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**"Modelling Drinking Behaviour Among Aboriginal
and Non-Aboriginal
Males and Females in the Yukon:
An Analysis of the Yukon Alcohol and Drug Survey"**

by

Francoise Chanteloup

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfilment of
the requirements for the degree of**

Master of Arts

Department of Sociology and Anthropology

Carleton University

Ottawa, Ontario

April 8, 1994

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"Modelling Drinking Behaviour Among Aboriginal
and Non-Aboriginal

Males and Females in the Yukon:

An Analysis of the Yukon Alcohol and Drug Survey"

submitted by

Francoise Chanteloup, B.A.

in partial fulfilment of the requirements

for the degree of Master of Arts

A handwritten signature in cursive script, appearing to read 'Francoise Chanteloup', written over a horizontal line.

Thesis Supervisor

A second handwritten signature in cursive script, identical to the one above, written over a horizontal line.

Chair, Department of Sociology and Anthropology

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May 16, 1994

ABSTRACT

Due to the descriptive nature of explanations proposed to account for Aboriginal drinking behaviour, this study examined factors associated with heavy drinking among male and female Aboriginal and non-Aboriginal residents of the Yukon.

Arguing that the existence of social control mechanisms, specifically the presence of a stake in conformity, contribute to drinking behaviour, statistical and hierarchical regressions were performed on five drinking measures: usual number of drinks, frequency of drinking, 5+ drinks on any one occasion, the maximum number of drinks on any one occasion, and quantity-frequency. Hierarchical regressions were performed using the variables indicating stake in conformity in addition to demographic variables. Stepwise regression was performed for the entire sample also using the variables indicating stake in conformity as well as gender and ethnicity.

Considering that the study was biased against assessing Aboriginal situations, it is striking that the drinking of Aboriginal females was more successfully predicted by the variables than drinking by Aboriginal males and non-Aboriginal males and females. Furthermore, the fact that respondent characteristics associated with heavier drinking are markedly different among Aboriginal peoples and non-Aboriginals has important implications for research and policy initiatives.

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INTRODUCTION

The continued existence of alcohol-related problems among Aboriginal peoples is one of serious dimensions. Aboriginal peoples currently experience a higher incidence of drinking problems than other groups in North America. As Young (1991) states, while there is a high degree of variation in drinking patterns between different groups, the consequences of drinking is a concern among many Aboriginal communities. Such concerns are not unfounded when one considers that seventy-five percent of all Aboriginal deaths involve alcohol. Five of the ten leading causes of death among Aboriginal peoples are directly related to alcohol: accidents, cirrhosis of the liver, alcohol dependency, suicide, and homicide (Young, 1991). Furthermore, Aboriginal youth are at particular risk (Young, 1991; Bachman, 1991).

Despite the existence of serious alcohol-related problems among many Aboriginal peoples, it remains a neglected subject of study where existing research rarely ventures beyond a descriptive nature. One problem which can be identified as an inhibitive factor in such research is the existence of debate within the general area of alcohol research concerning the concept of "alcoholism". The issue is further compounded by the fact that within our own culture it is acknowledged and accepted that different patterns of drinking exist, yet there is no recognition that

similar variations exist among Aboriginal peoples. Particularly peculiar is the fact within our own culture the exhibition of drunken behaviour in certain social situations is positively sanctioned. However, similar behaviour patterns among people who are Aboriginal serve to reinforce the stereotype that Aboriginal peoples are drunks.

The disease model of alcoholism has done much to perpetuate the idea that Aboriginal peoples are genetically predisposed toward "alcoholism". This perspective is one that continues to garner support. In fact, the idea of Aboriginal peoples suffering from "alcoholism" is so entrenched in our society that the popular image of an Aboriginal person has become synonymous with various terms connoting "alcoholism". The idea of the "drunken Indian" is treated as undisputed fact where Aboriginal peoples, apparently, are one of these groups where a genetic predisposition exists to "alcoholism". An Aboriginal person who takes a drink results in the alcohol automatically triggering an inability to control drinking. Hence, the myth of the "drunken Indian" prevails despite the inconclusive nature of evidence supporting this claim (Price, 1975; Leland, 1976).

Thus, the issue of alcohol as it relates to Aboriginal peoples has been the object of much debate where the underlying reasons for their drinking are many and varied. It is evident that a serious void exists in the literature

where popular explanations focus on either the genetic-predisposition perspective or the various sociocultural explanations. Sociocultural explanations focus on social factors such as anomie, poverty, celebration, and learned behaviour. They are counter-perspectives to the genetic-predisposition explanation.

Inherent in all attempts to grapple with this problem is the existence of a marked difference in the patterns of drinking between Aboriginal peoples and other groups. Specifically, alcohol consumption among Aboriginal peoples as a group is heavier than that of non-Aboriginal groups (Bachman, 1991). The underlying concern motivating attempts to deal with this issue may be a matter of non-conformity rather than an inability to consume alcohol. Therefore, it may be more advantageous to explore the issue of social control as it applies to drinking behaviour, rather than adhering to the current debate concerning whether the biogenetic or sociocultural perspectives are more accurate in accounting for drinking behaviour among Aboriginal peoples.

Within the context of the dominant culture Aboriginal drinking patterns do not conform to the "White middle class" style of drinking and thus are the object of negative sanctions. Specifically, non-conformist behaviour may be fostered by a lack of stake in the culture in which they live, where it is argued that a stake in conformity influences behaviour. Those with a higher stake in

conformity have a greater incentive to adhere to societal norms. Therefore, this thesis will examine the predictors of heavy drinking between Aboriginal and non-Aboriginal peoples within such a framework. Due to the differences between males and females in terms of patterns alcohol use (Hinton, 1991), gender will be a primary consideration as both a subsample and a predictor of drinking behaviour. It is hoped that the inclusion of gender will provide us with a more comprehensive understanding of the issues inherent in the drinking patterns of Aboriginal peoples in particular. The predictors to be analyzed will be those which represent the existence of a stake in conformity as informed by the social control literature. Thus, chapter one will provide a discussion of both the alcohol literature, and the literature concerning the drinking practices of Aboriginal peoples and the various attempts to provide adequate explanations. Chapter two will provide a discussion of the sample and the procedure used in the analysis. Chapter three will present the results, followed by a discussion and conclusion of the findings in chapter four.

LITERATURE REVIEW

Etiology of Alcoholism

The idea of excessive alcohol consumption as a problem which requires attention has existed for some time. As stated by Hore (1991), such a concern has been directed

towards the effect alcohol has on both the individual and on society. At the root of such debates is the reason as to why people drink in this manner (Hore, 1991).

In Hore's argument, he discusses Levine's contention that the idea of alcoholism as a progressive disease with the key symptom of "loss of control" is not a new concept. In fact, during the last century there was a great deal of debate surrounding whether those people who drank to intoxication did so because they could not prevent a loss of control concerning alcohol consumption, or because they simply chose to drink until they reached the point of intoxication. During the 19th century, forces such as the temperance movement accepted the concept of addiction but the emphasis was on alcohol itself as being the addictive agent. After Prohibition, the disease model of alcoholism with causation being linked to the individual (as opposed to the substance) gained popularity.

Jellinek is regarded as one of the foremost authorities in the field of alcohol addiction. In his "Phases of Alcohol Addiction" (1991) he describes a constellation of symptoms and explained how to distinguish between addictive alcoholics and habitual symptomatic excessive drinkers. As discussed by Leland (1976), Jellinek's work is one of the few which attempts to directly identify addictive drinking and its differentiation from non-addictive drinking. The symptoms discussed by Jellinek were derived from the

behaviour reported via a questionnaire administered to male members of Alcoholics Anonymous. His list of symptoms was divided into phases which represented an average progression of events for the specific sample from which they were obtained, as opposed to being applicable to the situation of all addicts. Thus, the order in which symptoms occur may vary. As well, the behaviour of women alcoholics differs from that of men. In doing so it was acknowledged that drinking patterns between men and women differ, and thus, his findings may not be universally applicable.

While the disease model of alcoholism currently retains much of its popularity, there are nevertheless views to the contrary. Fingarette (1991) argues that the version of the disease concept of alcoholism, (also referred to as the "classic" disease concept of alcoholism) is inaccurate. Specifically, the idea was that a minority of the population were said to have a biological vulnerability. In short, their "allergy" to alcohol means that consuming alcohol activates the disease. To even begin to drink is to become "alcoholic". As Fingarette summarizes, there are well-defined stages which occur and develop in a systematic order. As the disease progresses the symptoms accumulate and become increasingly disabling and demoralizing. Initially, drinking which appears to be normal (ie. social drinking), which is then replaced by heavier and more frequent drinking, drunken bouts, secret drinking, morning

drinking, and eventually "blackouts" of memory. Tolerance develops such that it requires more alcohol to achieve the same effects, and attempts to stop cause withdrawal symptoms. Eventually "loss of control" develops. At this point, whenever the person takes a drink, the alcohol automatically triggers an inability to control drinking and drunken bouts prevail. This overwhelming dependence upon alcohol affects other aspects of one's life (ie. social, family) and eventually results in death. Following this model, medical treatment is imperative in order to treat the disease.

Fingarette takes issue with the two fundamental assumptions of the disease concept: lack of control and craving. He points out that diagnosed alcoholics are not driven by an uncontrollable craving to drink. In fact, they respond to "common incentives and disincentives, to appeals and arguments, to rules and regulations". "It is settings, circumstances, and motivations that are the crucial influences on how alcoholics choose to drink. The alcohol per se- either its availability or its actual presence in the person's system- is not decisive" (1991:430).

However, it should be noted that Fingarette does not dismiss the biological aspect to alcohol consumption in its entirety. This becomes apparent in his discussion of alcoholism and genetic transmission. Acknowledging that there are results based on rigorous studies which attest to

the presence of a genetic factor, he nevertheless asserts that it is misguided to inform people with alcoholic parents that their heredity will surely result in themselves becoming alcoholics. While their alcoholic heredity makes it more likely that they will become alcoholics (than if they had non-alcoholic parents), the probability is still low (Fingarette, 1991).

Fingarette is not alone in contending the inadequacy of the disease concept. As Heather and Robertson (1985) argue, the disease model is based upon assumptions in which the definition of the disease confounds two reputed causal agents (loss of control and craving) with their supposed effect (alcoholism). In effect, their argument is that the disease concept of alcohol is tautological and thus fails to explain anything. They then propose an alternative model of problem drinking (as opposed to alcoholism). Problem drinking, like all drinking, should be considered "learned behaviour which is nested in complex ways within the idiosyncratic socio-psychological world of each individual". Thus, Heather and Robertson regard problem drinking as the result of learned behaviour and appear to discount completely the idea of "alcoholism" as a disease.

The usefulness of the disease concept is also challenged when considered in the framework of Peele's (1985) argument. The concept of "alcoholism" per se, may be regarded as a social convention where behaviour which is

regarded as "alcoholic" is largely dependent upon the prevailing cultural attitudes toward alcohol. Looking at the case of the United States, Peele argues that changes in ethnic balance and other social factors resulted in changes in attitudes toward alcohol and "have been the object of major social disagreements and conflict" (Peele, 1985:30). In the cultural setting of early colonial America, alcohol was regarded in a positive manner and the current idea of alcoholism did not exist. In addition to intoxication being regarded as a chosen state, there were also few drinking problems. However, this changed with increased immigration and expanding frontiers causing the breakdown of traditional social regulation of drinking. "...Drinking became a male prerogative that symbolized assertive independence and high spiritedness" (1985:30) which was in direct contrast to the formerly family and community regulated drinking patterns. With the increasing incidence of drinking problems, views toward alcohol began to become more negative and resulted in the creation of the temperance movement, and later Alcoholic's Anonymous (the self-help fellowship). As discussed previously, both were strong advocates of the disease theory. As Peele clearly states, "the ascendance of the disease theory has changed our entire culture's concept of the nature of its problems with alcohol" (1985:32).

Peele's previous argument concerning the changing attitudes toward alcohol in the United States is a highly

interesting interpretation and deserves its due credit. To reiterate, Peele argues that changes which occurred in the ethnic balance in addition to other social factors precipitated changes in attitudes toward alcohol. Such attitudes have been the object of social disagreements and conflict. However, in order to enhance our discussion of the changing attitudes toward alcohol and subsequent drinking patterns, one must also consider Gusfield's (1963) account in and of itself. In Gusfield's analysis, any element of behaviour has the capability to symbolize the social status and group identity of the actor. What is essential is that it actually does differentiate between social levels, and it is perceived as such. While people may, and often do, use types and amounts of alcoholic beverages as ways of displaying income and training in consumership, the most significant distinction has been between drinking and abstinence and between moderate drinking and the acceptance of occasional drunkenness. He uses the idea of a "contrast conception" in understanding the role of alcohol as a symbol of social status. It refers to the ways in which groups impute significance to differences between their behaviour and that of other social groups. Group opposition results in an intense opposition of values, which comes to be projected through the social order and serves to solidify social stratification. Drinking and nondrinking are crucial signs of the contrasts and similarities with which the

differentiation of group memberships are made into the substance of a social class system.

Drinking also has a moral connotation associated with a style of life. It is a patterned system of behaviour regulating a wide variety of actions and distinguishing one group from another. Alcohol, has had a special function as a symbol of a general style of life associated with levels of social status. It has been a symbol of group membership because it has communicated to observers the set of commitments of the drinker or abstainer to ways of moral conduct in realms of work, play, and familial association. The signs of status membership are most stable and communicative when they indicate the moral commitment of persons. Drinking and abstinence have been able to function as marks of participation or rejection.

In short, Gusfield explains moral protest as a type of status politics. Social groups which engage in symbolic crusades are viewed as being status movements where the goal is to raise or maintain the prestige of a group. The American Temperance movement may be viewed as a means for a formerly acknowledged status elite, namely the old, Protestant, rural middle class, to regain their lost status by winning a legislative victory. This results in a symbolic affirmation of their status. Participation in the campaign is an attempt to defend a position of social superiority and to enhance the social prestige accorded to

the group (Gusfield, 1963). Despite the countless interpretations of alcohol and alcohol consumption patterns, the disease model appears to dominate. Nevertheless, there does exist a body of literature which refutes the validity of such an assumption. Peele (1985) ascertains that scientific studies providing evidence against the disease theory may be categorized into four types: 1) laboratory studies which show that patterns of drinking by alcoholics are not consistent with the loss-of-control model 2) clinical research which demonstrates the efficacy of techniques intended to moderate alcoholism and problem drinking 3) longitudinal studies both of the natural cause of alcoholism and of outcomes for treated populations 4) cross-ethnic and cultural studies which attest to the importance of social and belief systems in alcoholism.

As is evident, there is a great deal of confusion as to what precisely the term "alcoholism" refers. Leland (1976) argues that the term "alcoholism" has been used as being synonymous with "alcohol addiction", as a cover term for both addicted and nonaddicted habitual excessive drinking, and, in other cases the term "alcoholism" has been used while failing to provide any definition. Subsequently, Leland (1976) states that definitions of "alcoholism" may be categorized in various manners: "1) definitions emphasizing causes 2) definitions emphasizing effects 3) definitions which combine both causes and effects. The matter is

complicated further with the sub-division of causes and effects into pharmacological, physiopathological or other physical, psychological and psychiatric, social and cultural explanations (Leland, 1976).

Aboriginal Peoples and Alcohol

The previous section has demonstrated that there does exist a great deal of confusion concerning the concept of "alcoholism". However, when applied to Aboriginal peoples, the confusion apparently dissipates. The idea that Aboriginal peoples are genetically predisposed to "alcoholism" is one that continues to garner support. In fact, the idea is so entrenched in our society that the stereotype of an Aboriginal person has become synonymous with various terms connoting "alcoholism". The idea of the "drunken Indian" is treated as undisputed fact where it is believed that Aboriginal peoples are one of these groups which suffer from an "allergy" to alcohol.

Evidence supporting the contention of a genetic predisposition among Aboriginal peoples is inconclusive at best (Young, 1991). "Even if such biochemical or physiological differences can..be demonstrated, they do not themselves explain why one group has high rates of alcoholism while another has low rates". Rates of alcoholism should be consistent across all Aboriginal groups were this theory truly valid.

The genetic predisposition theory as applied to Aboriginal peoples appears to be further weakened when one considers the fact that Asians have low rates of alcoholism while Native Americans, who are descended from the same race, experience high rates of alcoholism. Both Asians and Native Americans demonstrate similar biochemical or physiological responses to alcohol (Westermeyer, 1976; Young, 1991). Inaccurate and uninformed judgements notwithstanding, there do exist serious alcohol-related problem among Aboriginal peoples. As discussed by Young (1991), 75% of all Native American deaths involve alcohol. Five of the ten leading causes of death among Native Americans are directly related to alcohol: accidents, cirrhosis of the liver, alcohol dependency, suicide, and homicide. Alcohol-related accidents represents the leading cause of death among Native Americans, where the mortality rate is three times the national average. On this basis it seems safe to assume that the issue of problem drinking among the Aboriginal population is critical.

