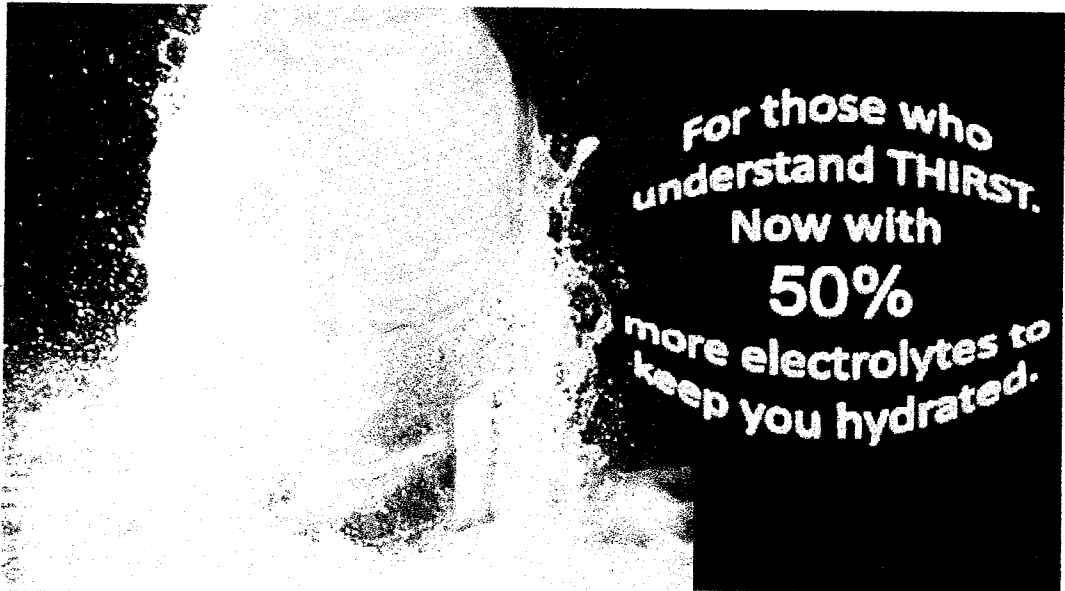
- 2) How does this ad (advertisement) make you feel? \_\_\_\_\_
- 3) What would you name this alcohol beverage (circle one):
- a) Boreal Blue
  - b) Sycamore Smooth
  - c) Buzz Extreme
  - d) Frosty Mug
- 4) What is most important part of this alcohol ad (circle one):
- a) Price (\$)
  - b) Alcohol concentration (%)
  - c) Type of alcohol beverage (beer, wine, liquor, etc...)
  - d) Color and image of the ad.
  - e) Flavor(s)



## Sports Drink Advertisement

### Instructions

Look at this sports drink advertisement (ad). Consider all the elements, including color, font, image, etc... and consider as though you were seeing this ad on television, in a newspaper, magazine or billboard for the first time. Once finished answer each question below.



### Questions:

1) Circle on a scale from 1 to 10 whether you would drink this immediately (right now)

1

5

10

- 2) How does this ad (advertisement) make you feel? \_\_\_\_\_
- 3) What would you name this sports (drink) beverage (circle one):
- a) Vital Lift
  - b) Orange Power
  - c) Aqua Rush
  - d) Thirsty Stream
- 4) What is most important part of this sports drink ad (circle one):
- a) Price (\$)
  - b) Electrolyte concentration (%)
  - c) Type of Sports Drink beverage (Juice, water, energy drink, etc...)
  - d) Color and image of the ad.
  - e) Flavor(s)

**SASSI-3**

**Instructions:** For each question below, circle the number that reflects how often you have experienced the situation described during the past 3 months.

	Never	Once	Several Times	Repeat edly
<b>Alcohol</b>				
1. Had drinks with lunch	0	1	2	3
2. Taken a drink or drinks to help you express your feelings or ideas	0	1	2	3
3. Taken a drink or drinks to relieve a tired feeling or give you energy to keep going.	0	1	2	3
4. Had more to drink than you intended	0	1	2	3
5. Experienced physical problems after drinking (e.g. nausea, dizziness, etc...)	0	1	2	3
6. Gotten into trouble on the job, in school, or at home because of drinking	0	1	2	3
7. Become depressed after having sobered up	0	1	2	3
8. Argued with your family or friends because of your drinking	0	1	2	3
9. Had the effects of drinking recur after not drinking for a while (e.g. flashbacks, hallucinations, etc...)	0	1	2	3
10. Had problems in relationships because of your drinking (e.g. loss of friends, separation, divorce, etc)	0	1	2	3
11. Become nervous or had the shakes after having sobered up	0	1	2	3
12. Tried to commit suicide while drunk	0	1	2	3
<b>Other Drugs</b>				
1. Taken drugs to improve your thinking and feeling	0	1	2	3
2. Taken drugs to help you feel better about a problem	0	1	2	3
3. Taken drugs to become more aware of your senses (e.g. sight, hearing, touch, etc...)	0	1	2	3
4. Taken drugs to improve your enjoyment of sex	0	1	2	3
5. Taken drug to help forget that you feel helpless and unworthy	0	1	2	3
6. Taken drugs to forget school, work, or family pressures	0	1	2	3
7. Gotten into trouble with the law because of drugs	0	1	2	3
8. Gotten really stoned or wiped out on drugs (more than just high)	0	1	2	3
9. Tried to talk a doctor into giving you some prescription drug (e.g. tranquilizers, pain killers, diet pills)	0	1	2	3
10. Spent your spare time in drug-related activities (e.g. talking about drugs, buying, selling, taking, etc)	0	1	2	3
11. Used drugs and alcohol at the same time	0	1	2	3
12. Continued to take a drug or drugs in order to avoid pain or withdrawal	0	1	2	3
13. Felt your drug use has kept you from getting what you want out of life	0	1	2	3
14. Been accepted into a treatment program because of drug use	0	1	2	3