Theories of Aboriginal Drinking Behaviour

There are various theories which purport to account for the high incidence of drinking problems among Aboriginal peoples. Such theories range from biological-genetic theories, to sociocultural theories. Biological-genetic theories are based on the assumption that Aboriginal peoples

suffer from a genetic pre-disposition toward alcoholism. In contrast, sociocultural explanations are based on social factors such as anomie, poverty, celebration, and learned behaviour (Young, 1991; Lamarine, 1988). Using Leland's (1976) argument, the firewater myth claims that genetic characteristics pertaining solely to Aboriginal peoples result in a response to alcohol involving 1) exceptional changes for the worse in comportment and 2) inordinate craving for the drug. As pointed out by Leland (1976), scholars such as MacAndrew and Edgerton (1969) have demonstrated that alcohol neither inevitably causes Aboriginal peoples to become drunk and disorderly, nor to crave alcohol. If one considers that members of various tribes currently and in past could drink without exhibiting the behaviour alleged by firewater myth, then responses to alcohol by Aboriginal peoples could not be genetically determined. However, such an analysis does not preclude the possibility that for non-genetic reasons, Aboriginal peoples do exhibit more distinctly than others, the behaviour attributed to them by the myth. Thus, if the genetic theme of the firewater myth were discredited, this does not mean that a greater degree of drunken behaviour does not exist (Leland, 1976).

It should be noted that Leland focuses on the supposed inordinate craving for liquor among Aboriginal peoples and does not deal with their drunken behaviour. In Leland's

words, "the 'craving' motif seems to claim that (Aboriginal peoples) who drink will become alcoholics". She concludes that there is not sufficient support for the inordinate craving component (genetic theme) of the firewater myth.

Implicit support for Leland's findings is found with Price (1975:18) who contends that the "physiological addiction to alcohol itself (is) low among (Aboriginal peoples)". However, this does not address the issue of exceptional drunken behaviour (high incidence of drinking problems) among Aboriginal peoples.

According to Price (1975:18), one of the more popular explanations concerning the "dysfunctional" patterns of drinking among Aboriginal peoples is that Whites introduced alcoholic beverages to many of the tribes only in recent historic times so that they have not had time to develop effective internal social controls.

Evidence in support of this assertion appears in Price's discussion of societies where social inhibitions remain intact even during periods of extreme intoxication due to the maintenance of traditional controls. He uses the example of Mexico which "had the time to elaborate controls and did so" but also has one of the world's highest rates of alcohol consumption per capita. "It appears that in Mexico the Aboriginal controls on drunken comportment and the traditionally high rates of alcohol consumption continue into the present...At the same time it appears that

Aboriginal controls were remoulded by Spanish influences in the Catholic ideology of moderation".

While Price provides convincing cases of tribes which were historically introduced to alcohol, he also notes that other tribes produced and consumed alcoholic beverages prior to contact with Whites. Specifically, the Papago (southern Arizona) today "have two kinds of drunken comportment, depending upon the social context: in the traditional wine ceremony people sing and are peaceful, while in the secular drinking of White whisky the behaviour is aggressive (1975:19).

Emerging from the previous arguments is also the idea of social and belief systems as being crucial to any consideration of drinking patterns. Referring back to Peele (1985), this idea is particularly applicable to the North American context "where so many divergent drinking traditions are present" (1985:32). For example, according to studies cited by Peele, populations such as the Irish, Slavic, and Protestant in the United States demonstrate a high incidence of drinking problems among white ethnic groups. In contrast, both Jews and Italians experience a low incidence. This includes (also noted by Young (1991)), the difference among Oriental groups in the U.S: the high incidence of drinking problems among Aboriginal peoples contrasts with the moderate drinking of Chinese and Japanese Americans. In effect, Peele (1985) attempts to provide a

more comprehensive analysis of drinking patterns by bringing in the importance of cultural attitudes. His argument may be regarded, in a sense, as an extension of Young's (1991) argument concerning the implausibility of a biogenetic explanation of drinking patterns. Young discusses the point that Aboriginal peoples and Asians experience radically different drinking patterns in order to discredit the biogenetic explanation. Peele (1985), not only casts doubt upon the biogenetic theory, but also provides an alternative theory (cultural attitudes) to the differences in drinking patterns by pointing out the differences among various groups in addition to Aboriginal peoples and Asians.

Therefore, despite the fact that such a stereotypical pattern may be evident among some Aboriginal peoples, it is also important to recognize that non-Aboriginal groups also exhibit similar behaviour. Differences in drinking patterns among races aside, groups such as frontiersmen, men living together away from a family setting (ie. soldiers and lumbermen), conventioners in a strange city, adolescents and young adults, and homeless single men without regular jobs have also exhibited drinking patterns which have traditionally been attributed to Aboriginal peoples. This would include early appearance of intoxicated behaviour with minimal quantity of alcohol; binge drinking over a period of many hours or several days, separated by days or weeks of abstinence; group "party" drinking that may involve moving

from one location to another; and continuous purchasing of alcohol until financial resources are depleted (Westermeyer, 1979:112).

While this alone suggests that biogenetic explanations for Aboriginal drinking patterns are unhelpful and largely buttressed by inaccurate stereotypes, it is also necessary to realize that patterns other than "binge" drinking exist among Aboriginal peoples both in the past and during a modern setting (Westermeyer, 1979; May, 1982) . The "white middle class" pattern of drinking is one in which many Aboriginal peoples engage. As Westermeyer discusses, this involves limiting their use in amount, time and place, and behaving in a manner where there is virtually no difference from their non-drinking behaviour. Furthermore, many Aboriginal peoples are voluntarily abstinent (May, 1982; Lamarine, 1988). It is also the case that "the same person may employ "(Aboriginal)" drinking, "white" drinking, and/or abstinence at various times in (their) life, depending on social factors, (their) own preference, or life events" (Westermeyer, 1976:113).

The public nature of Aboriginal drinking may also assist in perpetuating stereotypical images of Aboriginal drinking styles. Briefly, the flamboyant, heavy drinking pattern is most widely observed and thus most frequently reported by non-Aboriginal groups. "Since abstinence and "white" drinking among Aboriginal peoples are less publicly

evident and less likely to receive attention, most non-Aboriginal groups do not realize the widespread nature of other patterns of drinking among Aboriginal peoples (Westermeyer, 1979; May, 1982).

May (1982) discusses two predominant styles of drinking among the Navaho which are also common among other tribes: recreational and anxiety drinkers. The recreational drinker is generally a younger male who drinks with a group of (male) friends on weekends special occasions and social events. This would include both traditional and western dances. According to May, such drinking serves as a social cohesion and recreational function. This type of drinking is usually forced and involves consuming large amounts quickly. It usually extends over a period of time (ie. all night). Among many Aboriginal groups it is practised, tolerated, or expected among younger males. This type of drinking is sporadic with periods of abstinence occurring between each instance ranging from a week to several months. It is this type of drinker which predominates.

In contrast, the second, less acceptable type, is the anxiety drinker. The anxiety drinker constantly drinks, and is usually alone. "They fit the definition of the chronic alcoholic and/or 'wino' and have suffered downward social mobility due to their drinking" (1982:1191). This type of drinker is not prevalent in most Aboriginal groups and within these groups they have been labelled "with an ethnic

term similar to "alcoholic" and either physically, psychologically, or socially ostracized".

Kunitz et al (1979) present a similar argument in their analysis of cirrhosis rates in two Aboriginal societies. Looking at two specific tribes, they suggest that among the Navaho there is a traditional pattern of beliefs and behaviour which results in a predisposition to drink in excess when alcohol is available. The Navajo do not seem to regard self-control as a social value in the same sense as do the Hopi. Based on their data they conclude that drinking has historically been a social affair among the Navajo, and this pattern has continued with the increasing availability of alcoholic beverages. At present, drinking tends to be a highly visible public spectacle characterized by binge drinking. Furthermore, it is often young men drinking in groups. Thus, younger, male peer-group drinking appears to be a commonly-accepted practice among the Navaho.

The case of the Navaho contrasts with the Hopi who stress peace and harmony while shunning "acting out". Among the Hopi traditional methods of social control have involved gossip, witchcraft accusations, and ejection from the community. However, as Kunitz et al point out, this is not to deny the existence of alcohol consumption among Hopi communities. Alcohol use is common in Hopi communities where many Hopi drinkers report solitary drinking as a means

to avoiding social censure (Kunitz et al, 1979).

Both spirituality and religiosity have also been cited as contributing factors in the control of drinking. Traditional religious trends have been proposed as being the motivating factor for drinking. According to Jilek-Aal (1974), Coast Salish tradition holds that supernatural beings possessed the ability to endow humans with states of ecstasy and power. During this state it was possible to communicate with ancestral spirits and have visionary experiences of the supernatural. Alcohol delirium, associated with wild and uncontrollable behaviour, is often looked upon as a sign that the drinker is in contact with supernaturals. More recently, scholars such as Hill (1990) have related drinking practices among Aboriginal peoples to changes in the sociocultural environment and the importance of the Peyote religion or the Native American Church in contributing to the control of heavy drinking. According to Hill, the Winnebago tribe in Nebraska did not have major social problems with alcohol until prolonged contacts with Whites. Drinking-related activities were compatible with some of the traditional values of the Winnebago culture in that alcohol was used to enhance demonstrations of friendship, generosity, physical and spiritual power, bravery, and sexual attractiveness. This is not to imply that drinking was a traditional practice so much as to stress its perceived ability to improve these values. In

fact, drinking was not unanimously accepted among members of the tribe and negative social sanctions were applied to individuals exceeding the limits of acceptable drunken behaviour. Due to growing dissatisfaction with the way of life Peyotism gained popularity among many members of the tribe. The Peyote religion contained traditional Aboriginal practices such as participation in the peyote ceremony involving an all-night meeting, prayers, meditation, singing, drumming, and the consumption of peyote. However, what is particularly interesting is the fact that while these traditional practices and ceremonies continued to be used, others such as those associated with spiritual beings during vision quests were regarded as pagan. Hill also asserts that Peyotism did not focus solely on alcohol use but was a comprehensive plan for living. Thus, maintenance of a stable marital relationship, working hard, fulfilling kinship obligations, and refraining from practices such as drinking would result in success in terms of what the dominant society would recognize. This itself is not surprising as most religions may be viewed as comprehensive plans for living. However, it is peculiar that while Peyotism advocates conformist behaviour according to the dominant society while at the same time the use of peyote continues to be looked upon with disfavour by many Whites. "Whites regard peyotists as a radical drug-using cult when in reality they are politically conservative

traditionalists, stable employees, and family-oriented people" (Price, 1975:23). It does appear that any display of non-conformism on the part of Aboriginal culture serves to perpetuate negative stereotypes despite their highly inaccurate nature. However, it is also evident that religiosity may have an inhibitive effect upon drinking behaviour and requires further analysis.

THEORETICAL FRAMEWORK

Despite the diversity exhibited in explanations proposed to account for heavier drinking among Aboriginal peoples there is nevertheless a common theme underlying all perspectives. To reiterate, excessive alcohol consumption among Aboriginal peoples is a serious problem yet there continues to be a lack of research. One issue which continues to generate interest is their lack of conformity. Drinking behaviour of many Aboriginal peoples differs from the dominant society and as a result, the issue may be one of non-conformity rather than a genetic inability to consume alcohol. Within the context of the dominant culture Aboriginal drinking patterns do not conform to the "White middle class" style of drinking and thus are subject to negative sanctions. Specifically, non-conformist behaviour may be fostered by a lack of stake in the culture in which they live, where it is argued that a stake in conformity influences behaviour. Those with a higher stake in

conformity have a greater incentive to adhere to societal norms. The existence of social control mechanisms appears to be a fruitful venue through which to pursue possible explanatory models.

Social Control Theory

The focus of control theories is on the bonds of conventionality which encourage individuals to exhibit conformist behaviour. This contrasts with individual or social forces that impel individuals to commit deviant acts. In describing the elements of the bond to society, the importance of family, peers, performance in school and an idea about the consequence of one's behaviour have been put forward as being important factors in explaining deviant behaviour. Also important to social control theories is the suggestion of a relationship among the elements of the bond to society (Robbins, 1985). As proposed by Hirschi (1969, in Robbins, 1985)), the degree of attachment to others is a crucial determinant in the process of internalization of social rules. The idea is that an attachment to conventional people will result in acceptance of conventional definitions of desirable behaviour, and promote involvement in conventional activities.

What results is the development of a 'stake in conformity' whereby those who possess bonds to conventional society will value the acceptance by other members of that

society and will thus adhere to the rules of acceptable behaviour as delineated by the society. Thus, central to any discussion of social control is the idea of a 'stake in conformity' as being a crucial factor in conformist behaviour. Ferguson (1976) contends that the concept of 'stake in society' exerts a powerful influence on behaviour. In discussing Honigmann and Honigmann (1970), Ferguson, argues that in situations where reward is contingent upon sharing cultural norms, people who possess a stake in society will tend to avoid behaviour which is considered deviant and adhere to the norms of society. The Honigmann's study focused on the idea that in a setting where public intoxication and other behaviour disregarding liquor laws had been a feature of frontier lifestyle, people would be less likely to engage in such types of behaviour if they had a stake in modern society as represented in the town, where general public opinion regarded behaviour in violation of liquor laws as deviant (Ferguson, 1976). Designating steady employment or residence in a modern home as indicators of stake in the modern Arctic community under study, the Honigmanns found that those possessing a stake in society (steady employment or a modern home) tended to avoid trouble with the law over alcohol. It is important to note that such conformist behaviour was exhibited despite the fact that some of those with a stake in society spent more money on alcohol than did those arrested for public drunkenness or

other liquor offenses. In short, a higher investment in society acts as a strong incentive to conform to societal norms.

However, one of the major underlying assumptions of control theory is the concept of a common societal value system and the organization of society in such a manner that law-abiding behaviour is promoted. Therefore, it is necessary to address the fact our analysis focuses on two cultures: Aboriginal and non-Aboriginal. Given this we must address the question concerning whether social control theories are able to bridge a presumable gap between two traditionally, quite different cultures. According to Robbins, "the assumptions of control theory are particularly suited to the study of seemingly incompatible cultures and values" (58:1985). Specifically, all cultures are organized in such a manner as to promote normative, law-abiding behaviour. The common values of all cultures can be seen as those values that promote adherence to such norms and those that negatively sanction deviance. Looking specifically at Aboriginal and non-Aboriginal (White) cultures, Robbins contends that while the two cultures are traditionally incompatible, the general norms which govern Aboriginal and non-Aboriginal behaviour are similar and that any differences occur among specific practices. For example, in the case of education, which both the non-Aboriginal and Aboriginal cultures value, there may be variations in terms

of type or manner of education.

Based upon her study of control theory and Aboriginal culture, Robbins concluded that sanctions which were imposed on Aboriginal peoples misbehaviour by the dominant (White) culture, were weaker than those of the Aboriginal community. However, they were effective to the extent that they were perceived as both credible and likely to be applied. Controls within the Aboriginal community appeared to hold more validity for the Seminole youths under study, resulting in a more direct effect on their behaviour. She suggests this may be due to the control among the Seminole youth being, to a large extent, external. This is viewed as a logical conclusion when the differences in Aboriginal and non-Aboriginal socialization are considered: "Traditional (Aboriginal) controls for many forms of deviant behaviour are attributed to external, rather than internal, sources. Similarly, many controls on conforming behaviour are also external (1985:60)". Referring back to the Kunitz et al (1979) discussion of Hopi traditional methods of social control, it is possible to provide support for Robbins argument. Briefly, gossip, witchcraft accusations, and ejection from the community are all methods of social control employed by the Hopi which may be considered external (Kunitz et al, 156:1979). One possibility which Robbins neglected to consider was that the differences in effectiveness of sanctions between both cultures may be due

more strongly to the existence of a weaker stake in the dominant culture.

It is also important to exercise caution when discussing methods of external social control among Aboriginal communities. Specifically, it is necessary to avoid generalizing across all Aboriginal groups as methods of control may differ among tribes. As well, it would be wise to consider Robbins' (1985) caveat concerning the modifying effect of Western religion on traditional Aboriginal methods of social control.

Field (1991) also sheds light on the issue of social control and drinking patterns. In his reexamination of Horton's cross-cultural study of the functions of alcohol in primitive tribes, concluded that the degree of drunkenness at periodic communal drinking bouts is related to variables which indicate an informal (or personal) rather than a formal (or corporate) organization. Specifically, drunkenness in primitive societies was attributed to the absence of corporate kin groups with stability, permanence, formal structure, and well-defined functions. Such organizations were also both patrilineal and patrilocal.

While it is necessary to consider that Field's (1991) study dealt with primitive societies, the important point remains: the type of social organization of a society can affect the degree of sobriety. Thus, the logical extension of Field's perspective, is that the greater the degree of a

formal social organization, the greater the degree of a stake in conformity. The likelihood of negative sanctions becomes greater. Conversely, one's stake in conformity in an informal (loosely organized) society is lessened by the greater probability of the absence of negative sanctions for non-conformist (drunken) behaviour.

Placed in the context of Aboriginal peoples and their subsequent drinking patterns, this view is particularly interesting. However, it is necessary to avoid presenting this perspective in an overly simplistic manner. According to Field, the result of intensive, prolonged, contact with Western civilization was the eventual disorganization and destruction of the social structure of a tribe. Furthermore, he postulates that rapid, far-reaching acculturative changes are facilitated by an originally loose tribal social organization. However, in a modern setting (and Western society) it is not advantageous to discuss social organization in terms of corporate kin structures (or the family) as being highly stable power structures. In Field's discussion of possible factors mediating the relationship between sobriety and a father-centred family, he suggests that (today) corporate division of labour (as opposed to the family) means the average worker is minimally involved in company goals, has little commitment to co-workers and superiors, is free after-hours, and (theoretically) can change jobs at will. These factors may

facilitate individualistic (drunken) behaviour. Thus, in looking at the issue of a stake in conformity, it is possible to view it as the result of a changing structure of social organization. In terms of Aboriginal drinking patterns, the process of cultural genocide enacted by the dominant culture could succeed in precipitating a change in the social structure, and subsequently a loss of stake in conformity in their own culture.

Specifically, drinking patterns are controlled by "two related elements: 1) a person's stake, or lack of stake in society; and 2) societal expectations with regard to behaviour, that is to say, norms" (Ferguson, 1979:74). Norms defining desirable behaviour characterize each society where disregard of the norms may result in social sanctions and a subsequent loss of stake in society. Therefore, having a stake in society fosters conforming behaviour. Conversely, where a person lacks a stake in society there is little incentive to conform to such norms. Using Ferguson's example of a trapper visiting a town, there was little stake in that society due to the trapper being a transient member of that society. As a result it is possible to exhibit behaviour contrary to the norms without incurring negative sanctions and a loss of stake in that society. In short, it is possible to engage in the flamboyant drinking behaviour which is associated with frontier lifestyle. In contrast, a permanent resident of the (Arctic) town with a modern job or

home does have incentive to avoid engaging in a drinking style which is regarded as unacceptable in that town (Ferguson. 1976:67).

Ferguson, applied the stake in society perspective as delineated by the Honigmans to an evaluation of alcoholism treatment responses among members of the Navajo. However, Ferguson extended their argument to encompass cultural differences in societies. A distinction was made between 1) a stake in the old society, 2) a stake in the modern society, and 3) a stake in both societies. The 'old society' was defined as the quasi-traditional lifestyle which included such activities as old-style farming within a family context, stock raising, and silversmithing. In addition, it would include seasonal, isolated labour done in the company of other Navajos (migrant labour, rail-road work). A stake in modern society would include people with (potentially) permanent (regular) employment in the modern economic system. Such a job brings people into contact with other employed people on a supposedly equal basis. Included in this are tribal jobs which entail contact with the modern world, in addition to jobs which are independent of the tribe and its environment. A stake in both societies referred to people who had regular employment in the town but devoted leisure time to improving the family home on the reservation. Based on the results of his study, Ferguson concluded that many of the men experienced initial loss of

stake in the context of a lack of negative sanctions regarding heavy alcohol use in Navajo culture. As previously discussed, in Navajo culture, heavy drinking is often part of the lifestyle of reservation Navajo men until well into middle age. Ferguson contends that Navajo drinking is similar to the frontier-style drinking of the early West and the Arctic region. Furthermore, Navajos who engage in occasional drinking sessions with no destructive effects beyond an occasional stay in jail may meet with little disapproval from their families or friends. Thus, negative sanctions are non-existent at this level. However, "while social sanctions are not instituted at the beginning of heavy drinking in Navajo culture, a person who makes a career of it is quite likely to experience abandonment by their family when their job, health and family property are lost through continued excessive drinking" (Ferguson, 1976:71). In this case it is possible to draw comparisons between May's "recreational drinker" and the binge drinker described by Ferguson, as well as the "anxiety drinker" reported by May and the "career drinker" described by Ferguson. In both cases it is clear that there is an unacceptable type of drinker which will be sanctioned. However, negative sanctions occur at a different stage of the deviant behaviour. In order for such sanctions to be effective, it is necessary to administer them during the social situation in which they occur. "Social sanctions from

members of the group after the individual has developed a pattern of insobriety are not of primary significance" (Snyder, 1962, cf Ferguson, 1976:71).

Thus, it was found that Navajos who regained a stake in the old society (where the lifestyle included heavy drinking) during treatment tended to conform to new norms in the family context, while those who acquired concurrent stake in both old and modern society were even more successful in their adherence to new norms concerning alcohol use. The failure of those with modern stake alone to acquire new norms regarding alcohol use is explained in terms of a lack of reference group other than the drinking peer group. Ferguson postulates that the men with a modern stake felt dissatisfied with the old life and subsequently lacked a stake in society. "Had it not been for the drinking group in town, the Navajos with modern jobs would have had a dearth of close affectional ties, and certainly little recognition of a personal nature" (Ferguson, 1976:72).

It was postulated that for those with a stake in modern society, failure to change drinking patterns may have been more to do with the lack of attractive alternatives; in the town within which they resided, there may have been a lack of social participation. Thus, according to Ferguson, social recognition was obtained through the drinking peer group. However, it would seem that an important component

to successful change in drinking behaviour is related to the existence of a stake in the traditional society since the two successful groups were those with either a stake in only the traditional economy or a subsequent stake in both the traditional and modern economies. The group with a stake in only the modern economy met with poor success in changing their drinking behaviour. A second possibility which Ferguson could have considered is that a stake in a traditional economy today may represent the existence of cultural ties and values rather than using the term "traditional economy" in the strict sense of the word. It may be that those who successfully changed their drinking behaviour had access to stronger traditional centres of support such as spiritual, communal, or familial.

The idea of a traditional economy as being an integral part of Aboriginal lifestyle and representing a stake in conformity is discussed by LaDue (1991). Prior to contact between Aboriginal peoples and Europeans (between 15th to 19th century), a close relationship existed between the environment and social rules among Aboriginal peoples. This 'Survival Pact' was predicated upon individuals obeying the rules of the Pact and conforming to their expected roles. This was the manner in which the community could ensure survival. The stringency of the Pact rules were largely dependent upon the harshness of the physical environment (ie. availability of resources, etc). The laws of the Pact

dealt with such issues as marriage, medicine, food gathering, hunting and fishing, religious practices, and social encounters. The laws were passed to each subsequent generation and socialization into expected roles occurred during childhood. Those who failed to comply with the Pact rules faced punishments such as social ridicule, ostracism, and death. According to LaDue, deviant behaviour was often defined in spiritual terms such as 'soul loss' or 'object intrusion' where the objective was to heal the spirit in order to allow the body to mend. The practice of healing involved ritualism and the patients family and/or community was involved. Religious practices and spiritual beliefs were define within the Pact and Coyote stories were used to illustrate what happened to people who failed to conform to the Pact rules.

Thus, the Survival Pact was not only an integral part of Aboriginal life in the past, but also provided the necessary stake in conformity which maintained a cohesive society and governed behaviour. Presumably, the Survival Pact also dealt with the issue of alcohol. As discussed by LaDue and other scholars, drinking is not a traditional Aboriginal value or behaviour. Alcoholic beverages are forbidden at traditional ceremonies and the consumption of alcohol is contrary to the practice of traditional Aboriginal values.

It is possible to surmise that a loss of stake in

conformity in Aboriginal culture could be manifested in drinking behaviour. However, the problem now becomes the issue of what having a stake in conformity means to Aboriginal peoples living in the dominant society? As has been previously established, many Aboriginal peoples who do drink do so in accordance with the norms governing behaviour in the dominant culture. Given this one must consider the possibility that what constitutes a stake in conformity differs among various cultures and may include variation in drinking.

RESEARCH QUESTIONS

The underlying assumption which emerges from a discussion of the literature suggests that heavier drinking is not causally related to ethnicity. The contention of a bio-genetic explanation is riddled with confusion, and there appears to be no explicative value in pursuing such theories. Thus, our focus will be the matter of non-conformity rather than a biogenetic inability to consume alcohol. Within the context of the dominant culture Aboriginal drinking patterns do not conform to the "White middle class" style of drinking and thus are the object of negative sanctions. Specifically, non-conformist behaviour may be fostered by a lack of stake in the culture in which they live, where it is argued that a stake in conformity influences behaviour. Those with a higher stake in conformity have a greater

incentive to adhere to societal norms. Therefore, this thesis will examine the predictors of heavy drinking between Aboriginal and non-Aboriginal peoples within such a framework. The predictors which will be analyzed will be those which represent the existence of a stake in conformity. In short, our model will be comprised of indicants of a stake in conformity as informed by the literature. Thus, the question is twofold: 1) what are the predictors of heavier drinking among Aboriginal and non-Aboriginal peoples as informed by a social control framework; and 2) is it relevant to discuss the issue of heavier drinking among Aboriginal peoples in the context of an ethnocentric model of social control; more specifically a stake in conformity?

METHODS AND PROCEDURES

Sample

Secondary survey analysis was employed using the Yukon Alcohol and Other Drugs Survey (YADS). The YADS was conducted in the Fall of 1990 by the Yukon Bureau of Statistics and Health and Welfare. It was a replication of the National Alcohol and Other Drugs Survey (NADS) with adjustments for the North. A household sample size of 1348, aged 15 and over, were interviewed about their attitudes and behaviours concerning the use of alcohol and other drugs. In order to ensure adequate coverage of Aboriginal communities within Whitehorse a random sample of 20% of the listed dwellings within the Indian Band settlement areas were selected to participate in the survey. The methodology employed consisted of telephone interviewing using random digit dialling in selected Yukon communities which have sufficient telephone coverage to meet the methodological requirements, and personal interviewing in communities which lacked adequate telephone coverage to represent the residents. The total Yukon response and non-response rates were 78.7% and 21.3% respectively. The population of the Yukon is approximately 30,000. There are 4650 Aboriginal peoples currently living in the Yukon. The sample size of Aboriginal peoples was 260 (YADS, 1990).

According to the YADS, 77% of people living in the Yukon are current drinkers as compared to 78% for the rest

of Canada. Among current drinkers there is an average of 32 drinks per month as compared to 21 drinks per month for the rest of Canada. The number of drinking occasions per month is an average of 7 times a month as compared to 6 times a month for the rest of Canada. However, people living in the Yukon drink 50% more than southern Canadians on individual occasions. The current drinker rate percentages in the Yukon are similar to those of the rest of Canada in the 15 to 34 year old category of the population. Among 15 to 19 year olds in the Yukon the current drinker rate is 73% among 15 to 19 year olds as compared to 74 percent in Canada. Among the 20 to 34 year olds the percentages are 86% and 88% respectively. The current drinker proportions remain the same until the 55+ age group where the Yukon has fewer current drinkers than the rest of Canada (47% versus 63% in Canada). Males are only slightly more likely to be current drinkers than females in the Yukon. This is in contrast to the provinces where, although the percentages vary, men are much more likely to be current drinkers. Furthermore, Aboriginal peoples in the Yukon are much less likely to have consumed a drink of alcohol in the past twelve months than are non-Aboriginals. According to the YADS, the current drinker rate among Aboriginal peoples is 63% as compared to 82% among non-Aboriginals. However, Aboriginal peoples who are current drinkers report consuming an average of 48 drinks per month as compared to 28.3 drinks among non-

Aboriginals. Aboriginal peoples report fewer drinking occasions per month (6.8 times compared to 7.3) and a higher average number of drinks per occasion than non-Aboriginals (5.8 drinks per occasion versus 3.8 drinks per occasion for non-Aboriginals). Twenty one percent of Aboriginal peoples in the Yukon are heavy, frequent drinkers as compared to only 12% of non-Aboriginals. One out of three Aboriginal peoples who are current drinkers are heavy frequent drinkers. It is necessary to point out that only 63 percent of Aboriginals are current drinkers as compared to 81 percent of non-Aboriginals. Twenty percent of Aboriginal peoples are in the regular former category. Therefore, among Aboriginal peoples there is polarization between heavy drinking and abstention. However, Aboriginal peoples who drink are more likely to be heavier drinkers. It is heavier drinkers, particularly heavy-frequent, who are at the highest risk for alcohol-related health problems, injury, or accidents. They are also more likely than other drinker categories to engage in risk behaviours such as other types of substance abuse, drinking and driving, and smoking (Yukon Alcohol and Drug Survey, 1991).

It should be noted that by looking at current drinkers only we are neglecting a substantial portion of the Aboriginal sample, and this is a distinct limitation. According to the YADS, Aboriginal peoples have a higher proportion of current abstainers as compared to the non-

Aboriginal sample. Since one of the controversies surrounding Aboriginal peoples is their drinking behaviour, it was felt that the analysis should focus on current drinkers. This is not to dismiss the current abstainer sample so much as to suggest it as an area for future research.

Predictor Variables

The independent variables were the indicants of the degree of conforming behaviour in society, where as previously discussed, this refers to the presence or absence of a stake in society. The measures of a stake in conformity reflect those which were found in the literature mediated by constraints placed by analysis of secondary data. According to the YADS, the greater the household income, the greater the percentage of current drinkers. Lower income groups were more likely to be heavy drinkers (5 or more drinks per occasion), and higher income groups were more likely to be frequent drinkers (4 times a month or more). In addition, as level of education increased it became less likely that current drinkers would exhibit a heavier style of consumption. The presence of children less than fifteen years of age living in the household had little relationship with drinker category (ie. current drinker, former drinker or abstainer). Furthermore, current drinkers with young children at home were no less likely to be heavy

drinkers than current drinkers without children at home. However, due to our perception of the existence of children being a mediating factor in drinking behaviour it was included in the analysis. Turning to marital status, people currently living with a spouse or partner were as likely to be current drinkers as those who were not. However, single people who were separated or divorced had the highest rates of current drinkers followed by those who have never been married. Current drinkers who were single were more likely to be heavier drinkers than those who were not single. In labour force activity, more women who reported staying home as their main activity were heavier drinkers as compared to the rest of Canada (18 percent versus 3 percent for the rest of Canada). In addition, blue collar workers were more likely to be heavy frequent drinkers (5 or more drinks per occasion/4 times per month or more), followed by other white collar workers (ie. clerical, sales), and with professional or managerial the least likely to be heavy frequent drinkers. Within the light frequent categories (less than 5 drinks per occasions/4 times per month or more) the trend was reversed where professional or managerial were most likely to be light frequent drinkers. Due to the complex nature of this variable, it was revised for the purpose of our own study in an effort to capture the multidimensional nature of this variable in a more succinct manner. Thus, our variables reflecting labour force activity were 1)

employment status and 2) seasonality of employment. Turning to the issue of religiosity and spirituality, approximately 22 percent of the Yukon population reported being an active member of organized religion. Sixty-five percent of this group were current drinkers where approximately 1/3 were light, infrequent drinkers. Ninety-one percent of those who reported heavier, frequent drinking reported not being an active member of organized religion. Furthermore, 58 percent of heavier frequent drinkers reported being not very or not at all spiritual.

Thus, based upon the differences in means among the Aboriginal and non-Aboriginal groups among all of the variables (Tables A through Gg), and the findings of the YADS, it was concluded that the previously-mentioned variables appeared to have a mediating effect upon drinking behaviour in accordance with our argument concerning the degree of stake in society as affecting drinking behaviour. The following is a list of the predictor variables used in the analysis:

- 1) sex. 1= male, 2= female.
- 2) age. A continuous variable with the lowest age being 15 years and highest being 86.
- 3) education. A categorical variable where 1= no schooling, 2= elementary school 3= some secondary, 4= completed secondary, 5= some community college, technical school, CEGEP, nurses, 6= completed community college, technical

school, CEGEP, nurses, 7= some university, teachers college, 8= completed university, teachers college.

4) **income.** A categorical variable where 0= no income
1= less than \$10,000 2= \$10,000 - \$19,999 3= \$20,000 - \$29,000 4= \$30,000 - \$39,000 5= \$40,000 - \$59, 000
6= \$60,000 - \$74, 999 7= \$75,000 +.

5) **religiosity.** A categorical variable which asked the extent of involvement in organized religion: 1= daily 2= weekly 3=monthly 4=yearly 5=never.

6) **spirituality.** A categorical variable which asked how spiritual one considered themselves to be where 1= very spiritual 2= moderately 3= not very 4= not at all spiritual.

7) **employment status.** A categorical variable where 1= employed 2= other.

8) **seasonality of employment.** A categorical variable where 0=other 1= seasonal.

9) **marital status.** A categorical variable asking whether the respondent lived with a spouse or partner where 1= yes 2=no.

10) **presence of children.** A categorical variable which asked whether there were children under 15 years in the household.
1= yes 2= no.

The previously-mentioned variables have been informed by theories of criminology and deviance whereby education, income, religiosity, employment status, seasonality of employment and marital status all act as investments in

society which encourage conforming behaviour. Furthermore, the limits placed upon unstructured time by these variables also promote conforming behaviour. While age is not a direct indicant of a stake in society it may be related due ones age determining the length of time which has been available in which to acquire a stake in conformity.