**Drinking Context Scale**

**Instructions:** Based on your personal experience, how would you rate the chances that you might find yourself drinking excessively in the following circumstances. Circle the number to the right that most closely reflects how likely you are to drink.

	Extremely low	low	Moderate	High	extremely
1. When I am at a party or similar other get together	1	2	3	4	5
2. When I am at a concert or other public event	1	2	3	4	5
3. When I am celebrating something important to me	1	2	3	4	5
4. When I am with my lover (significant other)	1	2	3	4	5
5. When I am on a date	1	2	3	4	5
6. Before having sex	1	2	3	4	5
7. When I have had a fight with someone close to me	1	2	3	4	5
8. When I am feeling sad, depressed, or discouraged	1	2	3	4	5
9. When I am angry with myself or someone else	1	2	3	4	5

**International Positive and Negative Affect Scale- Short Form (I-PANAS-SF) \***

**Instructions:** This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Thinking about yourself and how you normally feel, indicate to what extent you generally feel this way. Use the following scale to record your answers:

1	2	3	4	5
Never	A little	Moderately	Quite a bit	Always

- |                              |                              |                    |
|------------------------------|------------------------------|--------------------|
| _____upset                   | _____hostile                 | _____alert         |
| _____confused                | _____unsure of self or goals | _____contradictory |
| _____unclear                 | _____of two minds            | _____muddled       |
| _____confused about identity | _____jumbled                 | _____conflicted    |
| _____ashamed                 | _____inspired                | _____nervous       |
| _____determined              | _____attentive               | _____afraid        |
| _____active                  | _____consistent              | _____torn          |

*\* As cited by McGregor et al. 2001, contradictory self-guide items have been added to the I-PANAS-SF*

**Satisfaction with Life Scale**

**Instructions:** Please read each question and respond using this scale:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. \_\_\_\_\_ In most ways my life is close to my ideal.
2. \_\_\_\_\_ The conditions of my life are excellent.
3. \_\_\_\_\_ I am satisfied with my life.
4. \_\_\_\_\_ So far I have gotten the important things I want in life.
5. \_\_\_\_\_ If I could live my life over, I would change almost nothing.

**Preference for Consistency Scale- Brief Form**

**Instructions:** Please read each question and respond using this scale:

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1. \_\_\_\_ It is important to me that those who know me can predict what I will do.
2. \_\_\_\_ An important requirement for any friend of mine is personal consistency
3. \_\_\_\_ I typically prefer to do things the same way.
4. \_\_\_\_ I want my close friends to be predictable
5. \_\_\_\_ It is important to me that others view me as a stable person.
6. \_\_\_\_ I make an effort to appear consistent to others.

**Instructions:** Please respond to each of the following statements twice: once representing how you see Canadian culture, and again representing how you see your Aboriginal culture. Circle the number that most closely reflects how much you agree or disagree with each statement as it reflects each culture.

ANSWER EACH QUESTION TWICE

	My Canadian Culture					My Aboriginal Culture				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. This culture has a real existence for me.	1	2	3	4	5	1	2	3	4	5
2. This culture is a distinct entity, or thing, in my mind.	1	2	3	4	5	1	2	3	4	5
3. To me, this culture exists as a distinct unit.	1	2	3	4	5	1	2	3	4	5
4. This culture is a self-contained entity in my mind.	1	2	3	4	5	1	2	3	4	5
5. It is obvious who is, and is not, a member of this culture.	1	2	3	4	5	1	2	3	4	5
6. It is easy to know whether or not someone is a member of this culture.	1	2	3	4	5	1	2	3	4	5
7. I have a clear idea of what it means to be a member of this culture.	1	2	3	4	5	1	2	3	4	5
8. This culture is clearly separate and unique from other cultures.	1	2	3	4	5	1	2	3	4	5
9. The core characteristics that define this culture can change over time.	1	2	3	4	5	1	2	3	4	5
10. The fundamental characteristics of this culture are permanent.	1	2	3	4	5	1	2	3	4	5
11. The values that this culture holds can change over time.	1	2	3	4	5	1	2	3	4	5
12. The basic values of this culture will always stay the same.	1	2	3	4	5	1	2	3	4	5
13. In the future, the values and characteristics associated with this culture may be very different from what they are now.	1	2	3	4	5	1	2	3	4	5
14. The basic nature of this culture will not be affected by changing fads or trends.	1	2	3	4	5	1	2	3	4	5