Furthermore, it was important to examine the effect of age regardless of our theoretical framework.

The issue of spirituality is a multidimensional variable encompassing such things the desire for an experience of a spiritual nature, the sense of meaning, purpose, and value of ones existence, and the feeling of being related or connected to life. It has been cited as being important in alcoholism recovery (Carroll, 1993) and has been a strong component of life among traditional Aboriginal culture (LaDue, 1991). Thus, it may be viewed as an indicant of a stake in society. Finally, since our interest was also in gender it was important to include sex as a variable in the analysis.

Dependent Variables

In discussing the drinking measures which were used in this analysis it is necessary to provide a discussion of the drinking measures used in order to provide a more comprehensive understanding of what is being measured and to recognize any problems from which the measures may suffer. According to Room (1991), using the usual quantity approach

is problematic in that the likelihood is high that a person who consumes small amounts frequently but consumes larger amounts infrequently would be accurate in responding that their usual quantity was one drink. As Room states, a person who drinks every day of the week but becomes drunk on only two of those days could not be regarded as someone who usually gets drunk when they drink. The problem which arises through the use of usual drinking behaviour is that such people are then classified with those who also drink daily but never consume more than two drinks. Nevertheless, use of the usual number of drinks consumed may indicate a propensity to become drunk. In order to obtain an accurate representation of quantity of drinking additional measure must be used. 'Proportion of occasions' at a given level such as the number of occasions where five or more drinks were consumed and other quantity measures such as the maximum number of drinks ever consumed on any one occasion both assist in countering the criticisms of 'usual quantity' measures. "Proportion of occasions at a given level may indicate both a propensity to become drunk in addition to a propensity for binge drinking. Similarly, maximum quantity measures also provide information on the likelihood of binge drinking. An additional measure of drinking is quantity-frequency which serves to cross-classify the dimensions of frequency and usual quantity of drinking. It is a multidimensional typology of amount of drinking which

provides an indication of overall quantity within a specified time period. Frequency of drinking is the most commonly reported dimension but provides information on only how often in a specified time period a person drinks. It reveals nothing about the other dimensions of drinking such as massed drinking. As discussed previously, it is necessary to use a multidimensional approach in order to obtain an accurate representation of drinking patterns. Thus, the following items were used as drinking measures:

- 1) **Usual quantity.** Usual number of drinks on the days the respondent drank in the past twelve months where the lowest was 0 and the highest was 30.
- 2) **Maximum quantity.** The highest number of drinks on any one occasion in the past twelve months where the lowest was 1 and the highest was 69.
- 3) **Frequency of 5 Plus drinks.** The number of occasions where five or more drinks were consumed in the past twelve months where the lowest was 0 and the highest was 365.
- 4) **Quantity-frequency Index.** Cross-classification of frequency and usual quantity of drinking in the past twelve months where the lowest was 0 and the highest was 8760.
- 5) **Frequency.** Frequency of drinking during the past twelve months where the lowest was 0 and the highest was 365.

Statistical Procedure

Both statistical (stepwise) and hierarchical

regressions were performed on five drinking measures as dependent variables: usual number of drinks, frequency of drinking, 5+ drinks on any one occasion, the maximum number of drinks on any one occasion, and quantity-frequency; and nine independent variables: age, education, income, presence of children, marital status, degree of religiosity, degree of spirituality, seasonality of work, and employment status. Stepwise regression was performed for the entire sample. It is a type of statistical regression in which order of entry of variables is determined solely on statistical criteria. Specifically, which variables are entered or omitted from the equation is based on statistics which have been computed from the sample under study. Step one consisted of forced entry being used on only ethnicity and sex. Stepwise regression was used on both the remaining main effects and the interaction effects. The interaction effects were formulated based on examination of the results of crosstabulations and preliminary stepwise regressions conducted on the sub-samples. These sub-samples were as follows: males, females, Aboriginal males, Aboriginal females, non-Aboriginal males, non-Aboriginal females, Aboriginal, and non-Aboriginal.

Hierarchical regressions were performed for the entire sample and the following sub-samples: Aboriginal peoples, Non-Aboriginals, Aboriginal males, Aboriginal females, Non-Aboriginal males, and Non-Aboriginal females. The rationale

in employing hierarchical regression was to determine if the addition of indicants of a stake in conformity as a whole improved prediction of drinking behaviour as a theoretical model after age (demographic data) was in the equation. Specifically, the explicative value of the model representing a stake in conformity in the prediction of drinking behaviour was evaluated.

Analysis for both regression procedures was performed using SPSS Release 4.0 for Sun 4. Prior to any regression analysis an evaluation of normality assumption was carried out using frequency distributions. Evaluation of assumptions resulted in transformations of the dependent variables in order to improve the normality, and reduce the number of outliers. (Tabachnick and Fidell, 1989). Square root transformation was used on the usual number of drinks consumed. Logarithmic transformation was used on the number of occasions where five or more drinks were consumed, quantity-frequency, and maximum number of drinks ever consumed on one occasion. Cubed root transformation was used on the yearly frequency of drinking variable.

RESULTS

Stepwise regression

Tables one through five display the order of entry, bivariate correlation coefficient R , unstandardized regression coefficients (B) and intercept, the standardized regression coefficients ($Beta$), R^2 and adjusted R^2 for the final models.

ql3sr (usual number of drinks)

Based on the results of the final model sex ($p=.0000$) and ethnicity ($p=.0000$) were both significant. The main effects which entered the equation through the stepwise procedure were as follows: age ($p=.0000$), education ($p=.0000$), religiosity ($p=.0001$), income ($p=.0000$), and spirituality ($p=.0057$) (Table 1). All of the variables were significant thus indicating their unique contributions. Furthermore, the interactions which entered into the equation were Aboriginal by Seasonality ($p=.0000$) and Aboriginal by Sex by Children ($p=.0047$). As is evident by the negative direction of the coefficients in Table 1, sex, ethnicity, age, education, and income all have inverse relationships with the dependent variable whereby as the values for the independent variables increase there is a corresponding decrease in the level of consumption of usual number of drinks. Thus, being male, being an Aboriginal person, younger age, lower level of education, and low level of income, are all associated with consumption of a higher

usual number of drinks. In contrast, both spirituality and religiosity have direct relationships (refer to Table 1 where the direction of the coefficients are positive) with the dependent variable: as the values for these variables increase there is a corresponding increase in the level of consumption of usual number of drinks.¹ A low degree of spirituality and a low degree of religiosity are both associated with a higher level of consumption of usual number of drinks. The Aboriginal by Seasonality interaction effect has a positive relationship while Aboriginal by Sex by Children has negative relationship with the dependent variable. Both seasonality of employment and children were recoded in a bipolar manner. Thus, seasonal employment and the presence of children were each coded as "1" while non-seasonal employment and an absence of children were each given codes of "-1".

Looking first at Aboriginal by Seasonality, Aboriginal peoples have been coded as "1" with non-Aboriginals coded as "0". Seasonality has been recoded such that Aboriginals who are seasonally employed are coded as "1" while Aboriginal peoples who are non-seasonally employed are coded as "-1". The interaction term obtained by multiplying ethnicity and

¹ The positive direction of the relationship for religiosity and spirituality is an artifact of the manner in which the values were assigned. The relationships between the concepts is inverse whereby low religiosity and spirituality are associated with low levels of alcohol consumption. This is the case for all instances where the two variables make significant contributions.

seasonality is 1 for the seasonally employed Aboriginals, 0 for the non-Aboriginals, and -1 for the remaining Aboriginals. Since the direction of the relationships is positive, this is interpreted as seasonality affected only Aboriginal peoples, among whom seasonally employed meant a higher usual number of drinks by .375 than average and non-seasonally employed a lower number by .375 than average. Similarly, for the Aboriginal by Sex by Children interaction, both Aboriginals and females have been coded as "0" while non-Aboriginals and males have been coded as "1". In addition, the presence of children was coded as "1" while an absence of children was coded as "-1". This is interpreted as the presence of children affected only non-Aboriginal males, among whom being childless predicted a higher consumption level of alcohol by .087 than average and being with children a lower level by .087 than average.

In terms of order of entry, age entered in the first position via the stepwise procedure indicating its importance in the prediction of usual number of drinks. It was followed by education, ethnicity by seasonality, religiosity, income, ethnicity by sex by children, and spirituality. Since R^2 is .282, 28% of the variance in usual number of drinks is accounted for by this model (Table 1).

q15.121n (number of occasions where five or more drinks were consumed)

Referring to Table 2, sex ($p=.0000$), and ethnicity ($p=.0058$), were both significant. The main effects which entered the equation through the stepwise procedure for the final model were religiosity ($p=.0000$) and children ($p=.0060$). As is evident by the p values, both of the variables made significant unique contributions. Aboriginal by Age, ($p=.0000$), Sex by Income ($p=.0001$), and Aboriginal by Sex by Education ($p=.0025$) were the three interaction effects to enter the final model. Looking at the direction of the relationship for the significant main effects, sex and ethnicity had inverse relationships with the dependent variable such that as there was an increase in the values of the independent variables there was a corresponding decrease in the drinking variable. Thus, being male and being Aboriginal are both associated with a higher number of occasions where five or more drinks were consumed. Religiosity and children both had direct relationships such that as there was an increase in the values of these variables, there was an increase in the dependent variable. A low level of religiosity and an absence of children are both associated with a higher number of occasions where five or more drinks were consumed.

Turning to the interaction effect Aboriginal by Age, non-Aboriginals are coded as "1" while the remaining groups are

coded as "0". Centring was carried out on the continuous variables by subtracting the mean from the variable. Thus, Age has been centred. Furthermore, the direction of the coefficient is negative. Thus, age had an effect on only non-Aboriginals among whom younger age was associated with a higher number of occasions in which five or more drinks were consumed. In the Sex by income interaction effect females are coded as "1" and males are coded as "0". Since the direction of the slope is negative this is interpreted as income having affected only females, among whom a low level of income was associated with a higher number of occasions in which five or more drinks were consumed. The final interaction effect is Aboriginal by Sex by Education. In this case Aboriginal females, and both non-Aboriginal males and females are coded as "1" while Aboriginal males are coded as "0" and level of education was centred. Since the direction of the relationship is negative this is interpreted as education impacting on all subgroups but Aboriginal males such that those who possess a low level of education in these subgroups have a higher number of occasions in which five or more drinks were consumed.

Ethnicity by age was the variable to enter in position one through the stepwise procedure. Following this in their order of entry were religiosity, sex by income, ethnicity by sex by education, and children. Twenty six percent of the variance in the number of occasions where five or more

drinks were consumed is accounted for by these variables (Table 2).

ql6ln (maximum number of drinks ever consumed on one occasion)

Referring to Table 3, α ($p=.0000$) and ethnicity ($p=.0004$) were significant. The main effects which entered into to the equation through the stepwise procedure were religiosity ($p=.0000$), level of education ($p=.0005$), and children ($p=.0006$). The significant interaction effects were Aboriginal by Age ($p=.0000$), Sex by Income ($p=.0002$), and Aboriginal by Spirituality ($p=.0032$). Looking at the direction of the relationships for the main effects, sex, ethnicity, and level of education have inverse relationships with the dependent variable such that as there is an increase in the values for the independent variable there is a corresponding decrease in the maximum number of drinks consumed on any one occasion. Thus, being male, being Aboriginal, and having a lower level of education is associated with consumption of a higher maximum number of drinks. The degree of religiosity and children both have direct relationships with the dependent variable such that as there are increases in the values of the independent variables, there are corresponding increases in the maximum number of drinks ever consumed on any one occasion. Thus, a low degree of religiosity, and an absence of children, are

both associated with consumption of a higher maximum number of drinks. Two of the interaction effects which contributed significantly to the prediction of the maximum number of drinks ever consumed on one occasion had inverse relationships with the dependent variable. Looking first at Aboriginal by Age, non-Aboriginals were coded as "1" and Aboriginal peoples as "0" with age being centred. Since the direction of the relationship is negative this is interpreted as age affecting only non-Aboriginals, among whom younger age was associated with a higher maximum number of drinks on any one occasion. Turning to the Sex by Income interaction effect, females were coded as "1" with males being coded as "0". The income variable was centred. Thus, the negative direction of the relationship indicates that income affected only females among whom those who report a lower level of income consume a higher maximum number of drinks ever on any one occasion. The third interaction effect is that of Aboriginal by Spirituality. Non-Aboriginal were coded as "1" with the Aboriginals being coded as "0" and spirituality being centred. The direction of the relationship is negative. Thus, spirituality affected only non-Aboriginals among whom a lower level of spirituality was associated with a higher maximum number of drinks.

In terms of order of entry, ethnicity by age entered in the first position via the stepwise procedure. It was

followed by religiosity, sex by income, education, children, and ethnicity by spirituality. Since R^2 is .345, 35% of the variance in maximum number of drinks is accounted for by these variables (Table 3).

QFln (Quantity-Frequency)

Sex ($p=.0000$) and ethnicity ($p=.0002$) were both significant (Table 4). The main effects which entered into the equation through the stepwise procedure were religiosity ($p= .0000$), children ($p=.0006$), and spirituality ($p=.0093$). The p values indicate that all of the variables made significant contributions to the final model. The significant interaction effects were Aboriginal by Sex by Age ($p=.0006$), and Aboriginal by Income ($p=.0005$). As is evident by the negative directions of the coefficients (Table 4), sex, and ethnicity both have inverse relationships with the dependent variables. Thus, being male and being Aboriginal are both associated with a higher quantity-frequency. Degree of religiosity, degree of spirituality, and children all had direct relationships with the dependent variable such that a low degree of religiosity, a low degree of spirituality, and an absence of children were all associated with a higher quantity-frequency.

Turning to the significant interaction effects, Aboriginal by Sex by Age, non-Aboriginal males are coded as

"1" with the remaining groups being coded as "0". The Age variable is centred. Since the sign of the coefficient is negative this indicates age affects only non-Aboriginal males among whom younger age was associated with a higher quantity-frequency.

With regard to the Aboriginal by Income interaction effect, Aboriginal peoples were coded as "1" and non-Aboriginals as "-1", in order to reflect the opposite directions of the effect income had for the two sub-groups. Specifically, Aboriginal peoples who possess a low level of income are associated with a higher quantity-frequency whereas non-Aboriginals who possess a higher level of income have a higher quantity-frequency (Table 4).

Using the stepwise procedure degree of religiosity entered in first position i%%[status: PrinterError: Paper Out; sou followed by ethnicity by sex by age, children, ethnicity by income, and spirituality. Since R^2 is .195, this is interpreted as approximately 20% of the variance in quantity-frequency being accounted for by this model.

FREQYRC (yearly frequency of drinking)

Based on the results of the final model sex ($p=.0000$) was significant but ethnicity ($p=.5080$) was not (Table 5). The only main effects which entered into the equation through the stepwise procedure was children ($p=.0029$). In addition, the significant interaction effects were Sex by

Religiosity ($p=.0000$), Aboriginal by Income ($p=.0007$), and Aboriginal by Sex by Age ($p=.0099$). As is evident by the negative direction of the coefficient, the only main effect to have an inverse relationship with the dependent variable was sex: as there is an increase in the value of the sex variable there is a corresponding decrease in yearly frequency of drinking. Thus, being male is associated with a higher yearly frequency of drinking. Children had direct relationships with the dependent variable whereby as there are increases in the values of the independent variables there are corresponding increases in the yearly frequency of drinking.² Thus, an absence of children is associated with a higher yearly frequency of drinking.

As mentioned previously, the first interaction effect is that of Sex by Religiosity. In this case males are coded as "1" with females being coded as "0". The religiosity variable has been centred. Since the relationship is direct, religiosity affected only males among whom a low degree of religiosity was associated with a higher yearly frequency of drinking. Turning to the Aboriginal by Income interaction effect, non-Aboriginals were coded as "1" while Aboriginal peoples were coded as "0", and income variable

² Due to the values assigned to the Children variable the statistically direct relationship between the variables is conceptually an inverse relationship whereby no children is associated with a higher frequency of alcohol consumption. In all instances where Children makes a significant contribution it should be interpreted in this manner.

has been centred. The direct relationship indicates that income affected only non-Aboriginals among whom a higher level of income was associated with a higher yearly frequency of drinking. Finally, with the Aboriginal by Sex by Age interaction effect, Aboriginal males and females and non-Aboriginal females were coded as "1". Non-Aboriginal males were coded as "0" with the Age variable being centred. Since the relationship was direct, age contributed to the prediction of frequency of drinking for Aboriginal males, Aboriginal females, and non-Aboriginal females among whom older age was associated with a higher yearly frequency of drinking.

Sex by religiosity entered in position one via the stepwise procedure. It was followed by children, ethnicity by income, and ethnicity by sex by age. As indicated in Table 5, approximately 15% of the variance in yearly frequency of drinking is accounted for by this model ($R^2 = .145$).

Hierarchical regression

Tables six through forty display the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (Beta), the squared semipartial correlations (sr^2), and R , R^2 , and adjusted R^2 after entry of all nine IVs.

Entire sample

After step one (Table 6), with age in the equation and using q13a2 (usual number of drinks transformed) as the dependent variable, $R^2 = .081$, $F(1, 888) = 78.0$, $p = .0000$. After step 2, with the entry of eight variables (indicants of stake) to the equation, $R^2 = .246$ (adjusted $R^2 = .239$), $F(9, 880) = 31.9$, $p = .0000$. Addition of the eight indicants of stake variables to the equation resulted in a significant increment in R^2 of .165, $F(8, 880) = 24.2$, $p = .0000$. Referring to Table 41, the variables to enter as significant predictors in the model were age ($p = .0000$), seasonality of employment ($p = .0000$), degree of spirituality ($p = .0054$), level of education ($p = .0000$), degree of religiosity ($p = .0000$), and level of income ($p = .0001$). Specifically, those who are of younger age, possess seasonal employment, possess a low degree of spirituality, a lower level of education, a lower degree of religiosity, and a lower level of income consume a higher usual number of drinks (Table 6).

Still looking at the entire sample, but turning now to q15.121n (number of occasions where five or more drinks were consumed transformed) as the DV, age at step one had an R^2 of .056, $F(1, 841) = 50.1$, $p = .0000$ (Table 7). After step two, with the eight (indicants of stake) variables added to the equation, $R^2 = .165$ (adjusted $R^2 = .156$), $F(9, 833) = 18.3$, $p = .0000$. The addition of the eight variables to the equation resulted in a significant increment in R^2 of .109, $F(8, 833) = 13.6$, $p = .0000$. The predictors to contribute

significantly to the model were age ($p=.0000$), seasonality of employment ($p=.0047$), employment status ($p=.0220$), degree of spirituality ($p=.0431$), level of education ($p=.0001$), degree of religiosity ($p=.0000$), and the presence of children ($p=.0087$) (Table 42). Referring to Table 7, a younger age, seasonal employment, regular employment, a low degree of spirituality, a lower level of education, a lower degree of religiosity, and the absence of children are all associated with a higher number of occasions where five or more drinks were consumed.

Using q16.12ln (maximum number of drinks ever consumed on one occasion transformed) as the dependent variable among the entire sample, age at step one had an R^2 of .099, $F(1, 850) = 93.0$, $p=.0000$ (Table 8). After adding the eight variables to the equation at step two, $R^2 = .240$ (adjusted $R^2 = .231$), $F(9, 842) = 29.4$, $p=.0000$. Adding the eight variables to the equation resulted in a significant increment in R^2 of .1417 $F(8, 842) = 19.4$, $p=.0000$. Referring to Table 43, age ($p=.0000$), seasonality of employment ($p=.0078$), employment status ($p=.0438$), degree of spirituality ($p=.0007$), level of education ($p=.0000$), degree of religiosity ($p=.0000$), and the presence of children ($p=.0008$) all contributed significantly to the prediction of drinking behaviour using the maximum number of drinks as the drinking measure. Thus, younger age, seasonal employment, regular employment (ie. being employed), a lower degree of

spirituality, a lower level of education, a lower degree of spirituality, and the absence of children are associated with a higher maximum number of drinks ever consumed on any one occasion.

QFLM (quantity-frequency transformed) was the third dependent variable to be used among the entire sample (Table 9). At step one, age had an R^2 of .078, $F(1, 880) = 5.3$, $p = .0211$. With the addition of the eight variables to the equation at step two, $R^2 = .104$ (adjusted $R^2 = .094$), $F(9, 872) = 11.2$, $p = .0000$. With the addition of the eight variables to the equation there was a significant increment in R^2 of .098, $F(8, 872) = 11.9$, $p = .0000$. The variables to significantly contribute to the prediction of drinking behaviour using quantity-frequency as the drinking measure were seasonality of employment ($p = .0029$), degree of spirituality ($p = .0029$), degree of religiosity ($p = .0000$), and the presence of children ($p = .0004$) (Table 44). Thus, being seasonally employed, having a low degree of spirituality, a low degree of religiosity, and the absence of children are associated with a higher quantity-frequency (Table 9).

With age entered at step one R^2 , using **FREQYRC** (yearly frequency of drinking transformed) as the dependent variable for the entire sample, was .007, $F(1, 880) = 5.9$, $p = .0157$ (Table 10). After step two, with the eight variables entered into the equation, $R^2 = .070$ (adjusted $R^2 = .061$), $F(9, 872) = 7.3$, $p = .0000$. After adding the eight variables to

the equation there was a significant increment in R^2 of .063, $F(8, 872) = 7.4$, $p = .0000$. Age ($p = .0251$), degree of religiosity ($p = .0000$), the presence of children ($p = .0011$), and level of income ($p = .0089$) were the variables which contributed significantly to the prediction of drinking behaviour (Table 45). Referring back to Table 10, older age, a low degree of religiosity, an absence of children, and a higher level of income are associated with a higher yearly frequency of drinking.

Aboriginal sub-sample

With age entered at step one, and using q13sr (usual number of drinks consumed transformed) as the dependent variable, $R^2 = .012$, $F(1, 156) = 1.9$, $p = .1677$. With the eight variables added to the equation after the second step, $R^2 = .285$ (adjusted $R^2 = .242$), $F(9, 148) = 6.6$, $p < .0000$. After step two, there was a significant increment in R^2 of .273, $F(8, 148) = 7.1$, $p = .0000$ (Table 11). The two variables to significantly contribute to the prediction of drinking behaviour using the usual number of drinks consumed as the drinking measure were seasonality of employment ($p = .0000$), and level of income ($p = .0014$) (Table 41). Specifically, seasonal employment and a higher level of income are associated with the consumption of a higher usual number of drinks (Table 11).

Turning to q15.12ln (number of occasions where five or

more drinks were consumed) as the dependent variable among the Aboriginal sub-sample (Table 12), R^2 with age being entered at step one was .013, $F(1, 146) = 1.9$, $p = .1673$. After step two, with all of the variables added to the equation, $R^2 = .225$ (adjusted $R^2 = .174$), $F(9, 138) = 4.4$, $p = .0000$. There was a significant increment in R^2 after the second step of .212, $F(8, 138) = 4.7$, $p = .0000$. Seasonality of employment ($p = .0473$), the degree of religiosity ($p = .0092$), the presence of children ($p = .0335$), and level of income ($p = .0019$) significantly contributed to the prediction of drinking behaviour among the Aboriginal sub-sample using the number of occasions where five or more drinks were consumed as the drinking measure (Table 42). Thus, seasonal employment, a low degree of religiosity, an absence of children, and a lower level of income are all associated with a higher number of occasions where five or more drinks were consumed.

Using q16.121n (maximum number of drinks ever consumed on one occasion) as the dependent variable with age entered at step one, $R^2 = 0.00003$, $F(1, 144) = 0.005$, $p = .9438$ (Table 13). With all of the variables entered at step two, $R^2 = .139$ (adjusted $R^2 = .082$), $F(9, 136) = 2.4$, $p = .0138$. After step two there was a significant increment in R^2 of .139, $F(8, 136) = 2.7$, $p = .0081$. The sole variable to make a significant contribution to the prediction of drinking behaviour using maximum number of drinks as the dependent variable was the

degree of religiosity ($p=.0069$) (Table 43). Referring to Table 13, a lower degree of religiosity is associated with a higher maximum number of drinks ever consumed on one occasion.

Still looking at the Aboriginal sub-sample but using as the dependent variable QFLN (Quantity-frequency transformed), R^2 with age entered at step one was .006 $F(1, 155)=0.9$, $p=.3313$. After step two, with all of the variables entered into the equation, $R^2=.186$ (adjusted $R^2=.136$), $F(9, 147)=3.7$, $p=.0003$. With all of the variables added to the equation after step two, there was a significant increment in R^2 of .180, $F(8, 147)=4.1$, $p=.0002$ (Table 14). Seasonality of employment ($p=.0427$), degree of spirituality ($p=.0243$), degree of religiosity ($p=.0337$), and level of income ($p=.0465$) were the variables which made a significant contribution to the prediction of drinking behaviour using quantity-frequency as the drinking measure (Table 44). Thus, seasonal employment, a low degree of spirituality, a low degree of religiosity, and a lower level of income are all associated with a higher quantity-frequency.

Turning to FREQYRC (yearly frequency of drinking transformed) as the dependent variable among the Aboriginal sub-sample with age entered at step one, $R^2=.027$, $F(1, 155)=4.4$, $p=.0384$. With all of the variables entered into the equation at step two, $R^2=.144$ (adjusted $R^2=.092$), F

(9, 147)= 2.8, $p<.0051$. After step two with all of the variables entered into the equation there was a significant increment in R^2 of .117, $F(8, 147)= 2.5$, $p<.0134$ (Table 15). The presence of children ($p=.0265$) was the sole predictor to contribute significantly to the prediction of drinking behaviour with yearly frequency of drinking being used as the dependent variable (Table 45). Thus, an absence of children is associated with a higher yearly frequency of drinking among the Aboriginal sub-sample (Table 15).

Non-Aboriginal sub-sample

Looking first at q13sr (usual number of drinks consumed transformed) as the dependent variable among the non-Aboriginal sub-sample with age entered at the first step, $R^2= .093$, $F(1, 730)= 75.2$, $p<.0000$. After step two, with all of the variables entered into the equation, $R^2= .214$ (adjusted $R^2= .204$), $F(9, 722)= 21.8$, $p<.0000$. With all of the variables entered into the equation there was a significant increment in R^2 of .121, $F(8, 722)= 13.9$, $p<.0000$ (Table 16). The variables which significantly contributed to drinking behaviour were age ($p=.0000$), seasonality of employment ($p=.0345$), degree of spirituality ($p=.0074$), level of education ($p=.0000$), the degree of religiosity ($p=.0001$), and the presence of children ($p=.0293$) (Table 41). Thus, younger age, seasonal employment, a low degree of spirituality, a low level of

education, a low degree of religiosity, and the absence of children are associated with consumption of a higher usual number of drinks (Table 16).

Using q15.121n (number of occasions where five or more drinks were consumed) as the dependent variable and with age entered at step one, $R^2 = .089$, $F(1, 692) = 67.5$, $p = .0000$. With all of the variables entered into the regression equation after step two, $R^2 = .194$ (adjusted $R^2 = .184$), $F(9, 684) = 19.80$, $p = .0000$. There was a significant increment in R^2 with all of the variables added to the equation of $.105$, $F(8, 684) = 18.3$, $p < .0000$ (Table 17). Age ($p = .0000$), employment status ($p = .0009$), level of education ($p = .0001$), and degree of religiosity ($p = .0000$) were the variables to contribute significantly to the prediction of drinking behaviour using the number of occasions where five or more drinks were consumed (Table 42). Specifically, younger age, employment, a lower level of education, a low degree of religiosity, the absence of children, and a higher level of income are associated with a higher number of occasions where five or more drinks were consumed among the non-Aboriginal sub-sample (Table 17).

Looking at q16.121n (maximum number of drinks ever consumed on one occasion) with age entered at the first step, $R^2 = .129$, $F(1, 704) = 104.3$, $p = .0000$. At step two, with all of the variables entered into the equation, $R^2 = .277$ (adjusted $R^2 = .267$), $F(9, 696) = 29.6$, $p = .0000$. With

all of the variables entered into the regression equation there was a significant increment in R^2 of .148, $F(8, 696)$, $p=.0000$ (Table 18). Age ($p=.0000$), employment status ($p=.0067$), degree of spirituality ($p=.0001$), level of education ($p=.0000$), degree of religiosity ($p=.0000$), presence of children ($p=.0038$), and level of income ($p=.0288$) all made significant contributions in the prediction of the maximum number of drinks ever consumed on one occasion (Table 43). Thus, younger age, employment, a low degree of spirituality, a low level of education, a low degree of religiosity, an absence of children, and a higher level of income are associated with the consumption of a higher maximum number of drinks.

Continuing to look at the Non-Aboriginal sub-sample but using QFLM (Quantity-frequency transformed) as the dependent variable and with age entered at the first step, $R^2=.011$, $F(1, 723)=8.4$, $p=.0039$. After step two, with all of the variables entered into the equation, $R^2=.118$ (adjusted $R^2=.107$), $F(9, 715)=10.7$, $p=.0000$. With the addition of all of the variables to the equation there was a significant increment in R^2 of .078, $F(8, 715)=10.8$, $p=.0000$ (Table 19). The variables which significantly contributed to drinking behaviour with quantity-frequency as the drinking measure were age ($p=.0040$), degree of spirituality ($p=.0180$), degree of religiosity ($p=.0000$), the presence of children ($p=.0021$), and level of income ($p=.0006$) (Table

44). Thus, among the non-Aboriginal sub-sample, younger age, a low degree of spirituality, a low degree of religiosity, an absence of children, and a higher level of income are associated with a higher quantity-frequency.

Using **FREQYRc** (yearly frequency of drinking transformed) as the dependent variable for the Non-Aboriginal sub-sample and with age entered at the first step, $R^2 = .004$, $F(1, 723) = 2.5$, $p = .1131$. After step two with all of the variables entered onto the regression equation, $R^2 = .081$ (adjusted $R^2 = .069$), $F(9, 715) = 7.0$, $p = .0000$. With the addition of all of the variables to the regression equation there was a significant increment in R^2 of .078, $F(8, 715) = 7.5$, $p < .0000$ (Table 20). The degree of religiosity ($p = .0002$), presence of children ($p = .0082$), and level of income ($p = .0001$) were the three variables to contribute significantly to the prediction of drinking behaviour using yearly frequency of drinking as the drinking measure (Table 45). Thus, a low degree of religiosity, an absence of children, and a higher level of income are associated with a higher yearly frequency of drinking.

Aboriginal male sub-sample

Using **ql3sr** (usual number of drinks consumed transformed) as the dependent variable, and with age entered at step one, $R^2 = .025$, $F(1, 85) = 2.2$, $p = .1408$. After step two, with all of the variables entered into the regression

equation, $R^2 = .263$ (adjusted $R^2 = .177$), $F(9, 77) = 3.0$, $p < .0036$. With the addition of all of the variables there was a significant increment in R^2 of .238, $F(8, 77) = 3.1$, $p = .0044$ (Table 21). The two variables to make significant contributions to the prediction of usual number of drinks consumed among Aboriginal males were seasonality of employment ($p = .0022$) and level of income ($p = .0228$) (Table 41). Thus, seasonal employment and a lower level of income are both associated with consumption of a higher usual number of drinks (Table 21).

With age entered at step one and using q15.121a (number of occasions where five or more drinks were consumed) as the dependent variable, $R^2 = .008$, $F(1, 75) = 0.6$, $p = .4499$. After step two, with all of the variables entered into the equation, $R^2 = .195$ (adjusted $R^2 = .088$), $F(9, 67) = 1.8$, $p = .0806$. The increment in R^2 was .188, $F(8, 67) = 2.0$, $p = .0641$. Thus, the R^2 increment was not significant (Table 22). The sole variable to contribute significantly to the prediction of drinking behaviour using the number of occasions where five or more drinks were consumed was the degree of spirituality ($p = .0252$) (Table 42). Specifically, a low degree of spirituality is associated with a higher number of occasions where five or more drinks were consumed among the Aboriginal male sub-sample (Table 22).

Turning to q16.121a (maximum number of drinks ever consumed on one occasion) as the dependent variable with age

being entered at step one, $\underline{R}^2 = .030$, $\underline{F} (1, 76) = 2.4$, $p = .1265$. After step two, with all of the variables added to the equation, $\underline{R}^2 = .114$ (adjusted $\underline{R}^2 = -.003$), $\underline{F} (9, 68) = 1.0$, $p = .4688$. The increment in $\underline{R}^2$ was .084, $\underline{F} (8, 68) = 0.8$, $p = .7118$. Thus, there was no significant increment in $\underline{R}^2$ with all of the variables added to the equation (Table 23). None of the variables significantly contributed to the prediction of drinking behaviour using the maximum number of drinks ever consumed on one occasion (Table 43).

Using QFLM (Quantity-frequency transformed) as the dependent variable among the Aboriginal male sub-sample with age entered at step one, $\underline{R}^2 = .001$, $\underline{F} (1, 85) = 0.1$, $p = .7258$. With all of the variables entered into the equation after step two, $\underline{R}^2 = .216$ (adjusted $\underline{R}^2 = .124$), $\underline{F} (9, 77) = 2.3$, $p = .0212$. With all of the variables added to the equation at step two there was an $\underline{R}^2$ increment of .215, $\underline{F} (8, 77) = 2.6$, $p = .0135$ (Table 24). The degree of spirituality ($p = .0090$) was the sole variable to make a significant contribution to drinking behaviour using quantity-frequency as the drinking measure (Table 44). Specifically, a low degree of spirituality is associated with a higher quantity-frequency (Table 24).