Bicultural Identity and Alcohol Abuse

15. I can choose the core characteristics and values of this culture for myself.	1	2	3	4	5	1	2	3	4	5
16. Individual members of this culture cannot change the meaning, values, and attributes of the culture.	1	2	3	4	5	1	2	3	4	5
17. The combined preferences, choices, and ideas of individual members make up the basic meaning or nature of this culture.	1	2	3	4	5	1	2	3	4	5
18. What it means to belong to this culture was permanently established by our ancestors.	1	2	3	4	5	1	2	3	4	5
19. The basic characteristics and values of this culture are flexible.	1	2	3	4	5	1	2	3	4	5
20. I cannot change the meaning, values and attributes of this culture.	1	2	3	4	5	1	2	3	4	5

IE10

**Instructions:** Please respond to each of the following statements. Circle the number to the right that most closely reflects how much you agree or disagree with each statement.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. I believe that I can be a full member of both the Canadian and Aboriginal communities.	1	2	3	4	5
2. I will never be able to fully belong to both the Canadian and Aboriginal cultures at once.	1	2	3	4	5
3. It is not possible for me to be both Aboriginal and Canadian.	1	2	3	4	5
4. It is possible to be a fully accepted member of both the Canadian and Aboriginal cultures.	1	2	3	4	5
5. I believe that I can be a full member of both my Aboriginal and Canadian cultural groups.	1	2	3	4	5
6. I believe that in order to be truly Canadian I cannot also be a full member of my Aboriginal culture.	1	2	3	4	5
7. I believe that in order to be a full member of my Aboriginal culture, I cannot also be truly Canadian.	1	2	3	4	5
8. I believe it is possible to identify with both Canada and my Aboriginal culture.	1	2	3	4	5
9. To be fully Canadian, I have to hide or alter my Aboriginal identity.	1	2	3	4	5
10. To be fully Aboriginal, I have to hide or alter my Canadian identity.	1	2	3	4	5



*Appendix D. Debriefing Form [Lakehead University letterhead]*

Dear Participant:

Thank you for your participation in this study. People who see the values of Canadian and Aboriginal cultures as being very different may experience what we call “cultural value conflict.” Your responses on this survey will help us understand how this conflict may cause some people to feel inner pain, and whether this pain may lead some people to drink alcohol as an escape. We were also interested in whether those who identify more with Aboriginal culture are less likely to use alcohol when their cultural values are in conflict. Studies have shown that connecting with Aboriginal identity promotes well-being (health) by acting as a protective factor against alcohol and drug abuse.

This study used a combination of experiment and questionnaire. In this study we had 2 groups who received the cultural value conflict exercise at different spots in the questionnaire package. In group A, participants received the cultural value conflict exercise before the alcohol and sports drink advertisements, while in group B participants received the alcohol and sports drink advertisements before the cultural value conflict exercise. We believe that those who are made aware of cultural conflicts will seek to escape with an increased desire to drink alcohol. In other words, those in Group A may have wanted to drink more in the current moment than those who were in Group B. If you have any discomfort or distress following your participation in this study, we have attached a list of counselling resources you can draw on.

The additional questions that you answered will help us determine whether cultural value conflicts increase the risk of using substances like alcohol. Also, it will assist us to understand whether cultural value conflicts predict substance use because of how it affects Aboriginal cultural identification. Therefore, we expect to see that those who identify or connect more with their Aboriginal culture will have less substance use and abuse, and have increased well-being or overall health.

If you have any questions or concerns about the study, please feel free to contact myself or Dr. Stroink at the e-mail addresses indicated on this page or you can contact the Lakehead University Research Ethics Committee at (807) 343-8283. We would be happy to provide you with more information on this line of research. Once this study has finished you can ask to receive a summary of results. Once again thank you very much for your time and participation.

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Contact Information on Counseling Resources:  
Lakehead Student Health and Counseling Centre

Location: UC 1007

Phone: (807) 343-8361

<http://www.lakeheadu.ca/health/>

*Appendix E. Questionnaire Package Layout*

Page Number	Questionnaire Package	
	Type 1	Type 2
1	Demographics	Demographics
2	BIIS	BIIS
3	Cameron's Identity Scale	Cameron's Identity Scale
4	Vancouver Index of Accul	Vancouver Index of Accul
5	Cultural Value Conflict (Prime)	Alcohol Ad (dependent Variable)
6	Alcohol Ad (dependent variable)	Sports Drink Ad (Disguise)
7	Sports drink Ad (disguise)	Cultural Value Conflict (Prime)
8	SASSI-3	SASSI-3
9	Drinking Context Scale	Drinking Context Scale
10	PANAS	PANAS
11	SWL	SWL
12	Preference for Consistency	Preference for Consistency