Turning to FREQYRC (yearly frequency of drinking transformed) as the dependent variable among Aboriginal male sub-sample with age entered at step one, $\underline{R}^2 = .030$, $\underline{F} (1, 85) = 2.6$, $p = .1107$. After step two, with all of the

variables entered into the equation, $R^2 = .201$ (adjusted $R^2 = .107$), $F(9, 77) = 2.1$, $p = .0359$. After step two, with all of the variables added to the equation there was an R^2 increment of .171, $F(8, 77) = 2.0$, $p = .0514$. Thus, there was no significant increment in R^2 (Table 25). Age ($p = .0157$), and employment status ($p = .0345$) were the two variables to contribute significantly to the prediction of yearly frequency of drinking among Aboriginal males (Table 45). Among the Aboriginal male sub-sample, younger age, and unemployment are both associated with a higher yearly frequency of drinking (Table 25).

Aboriginal female sub-sample

Using q13sr (usual number of drinks consumed transformed) as the dependent variable among Aboriginal women and entering age at step one, $R^2 = .002$, $F(1, 70) = 0.2$, $p = .6909$. With all of the variables added to the equation after step two, $R^2 = .405$ (adjusted $R^2 = .318$), $F(9, 62) = 4.7$, $p = .0001$. After step two there was a significant increment in R^2 of .403, $F(8, 62) = 5.2$, $p = .0001$ (Table 26). The variables which made significant contributions to the prediction of usual number of drinks consumed among Aboriginal females were seasonality of employment ($p = .0145$), and level of income ($p = .0015$) (Table 41). Thus, non-seasonal employment and a low level of income are both associated with consumption of a higher usual number of drinks (Table 26).

Turning to q15.121n (number of occasions where five or more drinks were consumed) and entering age at the first step, $R^2 = .017$, $F(1, 69) = .1.2$, $p = .2781$. After step two, with all of the variables added to the equation, $R^2 = .383$ (adjusted $R^2 = .292$), $F(9, 61) = 4.2$, $p = .0003$. With the addition of the eight variables to the equation there was a significant increment in R^2 of .366, $F(8, 61) = 4.5$, $p = .0002$ (Table 27). Marital status ($p = .0023$), the presence of children ($p = .0475$), and level of income ($p = .0001$) were the variables which made significant contributions to the prediction of drinking behaviour among Aboriginal females using the number of occasions where five or more drinks were consumed (Table 42). Specifically, residence with a spouse or partner, the absence of children, and a lower level of income are associated with a higher number of occasions in which five or more drinks were consumed (Table 27).

Entering age at the first step using q16.121n (maximum number of drinks ever consumed on one occasion) as the dependent variable, $R^2 = .024$, $F(1, 65) = .1.6$, $p = .2086$. With all of the variables entered into the regression equation at step two, $R^2 = .333$ (adjusted $R^2 = .228$), $F(9, 57) = 3.2$, $p = .0035$. After step two there was a significant increment in R^2 of .301, $F(8, 65) = 3.3$, $p = .0035$ (Table 28). Marital status ($p = .0373$) and the level of income ($p = .0002$) were the two variables to contribute significantly to the prediction of the maximum number of drinks ever consumed on

one occasion among Aboriginal females (Table 43). Thus, residence with a spouse or partner and a lower level of income are associated with a higher maximum number of drinks ever consumed on one occasion (Table 28).

Using QFLM (Quantity-frequency transformed) as the dependent variable and with age entered at step one, $R^2 = .026$, $F(1, 69) = 1.0$, $p = .3315$. After step two, with all of the variables entered, $R^2 = .262$ (adjusted $R^2 = .153$), $F(9, 61) = 2.4$, $p = .02$. There was a significant increment in R^2 after step two of $.249$, $F(8, 61) = 2.6$, $p = .0177$ (Table 29). The variables to make significant contributions to the prediction of drinking behaviour using quantity-frequency as the drinking measure were marital status, ($p = .0260$), the presence of children ($p = .0311$) and level of income ($p = .0031$) (Table 44). Thus, residence with a partner or spouse, an absence of children, and a lower level of income are associated with a higher quantity-frequency (Table 29).

Turning to FREQYRC (yearly frequency of drinking transformed) as the dependent variable among Aboriginal women, with age entered at the first step, $R^2 = .026$, $F(1, 69) = 1.9$, $p = .1761$. With all of the variables entered at step two, $R^2 = .177$ (adjusted $R^2 = .055$), $F(9, 61) = 1.5$, $p = .1264$. The significant increment in R^2 after step two was $.150$, $F(8, 61) = 1.4$, $p = .2190$. Thus, it was not significant (Table 30). The level of income ($p = .0436$) was the sole variable to significantly contribute to the prediction of

drinking behaviour using yearly frequency of drinking (Table 45). Specifically, a lower level of income is associated with a higher yearly frequency of drinking among the Aboriginal female sub-sample (Table 30).

Non-Aboriginal male sub-sample

With q13sr (usual number of drinks consumed transformed) as the dependent variable and age entered at step one, $R^2 = .010$, $F(1, 396) = 43.8$, $p = .0000$. After step two, with all of the variables added to the equation, $R^2 = .212$ (adjusted $R^2 = .194$), $F(9, 388) = 11.6$, $p = .0000$. There was a significant increment in R^2 of .112, $F(8, 388) = 6.9$, $p = .0000$ (Table 31). Age ($p = .0000$), degree of spirituality ($p = .0350$), level of education ($p = .0006$), degree of religiosity ($p = .0311$), and the presence of children ($p = .0370$) were the variables to make significant contributions in the prediction of usual number of drinks consumed among non-Aboriginal males (Table 41). Thus, younger age, a low degree of spirituality, a low level of education, a low degree of religiosity, and an absence of children all predict the consumption of a higher usual number of drinks among non-Aboriginal males (Table 31).

Using q15.12ln (number of occasions where five or more drinks were consumed) as the dependent variable with age entered at step one, $R^2 = .136$, $F(1, 371) = 58.5$, $p = .0000$. With all of the variables entered into the equation after

step two, $R^2 = .217$ (adjusted $R^2 = .198$), $F(9, 363) = 11.2$, $p = .0000$. A significant increment in R^2 occurred after step two with all of the variables entered into the equation of $.081$, $F(8, 363) = 4.7$, $p = .0000$ (Table 32). Age ($p = .0000$), employment status ($p = .0132$), level of education ($p = .0106$), the degree of religiosity ($p = .0015$), the presence of children ($p = .0327$), and level of income ($p = .0004$) all made significant contributions to the prediction of drinking behaviour among non-Aboriginal males using the number of occasions in which five or more drinks were consumed (Table 42). Specifically, younger age, employment, a lower level of education, a low degree of religiosity, an absence of children, and a higher level of income are all associated with a higher number of occasions in which five or more drinks were consumed (Table 32).

Turning to q16.121a (maximum number of drinks ever consumed on one occasion) and entering age at step one, $R^2 = .171$, $F(1, 379) = 78.0$, $p = .0000$. After the second step, with all of the variables entered, $R^2 = .294$ (adjusted $R^2 = .277$), $F(9, 371) = 17.2$, $p = .0000$. There was a significant increment in R^2 after step two of $.124$, $F(8, 371) = 8.1$, $p = .0000$ (Table 33). The variables which made significant contributions to the prediction of drinking behaviour using the maximum number of drinks ever consumed on one occasion were age ($p = .0000$), degree of spirituality ($p = .0107$), level of education ($p = .0004$), degree of religiosity ($p = .0021$), the

presence of children ($p=.0029$), and the level of income ($p=.0107$) (Table 43). Thus, younger age, a low degree of spirituality, a low level of education, a low degree of religiosity, an absence of children, and a higher level of income are associated with the consumption of a higher maximum number of drinks on any one occasion (Table 33).

Using QFLN (Quantity-frequency transformed) as the dependent variable and with age entered at step one, $R^2=.033$, $F(1, 393)=13.3$, $p=.0003$. With all of the variables entered at step two, $R^2=.129$ (adjusted $R^2=.108$), $F(9, 385)=6.3$, $p=.0000$. After step two, with all of the variables in the equation, there was a significant increment in R^2 of .096, $F(8, 385)=5.3$, $p=.0000$ (Table 34). Age ($p=.0019$), the degree of religiosity ($p=.0001$), the presence of children ($p=.0132$), and the level of income ($p=.0206$) were the variables which made significant contributions to the prediction of drinking behaviour using quantity-frequency as the drinking measure (Table 44). Thus, younger age, a low degree of religiosity, an absence of children, and a higher level of income are associated with a higher quantity-frequency among the non-Aboriginal male sub-sample (Table 34).

With age entered at step one and using FREQYRC (yearly frequency of drinking transformed) as the dependent variable, $R^2=.0000$, $F_{inc}(1, 393)=.00000$, $p=.9996$. After step two, with all of the variables entered, $R^2=.086$

(adjusted $R^2 = .064$), $F(9, 385) = 4.0$, $p = .0001$. There was a significant increment in R^2 after step two of .086 (Table 35). The degree of religiosity ($p = .0001$) and the level of income ($p = .0202$) were the two variables to make a significant contribution to the prediction of drinking behaviour among non-Aboriginal males using yearly frequency of drinking as the drinking measure (Table 45). Specifically, a low degree of religiosity, and a higher level of income are associated with a higher yearly frequency of drinking (Table 35).

Non-Aboriginal female sub-sample

Using Q13sr (usual number of drinks consumed transformed) as the dependent variable and entering age at step one, $R^2 = .105$, $F(1, 322) = 38.8$, $p = .0000$. With all of the variables entered into the regression equation at step two, $R^2 = .233$ (adjusted $R^2 = .212$), $F(9, 324) = 10.9$, $p = .0000$. There was a significant increment in R^2 of .128 after the addition of the eight variables to the equation (Table 36). Age ($p = .0000$), level of education ($p = .0007$), degree of religiosity ($p = .0003$), and level of income ($p = .0064$) were the variables which made significant contributions to the prediction of drinking behaviour when usual number of drinks consumed was used as the drinking measure (Table 41). Thus, younger age, a low level of education, a low degree of religiosity, and a lower level of

income are associated with consumption of a higher usual number of drinks (Table 36).

With age entered at the first step using q15.121a (number of occasions where five or more drinks were consumed) as the dependent variable, $R^2 = .077$, $F(1, 319) = 26.6$, $p = .0000$. After step two, with all of the variables entered into the equation, $R^2 = .198$ (adjusted $R^2 = .174$), $F(9, 311) = 8.5$, $p = .0000$. There was a significant increment in R^2 after step two of .121, $F(8, 311) = 5.8$, $p = .0000$ (Table 37). The variables which contributed significantly to the prediction of drinking behaviour using the number of occasions in which five or more drinks were consumed were age ($p = .0001$), level of education ($p = .00014$), and the degree of religiosity ($p = .0048$) (Table 42). Thus, younger age, a low level of education, and a low degree of religiosity are all associated with a higher number of occasions in which five or more drinks were consumed (Table 37).

Turning to q16.121a (maximum number of drinks ever consumed on one occasion) as the dependent variable, $R^2 = .146$, $F(1, 323) = 555.1$, $p = .0000$ with age entered at step one. After the second step, with all of the variables entered into the equation, $R^2 = .275$ (adjusted $R^2 = .255$), $F(9, 315) = 13.3$, $p = .0000$. A significant increment in R^2 occurred after step two of .130, $F(8, 323) = 7.1$, $p = .0000$ (Table 38). Age ($p = .0000$), level of education ($p = .0139$), and degree of religiosity ($p = .0002$) all made significant

contributions to the prediction of drinking behaviour when the maximum number of drinks ever consumed on one occasion was used as the drinking measure (Table 43). Specifically, younger age, low level of education, and a low degree of religiosity are associated with consumption of a higher maximum number of drinks on any one occasion (Table 38).

Using QFLM (Quantity-frequency transformed) as the dependent variable with age entered at step one, $R^2 = .0004$, $F(1, 328) = 1.2$, $p = .2712$. After step two, $R^2 = .065$ (adjusted $R^2 = .039$), $F(9, 320) = 2.5$, $p = .0094$. There was a significant increment in R^2 after step two of .061, $F(8, 328) = 2.6$, $p = .0082$ (Table 39). The two variables to make significant contributions to the prediction of drinking behaviour using quantity-frequency as the drinking measure were the degree of spirituality ($p = .0417$), and the degree of religiosity ($p = .0072$) (Table 44). Thus, a low degree of spirituality and a low degree of religiosity are associated with a higher quantity-frequency among non-Aboriginal females (Table 39).

Using FREQYRc (yearly frequency of drinking transformed) as the dependent variable and with age entered at step one, $R^2 = .013$, $F(1, 328) = 4.3$, $p = .0395$. With all of the variables entered into the equation after step two, $R^2 = .049$ (adjusted $R^2 = .022$), $F(9, 320) = 1.8$, $p = .0615$. After the second step there was a significant increment in R^2 of .036, $F(8, 320) = 1.5$, $p = .1485$. Thus, the increment

was not significant (Table 40). Age ($p=.0459$) was the sole variable to make a significant contribution to the prediction of yearly frequency of drinking among non-Aboriginal females (Table 45). Thus, older age is associated with a higher yearly frequency of drinking (Table 40).

SUMMARY OF RESULTS

Using the hierarchical procedure on the sub-samples, age made a significant unique contribution to the prediction of drinking behaviour among all of the non-Aboriginal sub-samples excluding the following: non-Aboriginal females using quantity-frequency, non-Aboriginal males using yearly frequency of drinking, and the non-Aboriginal sub-sample using yearly frequency of drinking. Furthermore, age contributed across all drinking measures except quantity-frequency among the entire sample. However, it failed to significantly contribute among the Aboriginal sub-samples. The exception was among Aboriginal males where age significantly contributed to the prediction of yearly frequency of drinking (Tables 41 through 45). Turning to the results of the stepwise procedure on the entire sample, age contributed significantly across all drinking measures as either a main effect or as part of an interaction effect (Tables 1 through 5).

Seasonality of employment made significant unique contributions in the hierarchical procedure to the prediction of usual number of drinks consumed among all sub-

samples including the entire sample. The exceptions were non-Aboriginal males and females where no significant unique contributions were made. Using the number of occasions where five or more drinks were consumed, it contributed in only the entire sample and the Aboriginal sub-sample. The entire sample was the only instance where seasonality of employment contributed to the prediction of maximum number of drinks ever consumed. Turning to the prediction of quantity-frequency, the entire sample, and the Aboriginal sub-sample, were the two cases where significant unique contributions were made by seasonality of employment. In contrast, seasonality of employment failed to make significant contributions in any of the sub-samples in the prediction of yearly frequency via the hierarchical procedure (Tables 41 through 45). Turning to the results of the stepwise procedure, seasonality of employment made a significant contribution to the prediction of usual number of drinks consumed as part of the ethnicity by seasonality interaction effect (Table 1).

Employment status made significant unique contributions in only two drinking measures using the hierarchical procedure. Looking first at the number of occasions where five or more drinks were consumed, it made unique contributions in the following: entire sample, the non-Aboriginal sub-sample, and the non-Aboriginal male sub-sample. Second, there were significant unique

contributions made to the prediction of maximum number of drinks ever consumed on one occasion, among the entire sample and the non-Aboriginal sub-sample (Tables 41 through 45). It failed to make significant contributions in any of the drinking measures using the stepwise procedure (Tables 1 through 5).

Spirituality made significant unique contributions via the hierarchical procedure in the entire sample, non-Aboriginals, and Aboriginal males sub-sample using usual number of drinks consumed, maximum number of drinks ever consumed, and quantity-frequency as the drinking measures. The results were identical using number of occasions where five or more drinks were consumed excluding the non-Aboriginal sub-sample where spirituality failed to make a significant unique contribution. Spirituality made significant unique contributions to the prediction of yearly frequency of drinking among the Aboriginal males sub-sample only (Tables 41 through 45). Turning to the stepwise procedure used on the entire sample, spirituality made significant contributions to the prediction of usual number of drinks consumed and quantity-frequency (Tables 1 through 5).

Marital status made significant unique contributions among Aboriginal females across all drinking measures excluding frequency of drinking using the hierarchical procedure. It failed to contribute in any other groups

including the results of the stepwise procedure performed on the entire sample (Tables 41 through 45; Tables 1 through 5).

Education made significant unique contributions to the prediction of drinking behaviour among all of the non-Aboriginal sub-samples including the entire sample across all drinking measure. The two exceptions were quantity-frequency and yearly frequency of drinking where education failed to make significant unique contributions. It also failed to make any unique significant contributions among the Aboriginal sub-samples (Tables 41 through 45). Looking at the results of the stepwise procedure performed on the entire sample, education did make significant contributions as either a main effect or as part of an interaction effect to the prediction of usual number of drinks consumed, the number of occasions where five or more drinks were consumed, and the maximum number of drinks ever consumed (Tables 1 through 5).

Religiosity made significant unique contributions among the entire sample, all of the non-Aboriginal and the Aboriginal sub-samples using both usual number of drinks consumed, the number of occasions in which five or more drinks were consumed, maximum number of drinks ever consumed, and quantity-frequency. Using yearly frequency of drinking as the drinking measure religiosity made unique significant contributions among the entire sample, non-

Aboriginal sub-sample, and non-Aboriginal males (Tables 41 through 45). Turning to the results of the stepwise procedure, religiosity made significant contributions in across all drinking measures as either a main effect or as part of an interaction effect (Tables 1 through 5).

Children made unique significant contributions among the non-Aboriginal sub-sample across all drinking measures except the number of occasions where five or more drinks were consumed. Among the Aboriginal sub-sample significant unique contributions were made by children to the prediction of the number of occasions where five or more drinks were consumed, and yearly frequency of drinking. Among the non-Aboriginal males children made significant unique contributions across all drinking measures except yearly frequency of drinking. Among Aboriginal females children contributed to the prediction of the number of occasions where five or more drinks were consumed, and quantity-frequency (Tables 41 through 45). Turning to the results of the stepwise procedure conducted upon the entire sample, children contributed across all drinking measures as either a main effect or as part of an interaction (Tables 1 through 5).

Looking at income, unique significant contributions were made to the prediction of drinking behaviour among the entire sample using usual numbers of drinks consumed and yearly frequency of drinking via the hierarchical procedure.

Among the non-Aboriginal sub-sample it contributed in maximum number of drinks consumed, quantity-frequency, and yearly frequency of drinking. Income made contributions to the prediction of usual number of drinks consumed, the number of occasions where five or more drinks were consumed, and yearly frequency of drinking among the Aboriginal sub-sample. Among Aboriginal females it contributed across all drinking measures while for Aboriginal males it made a significant unique contribution among only usual number of drinks consumed. Among non-Aboriginal males level of income made unique significant contributions among all drinking measures except usual number of drinks consumed (Table 41 through 45). Turning to the results of the stepwise procedure income made contributions to the prediction of drinking behaviour across all drinking measures as either a main effect or as part of an interaction (Tables 1 through 5).

Finally, it was also necessary to evaluate the effectiveness of our model in predicting drinking behaviour using each of the drinking measures. Referring to Table 46, it is evident that usual number of drinks consumed was most successfully predicted by our indicants of a stake in society. It was followed next by the maximum number of drinks consumed, and the number of occasions where five or more drinks were consumed. Quantity-frequency was followed only by yearly frequency of drinking which proved to be the

least successful in being predicted by the model.

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PRECISIONSM RESOLUTION TARGETS

DISCUSSION AND CONCLUSIONS

The present study was an effort to examine the predictors of heavier drinking between Aboriginal and non-Aboriginal peoples. Due to the limitations of working with secondary data and dealing with culturally distinct, it was difficult to avoid using an ethnocentric model to explain drinking behaviour. A further complication was the impossibility of determining whether any stake in society which may exist refers to the Aboriginal culture, or to the dominant culture in which Aboriginal peoples live.

It can be acknowledged, however, that the issue of social control inherent in the idea of a 'stake in society' is one which exists across all cultures. The existence of a stake in conformity in any culture implies the existence of mechanisms of social control which encourage people of that society to conform. Our interest was the issue of heavier levels of alcohol consumption, where it was concluded that a cultural bias against heavier drinking was shared by both Aboriginal and non-Aboriginal groups. As determined through our review of the literature, there is great variation in the drinking patterns of Aboriginal peoples, and heavier drinking is not a traditional practice (LaDue, 1991). Furthermore, negative sanctions for drunken behaviour do exist. It can thus be concluded that a fundamental bias against heavy drinking exists which is held in common by both Aboriginal cultures and the dominant culture in which

they reside. Therefore, while the indicants of a stake in society used in this analysis are culturally biased, the concept of a stake in society as influencing conforming behaviour was applicable to both cultural groups.

As discussed previously, while there is a lower proportion of Aboriginal peoples who are current drinkers (63% versus 81% of non-Aboriginals), one third of Aboriginal peoples who are current drinkers exhibit heavy levels of consumption (five or more drinks per occasion). Since 20% of Aboriginal peoples are in the regular former drinker category, there is polarization between heavy drinking and abstention among Aboriginal peoples in the Yukon.

Furthermore, Aboriginal peoples who drink are more likely to be heavier drinkers than non-Aboriginals. Those who are at the highest risk for alcohol-related health problems, injury, or accidents are the heavier drinkers, particularly those who are heavy-frequents (five or more drinks per occasion/four or more occasions per month). In addition, it is the heavy-frequent drinker who is more likely than other types of drinkers to engage in risk behaviours including as other types of substance abuse, drinking and driving, and smoking (Yukon Alcohol and Drug Survey, 1991).

Given the serious implications of the YADS findings we undertook an analysis of the predictors of heavy drinking among the two sub-samples in spite of the problems inherent in a culturally biased study. While the YADS did provide

informative results, more information was required in order to gain further insight into the issue of heavier drinking among Aboriginal peoples. Our purpose in using hierarchical regression analysis on the sub-samples, and stepwise on the entire sample was twofold. First, hierarchical analysis being performed on the sub-samples of gender and ethnicity permitted an evaluation of the effectiveness of our model in accounting for variation in drinking measures among each ethnic sub-group. In this manner were we able to address the question concerning the relevance of an ethnocentric model of social control as applied to the Aboriginal sub-sample. Second, the use of a stepwise procedure on the entire sample permitted us to formulate a model which applied to the entire sample including ethnicity. This served the purpose of providing a more comprehensive representation of the predictors of heavy drinking, in addition to confirming that ethnicity itself was a predictor of drinking behaviour.

Our first question concerned whether the model as a whole was effective in predicting drinking behaviour among the two groups. It was particularly surprising to note that the results of the hierarchical regressions indicated the model consisting of indicants of a stake in conformity most successfully predicted drinking behaviour among Aboriginal females. Specifically, the R square increments were much higher for Aboriginal females across all drinking measures

with the exception of yearly frequency of drinking where the model failed to significantly contribute to the prediction of drinking behaviour (Table 42 to Table 46). Yearly frequency of drinking was poorly predicted by the model regardless of gender or ethnicity and was not indicative of deviant behaviour. Frequent drinking is an older, White middle class pattern particularly in conjunction with consumption of lower quantities of alcohol. Based on this pattern, it is quite logical that yearly frequency of drinking provided little insight into the issue of problem drinking.

The indicants of a stake in society were less successful in predicting drinking behaviour among Aboriginal males. This is evident if we refer to the R square increments (Table 42 to Table 46) which were significant in only two cases: usual number of drinks and quantity-frequency. However, while there was less success in predicting drinking patterns among Aboriginal males, it is interesting to note that in both usual number of drinks and quantity-frequency the R square increments were higher than those of the non-Aboriginal sub-groups. Thus, the model was comparable, if not better, in terms of accounting for the proportion of variance explained in drinking behaviour in these cases. If we compare the R square increments for both of the Aboriginal groups it is evident that the model was more successful or at least comparable to the remaining sub-

samples (including the entire sample). Predicting the usual number of drinks consumed was the most successful among Aboriginal females and males as indicated by the R square increments of .401 and .238 respectively (Table 42 to Table 46).

While we did obtain at least moderate success in terms of the effectiveness of our model, this implies neither that the indicants of a stake in society are identical among the Aboriginal and non-Aboriginal groups nor that there is necessarily a stake in the dominant society. In addition, we should note the existence of marked differences in predictors of drinking behaviour between the two cultural groups, as well as differences within each group according to gender. Among Aboriginal males the predictors which made unique significant contributions regardless of the success of the overall models were few. If we look at the variables which did make significant unique contributions it is evident that some important differences between the two groups exist.

One of the more striking findings concerns seasonality of employment which made significant unique contributions to the prediction of usual level of consumption for both Aboriginal males and females, but failed to gain significance in either the non-Aboriginal male or female sub-samples. Thus, among Aboriginal peoples, seasonal employment was associated with higher usual consumption of

alcohol.

The issue of seasonality of employment as a factor in alcohol consumption levels becomes more interesting when we consider the results of the stepwise regression analysis performed on the entire sample. Specifically, the ethnicity by seasonality interaction effect was an important predictor of usual drinking behaviour as is evident from the order of entry and beta weight (Table 1). In short, the results of both analyses indicated that Aboriginal peoples who are seasonally employed have a higher usual level of alcohol consumption than Aboriginal peoples who are not seasonally employed. Perhaps more importantly, there was no effect of seasonality of employment on non-Aboriginal peoples. Since seasonality of employment was significant in both the hierarchical and stepwise procedures, we can be more confident in assigning substantial importance to this variable in terms of predicting of drinking behaviour among Aboriginal peoples. Furthermore, we should note that seasonality affects usual drinking behaviour whereby, as has been already established, Aboriginal peoples are in general heavier drinkers than other non-Aboriginal groups, and the usual number of drinks measure may indicate a propensity to drink to intoxication.

The role of seasonal employment in the prediction of higher usual levels of alcohol consumption among Aboriginal peoples is difficult to assess. To begin, Aboriginal peoples

have traditionally been dependent upon a subsistence way of living such as hunting and fishing. It was the introduction of a cash economy which has been argued to have been one of the underlying factors in the creation endemic poverty among Aboriginal peoples (LaDue, 1991). It is evident that seasonal employment was an integral part of a traditional Aboriginal lifestyle (Savishinsky, 1978), and thus would appear to represent an investment in the traditional, Aboriginal culture. However, we cannot assume this necessarily entailed less drinking. It has been argued that alcohol consumption occurred after the employment period ended, where the drinking and sociability of the village was regarded positively after the isolation and abstinence of the bush (Savishinsky, 1978). The important point in this case is the pattern of employment. While the type of seasonal employment may have changed, what has remained constant is the existence of periods of time where responsibilities are lessened. With the added factor of weakened cultural ties and values, controls on drinking behaviour may have deteriorated to such a degree that the existence of extended periods of unemployment with few leisure alternatives result in higher levels of consumption. In contrast, Aboriginal peoples who are not seasonally employed may have more external constraints placed upon their time and as a result have developed a higher investment in society. However, the question of an

investment in which society remains unanswered. The likely possibility that cultural disorganization has resulted in an absence of negative sanctions for heavier drinking, coupled with large periods of unstructured time in which there are no leisure alternatives, may contribute to the heavier drinking patterns among seasonally employed Aboriginal peoples.

The contribution of income to the prediction of drinking behaviour also deserves further consideration. A higher level of income was associated with lower levels of drinking across all drinking measures among Aboriginal women. While the effect of income for Aboriginal males was weak due to its failure to gain significance this does not imply an absence of effect. Specifically, one of the problems of dealing with a small sample size is the difficulty in acquiring the necessary significance levels. Variables which may otherwise have an impact may not appear to be contributing in this case.

By referring to both Aboriginal peoples as a group in conjunction with the results of the stepwise analysis, it is clear that income does contribute. The ethnicity by income interaction effect indicates that not only was the level of income important among Aboriginal peoples in terms of drinking behaviour but also that the effect of income differed according to cultural group. Non-Aboriginals who have a higher level of income also have a higher quantity-

frequency as opposed to those with a lower level of income. In contrast, Aboriginal peoples who possess a higher level of income have a lower quantity-frequency whereas a lower level of income was associated with a higher quantity-frequency. Also noteworthy was the lack of effect of income on frequency of drinking, whereas among non-Aboriginals a higher level of income was associated with a higher frequency of drinking. Thus, the effect of income on the drinking behaviour of Aboriginal peoples occurred using a drinking measure of total volume which may be an indicant of physical damage due to excessive alcohol use. The effect of a lower income on consumption levels among non-Aboriginals is logical in that lack of income results in less financial resources which may be used for drinking. Thus, a lower level of income among non-Aboriginals has an inhibitive effect upon drinking behaviour. Among Aboriginal peoples a low level of income fails to protect them against heavier drinking. Since Aboriginal peoples in Canada do have a higher proportion of people who live in abject poverty, this finding is of particular relevance. What is interesting in this case is the underlying reason for lower levels of drinking among Aboriginal peoples who have higher income levels. In a situation where persistent stereotypes concerning Aboriginal peoples and alcohol flourish, Aboriginal peoples who have a higher income level may choose to dissociate themselves from the type of drinking behaviour

to which they have been stereotyped. Furthermore, due to the high proportion of Aboriginal peoples living in poverty, a higher income level could quite simply represent a stake in society in a situation where, for many, one does not exist.

To reiterate, in discussing the existence of a stake in conformity as informed by the dominant society, it was unexpected to discover that the drinking behaviour of Aboriginal women was the most successfully predicted. The results of the stepwise analysis appear to support the findings concerning the success of predicting the drinking behaviour of Aboriginal women using an ethnocentric model. The Ethnicity by Sex by Education interaction (Table 3) indicated Aboriginal women, and non-Aboriginal males and females with a higher level of education report fewer occasions in which five or more drinks were consumed. Level of education failed to contribute to the prediction of drinking behaviour among Aboriginal males.

The question which arises based upon these results concerns logical explanations for Aboriginal women being affected by the indicants of a stake in society as delineated by the dominant society. Referring again to LaDue (1991), Aboriginal women who have higher levels of education are often forced to leave their communities due to extremely high rates of unemployment. However, LaDue suggests that the result of relinquishing traditional values in order to fit into the dominant culture may result in

alcohol abuse. While we are not disputing the fact that traditional values are compromised in order to gain some level of acceptance within the dominant society, our results suggest otherwise. A higher level of education is associated with a lower level of alcohol consumption at least in terms of the number of occasions in which five or more drinks were consumed. It may be the case that Aboriginal women who wish to succeed in the dominant culture exhibit conformist behaviour as delineated by the dominant society.

Unfortunately, economic success remains somewhat dependent upon assimilation. However, why Aboriginal women and not Aboriginal men were affected by level of education remains unanswered. Since the drinking behaviour exhibited by Aboriginal males was less successful in being predicted by our model, it is quite likely that our model failed to address unique factors affecting Aboriginal men. It is obvious that research within a culturally-sensitive framework is necessary in order to provide more precise information about the drinking behaviour exhibited by Aboriginal men.

Crucial differences in the variables affecting heavier drinking according to ethnicity and gender also surface in discussing the role of marital status. Specifically, among Aboriginal women, marital status made a significant unique contribution in three drinking measures and narrowly missed acquiring significance in the usual number of drinks

consumed. In all cases, Aboriginal women who reside with their partners had a higher level of alcohol consumption as opposed to Aboriginal women who did not live with a spouse or partner. There was no significant contribution of marital status in either Aboriginal men, or non-Aboriginal men or women. The fact that Aboriginal women drink more if they reside with their partner or spouse is interesting for two reasons. First, it is contrary to the expectation that the absence of a partner would permit higher consumption levels. Referring to Hinton (1991), those who are not with a partner for reasons of divorce, separation, or never married have a higher prevalence of heavier drinking than those who are currently with a partner or spouse. However, in this respect our findings do support the assertion that the typical pattern of drinking among Aboriginal women is dissimilar to that of other groups of women. Not only are they more likely to drink in bars with their partner, but they often drink to intoxication during each drinking occasion, begin drinking at an early age, and experience significant peer pressure to drink (LaDue, 1991). Thus, while it appears that the drinking patterns of Aboriginal men affect the subsequent drinking patterns of their partner, the reverse is untrue. There was an absence of effect of marital status on the consumption levels of Aboriginal men.

Children also contributed to the prediction of heavier

drinking among Aboriginal females but failed to contribute among Aboriginal men. It contributed in both number of occasions where five or more drinks were consumed and quantity-frequency among Aboriginal females. It narrowly missed acquiring significance in the maximum number of drinks consumed and yearly frequency of drinking.

Furthermore, there was no effect of children upon either Aboriginal males or non-Aboriginal females. Surprisingly, the children variable was significant among non-Aboriginal males across all drinking measures except yearly frequency of drinking. This finding was supported in the stepwise results where the ethnicity by children interaction effect was interpreted as childless non-Aboriginal males reporting a higher usual level of consumption than non-Aboriginal males with children. Thus, for both Aboriginal females and non-Aboriginal males children had the same effect whereby residing with children was associated with a lower level of alcohol consumption. While this was consistent with our assumption that the presence of children would serve to inhibit non-conformist drinking behaviour, there was no effect of children upon the drinking patterns of Aboriginal males. This finding is consistent with LaDue's assertion that many Aboriginal women are the sole head of the household, the implication being that responsibility for child-rearing is faced by Aboriginal women. Given the lesser degree of household responsibilities faced by

Aboriginal men, our finding of a lack of effect of children is logical. Furthermore, these results are consistent with the general alcohol literature concerning the impact of child-rearing on drinking patterns (Hinton, 1991).

Our discussion thus far has focused upon Aboriginal women with little insight being provided into the drinking patterns of Aboriginal men. While this is due to our inability to successfully predict drinking behaviour via our model, some insights into the issue of drinking behaviour among Aboriginal men are possible. The effect of spirituality upon drinking patterns of Aboriginal men is one of particular interest especially when we consider how few predictors did make significant unique contributions. As previously discussed, spirituality has been viewed as a potentially important factor in alcoholism recovery in addition to its contribution in traditional Aboriginal culture (Carroll, 1993; LaDue, 1991). In examining the contribution of spirituality to our analysis, there appear to be differences between the two cultural groups as well as differences within the groups according to gender. To begin, spirituality made a contribution among Aboriginal males, but failed to make a significant unique contribution to the prediction of drinking behaviour among Aboriginal women. Among Aboriginal males a low degree of spirituality was associated with a higher level of alcohol consumption whereas any unique contribution among Aboriginal females was

quite weak. Matters were made more interesting by religiosity failing to make a significant unique contribution among either male or female Aboriginals. Similar to the Aboriginal groups, spirituality also made a unique contribution among non-Aboriginal males but was weak among non-Aboriginal women. In this respect there is a similarity in the prediction of drinking behaviour in that spirituality appears to be associated more highly with males. However, the difference is that religiosity was a strong predictor of drinking behaviour among both non-Aboriginal males and females. Among non-Aboriginals there appears to be a distinction made between spirituality and religiosity where religiosity was a stronger predictor. Being an active member of organized religion as measured by attendance of services appears to be something distinct from spirituality. Among Aboriginal males, spirituality was a stronger predictor of drinking behaviour. If we consider that spirituality narrowly missed acquiring significance among two drinking measures we can be more confident in concluding that it does influence drinking behaviour among Aboriginal males. Thus, while it is more difficult to assess the contribution of spirituality due to its subjective nature, it nevertheless appears to be more effective in contributing to the explanation of heavier drinking among Aboriginal men than many of the other predictors. Based upon this finding it may be advantageous to give this issue

further consideration.

Finally, despite the fact that age was not a direct indicant of a stake in society, it does merit attention due to the interesting manner in which it contributed to drinking behaviour. The only case where Aboriginal peoples were affected by age was the frequency of drinking, where among Aboriginal men, Aboriginal women, and non-Aboriginal women older age is associated with a higher yearly frequency of drinking. There are two points to note in this case. First, across all other variables age affected only non-Aboriginals whereby older age is associated with less drinking. Thus, if we consider this in conjunction with the results using frequency of drinking we can conclude that for non-Aboriginals those who are older drink less but have a higher frequency of drinking. This is consistent with a 'White middle class' style of drinking. However, it is surprising to note that non-Aboriginal males were not affected by age in terms of frequency of drinking, contrary to the findings in the general alcohol literature. Second, among Aboriginal peoples there appears to be no affect of age variable on any of the measures of quantity with the exception of frequency of drinking where, as already stated, older age is associated with more frequent drinking. Since age had no effect upon drinking behaviour among the remaining drinking measures, it cannot be concluded that the 'White middle class style' of drinking is exhibited by

Aboriginal peoples in terms of older age being associated with frequent consumption of low quantities of alcohol.

CONCLUSIONS

An ethnocentric model of social control has some inherent limitations resulting from the imposition of the dominant society's definition of conformity. Consequently, we are unable to determine whether a stake in conformity among Aboriginal peoples refers to the dominant culture or to their own.

In spite of these limitations some interesting results were accrued. Most interesting was the success of our model comprising indicants of a stake in society in predicting the drinking behaviour of Aboriginal women. Our model was less effective in predicting drinking behaviour of Aboriginal males, and the non-Aboriginal groups. Since we must assume that our indicants of a stake in society are highly biased towards the dominant culture, it is difficult to provide logical reasons for these results. A further complication was the fact that we met with less success in predicting the drinking behaviour of Aboriginal men using our indicants of a stake in society.

While there were differences in the predictors of drinking behaviour among the non-Aboriginal men and women, the similarities were more marked than the differences. Assuming that the concept of a stake in society is

applicable to a cultural group, the indicants of such a stake would be similar regardless of gender. This is not to imply that the predictors should be identical so much as to suggest that there would be some degree of similarity among the two groups. However, in the case of Aboriginal peoples there were greater differences in terms of both the significant predictors and effectiveness of the overall model according to gender. Given these differences we are faced with two possibilities. First, that the drinking behaviour exhibited by Aboriginal women is more successfully predicted by our ethnocentric model because they have acquired a stake in conformity as delineated by the dominant society in which they live. Aboriginal women have traditionally been in a position of responsibility for home and family beginning at a young age. These responsibilities have continued into the present and may include financial obligations and major decision-making (LaDue, 1991). This, in conjunction with many Aboriginal women acting as the sole head of household places them in a unique position which may make the existence of a stake in society more critical than that of Aboriginal men. In the face of the continual destruction of Aboriginal culture it may be that the only alternative for Aboriginal women is to conform to the norms of the dominant society.

Second, it may be the case that a stake in Aboriginal culture does exist among Aboriginal women. Specifically,

having a stake in society as delineated by the dominant society does not preclude a simultaneous commitment to Aboriginal culture which may refer to access to communal, spiritual, and familial centres of support. It is clear, however, that we have been unable to adequately address the unique factors which affect the drinking behaviour of Aboriginal men using the indicants of a stake in society as delineated by the dominant society. At this point we are unable to make conclusions about neither the existence of a stake in the dominant culture nor about one in Aboriginal culture.

We are able to conclude that the predictors of heavier drinking differ according to both cultural group and gender. In terms of Aboriginal peoples as a group, any intervention strategies should focus on the issue of seasonality of employment. As was indicated in the analysis seasonal employment was associated with higher consumption levels of alcohol. A reconceptualization of the employment issue is therefore necessary in order to avoid the erroneous assumption that unemployment is an underlying factor in heavier drinking.

This is not to recommend abandoning efforts to deal with the high rates of unemployment so much as to reconsider how the type of employment impacts upon drinking behaviour among Aboriginal peoples.

Second, serious consideration should be directed

towards how income differentially affects drinking behaviour according to cultural group. Aboriginal peoples with a higher level of income are associated with lower levels of alcohol consumption whereas the opposite effect is true of non-Aboriginal drinking behaviour. The fact is that many Aboriginal peoples live in abject poverty where lower levels of income fail to inhibit higher levels of alcohol consumption. If we consider that the level of drinking in this case refers to a measure of total volume (quantity-frequency), we may infer that Aboriginal peoples are at higher risk for alcohol-related diseases and other health problems. Thus, the issue of income as it relates to consumption of overall quantity and the inferred risk for alcohol-related health problems among Aboriginal peoples is one which is in critical need of further research.

In looking specifically at Aboriginal women, both level of education and marital status are unique factors which should be taken into account in any consideration of problem drinking. Given that women who reside with a spouse or partner have higher levels of alcohol consumption, intervention strategies for women should incorporate the drinking patterns of the spouse or partner. In addition, it would be worthwhile to consider the fact that higher levels of education are associated with lower levels of drinking among non-Aboriginal women. Thus, culturally-sensitive educational programs which target Aboriginal women at

particular risk for heavier drinking should be considered. Perhaps this would entail programs being administered by and for Aboriginal women. The rationale for adopting a gender-specific approach is the variability of the risk factors according to gender, indicating that the needs of both groups are unique.

Finally, our analysis could be improved by focusing on the large proportion of Aboriginal peoples who are current abstainers. It is suggested that further analysis of the Yukon Alcohol and Drug Survey focus on former drinkers and lifetime abstainers in order to further our understanding of the factors which influence the drinking patterns of Aboriginal peoples.

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Table 1: Stepwise regression for final model using usual number of drinks consumed and showing order of entry, correlations, unstandardized coefficients, standardized coefficients, and p values.

effect	order of entry	r	b	Beta	p
Sex		-.150	-.168924	-.121671	.0000
Ethnicity		-.252	-.488254	-.269928	.0000
Age	1	-.284	-.013275	-.232132	.0000
Education	2	-.304	-.057678	-.156151	.0000
AB10 by hipseas	3	-.040	.374518	.217645	.0000
Religioisty	4	.234	.082079	.118774	.0001
Income	5	-.245	-.059274	-.146047	.0000
AB01 by Sex10 by bipq85	6	-.112	-.086760	-.082809	.0047
Spirituality	7	.204	.063628	.085827	.0057
Constant			3.455522		.0000

R² = .282
N = 890

Table 2: Stepwise regression for final model using number of occasions where five or more drinks were consumed and showing order of entry, correlations, unstandardized coefficients, standardized coefficients, and p values.

effect	order of entry	r	b	Beta	p
Sex		-.293	-.782826	-.287332	.0000
Ethnicity		-.147	-.304150	-.085221	.0058
AB01 by cage	1	-.270	-.033479	-.261171	.0000
Religiosisity	2	.271	.227772	.170435	.0000
SEX01 by cinc2	3	-.135	-.136288	-.119110	.0001
AS0111 by cq77	4	-.172	-.071210	-.093828	.0025
Children	5	.115	.228431	.083473	.0060
Constant			1.818976		.0000

R² = .255
N = 843

Table 3: Stepwise regression for final model using maximum number of drinks consumed transformed and showing order of entry, correlations, unstandardized coefficients, standardized coefficients, and p values.

effect	order of entry	r	b	Beta	p
Sex		-.334	-.405959	-.309060	.0000
Ethnicity		-.175	-.180945	-.104044	.0004
Ab01 by cage	1	-.323	-.018428	-.303670	.0000
Religiosity	2	.307	.109428	.169293	.0000
Sex01 by cinc2	3	-.124	-.059444	-.106576	.0002
Education	4	-.226	-.036062	-.102868	.0005
Children	5	.137	.129426	.097966	.0006
Ab01 by cq84	6	.260	.069347	.089758	.0032
Constant			.160083		.0000

$R^2 = .345$

N=852

Table 4: Stepwise regression for final model using quantity-frequency transformed and showing order of entry, correlations, unstandardized coefficients, standardized coefficients, and p values.

effect	order of entry	r	b	Beta	p
Sex		-.324	-.902494	-.275198	.0000
Ethnicity		-.069	-1.079753	-.253236	.0002
Religiosity	1	.248	.273520	.168227	.0000
As0010 by cage	2	-.095	-.021056	-.106135	.0006
Children	3	.154	.352075	.106783	.0006
BipAb by Inc2	4	.004	-.108944	-.237330	.0005
Spirituality	5	.193	.150191	.085619	.0093
Constant			5.569367		.0000

$R^2 = .190$

N= 882

Table 5: Stepwise regression for final model using yearly frequency of drinking transformed and showing order of entry, correlations, unstandardized coefficients, standardized coefficients, and p values.

effect	order of entry	r	b	Beta	p
Sex		-.308	-.887476	-.268885	.0000
Ethnicity		.027	.090393	.021064	.5080
Sex10 by cqs3R	1	.173	.379406	.146418	.0000
Children	2	.146	.320204	.096494	.0029
Ab01 by cinc2	3	.135	.123353	.108483	.0007
AS1101 by cage	4	.093	.015414	.083150	.0099
Constant			4.371015		.0000

R²=.145

N=882

TABLE 6: Hierarchical regression with age entered at step one for the whole sub-sample using usual number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.013224	-.231240	.081
2.	SEASONALITY	.385072	.148154	
	EMPLOYMENT	.075998	.043001	
	SPIRITUALITY	.065564	.088438	
	MARITAL STATUS	.031728	.022570	
	EDUCATION	-.066036	-.178778	
	RELIGIOSITY	.094704	.137043	
	CHILDREN	.072150	.051660	
	INCOME	-.054024	-.13312	
	constant	1.948040		
				.165

*=.05
 **=.01
 ***=.001

R²=.246***
 adjusted R²=.239
 R=.496****

TABLE 7: Hierarchical regression with age entered at step one for the whole sample using number of occasions where five or more drinks were consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.021981	-.191463	.056
2.	SEASONALITY	.479964	.092329	
	EMPLOYMENT	-.269731	-.076736	
	SPIRITUALITY	.101123	.069578	
	MARITAL STATUS	.064679	.023350	
	EDUCATION	-.095807	-.132370	
	RELIGIOSITY	.245430	.183648	
	CHILDREN	.247314	.090373	
	INCOME	-.009468	-.011855	
	constant	1.127299		
				.109

*=.05
 **=.01
 ***=.001

R²=.165***
 adjusted R²=.156
 R=.406***

TABLE 8: Hierarchical regression with age entered at step one for the whole sub-sample using maximum number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.014312	-.260283	.099
2.	SEASONALITY	.204589	.082458	
	EMPLOYMENT	-.108801	-.063527	
	SPIRITUALITY	.078237	.11472	
	MARITAL STATUS	.055742	.041777	
	EDUCATION	-.053611	-.152928	
	RELIGIUSITY	.126353	.195477	
	CHILDREN	.144856	.109644	
	INCOME	.005872	.015083	
	constant	1.750618		
				.141

==.05

===.01

====.001

R²=.239***
adjusted R²=.231
R=.489****

TABLE 9: Hierarchical regression with age entered at step one for the whole sample using quantity-frequency transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.007571	-.056209	.006
2.	SEASONALITY	.606866	.098618	
	EMPLOYMENT	-.041354	-.009920	
	SPIRITUALITY	.182201	.103867	
	MARITAL STATUS	.046305	.013954	
	EDUCATION	-.008826	-.010107	
	RELIGIOSITY	.305119	.187661	
	CHILDREN	.408285	.123831	
	INCOME	.051644	.053991	
	constant	2.331106		
				.098

*=.05
 **=.01
 ***=.001

R²=.104***
 adjusted R²=.094
 R=.322***

TABLE 10: Hierarchical regression with age entered at step one for the whole sample using yearly frequency of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	Y.13.1	.010684	.078811	.007
2.	SEASON2	.275451	.044475	
	EMPLOY	-.125837	-.029992	
	Q84	.099161	.056166	
	Q4	.008539	.002557	
	Q77	.054131	.061592	
	Q83R	.240428	.146926	
	Q85	.388064	.116944	
	INC2	.092369	.095947	
	constant	.935857		
				.063

*.05
 ***.01
 ****.001

adjusted R² = .070***
 R² = .061
 R = .265***

TABLE 11: Hierarchical regression with age entered at step one for the Aboriginal sub-sample using usual number of drinks consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.005947	-.085242	.012
2.	SEASONALITY	.728225	.306992	
	EMPLOYMENT	.165332	.091866	
	SPIRITUALITY	.107245	.120960	
	MARITAL STATUS	-.097870	-.058335	
	EDUCATION	-.052667	-.083714	
	RELIGIOISTY	.113114	.092488	
	CHILDREN	-.024533	-.014660	
	INCOME	-.120731	-.257702	
	constant	2.033772		
				.273

*.05
 **.01
 ***.001

adjusted R² = .285***
 R² = .242
 R = .534***

TABLE 12: Hierarchical regression with age entered at step one for the Aboriginal sub-sample using number of occasions in which five or more drinks were consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.009090	.080793	.012
2.	SEASONALITY	.608112	.157450	
	EMPLOYMENT	.135697	.045788	
	SPIRITUALITY	.182055	.123406	
	MARITAL STATUS	-.377007	-.137211	
	EDUCATION	.059667	.058423	
	RELIGIOSITY	.430385	.210619	
	CHILDREN	.479220	.175117	
	INCOME	-.206383	-.269071	
	constant	-.762977		
				.212

*.05
 **.01
 ***.001

adjusted R² = .225***
 R² = .174
 R = .474***

TABLE 13: Hierarchical regression with age entered at step one for the Aboriginal sub-sample using maximum number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	6.74855E-04	.011433	.00003
2.	SEASONALITY	.210778	.109764	
	EMPLOYMENT	.035845	.023275	
	SPIRITUALITY	.026482	.036765	
	MARITAL STATUS	-.093453	-.068103	
	EDUCATION	-.018818	-.036832	
	RELIGIUSITY	.229000	.236738	
	CHILDREN	.218468	.159092	
	INCOME	-.060330	-.155041	
	constant	1.093720		
				.139

*=.05
 **=.01
 ***=.001

adjusted R²=.139*
 R²=.082
 R=.372*

TABLE 14: Hierarchical regression with age entered at step one for the Aboriginal sub-sample using quantity-frequency transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.012193	.077340	.006
2.	SEASONALITY	.855572	.159545	
	EMPLOYMENT	.426209	.104695	
	SPIRITUALITY	.365076	.181066	
	MARITAL STATUS	-.301731	-.079336	
	EDUCATION	.044817	.079336	
	RELIGIOSITY	.477261	.172654	
	CHILDREN	.580024	.152916	
	INCOME	-.180609	-.170303	
	constant	.825455		
				.180

*=.05
 **=.01
 ***=.001

adjusted R²=.186**
 R²=.136
 R=.431**

TABLE 15: Hierarchical regression with age entered at step one for the Aboriginal sub-sample using yearly frequency of drinking as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.022178	.154044	.027
2.	SEASONALITY	.252372	.051535	
	EMPLOYMENT	.279510	.075186	
	SPIRITUALITY	.294268	.159820	
	MARITAL STATUS	-.133378	-.038403	
	EDUCATION	.080578	.062059	
	RELIGIOSITY	.339956	.134672	
	CHILDREN	.641924	.185321	
	INCOME	-.124015	-.12054	
	constant	-.404121		
				.117

**=.05

***=.01

****=.001

adjusted R²=.144**
R²=.092
R=.380**

TABLE 16: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using usual number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.013838	-.263787	.093
2.	SEASONALITY	.185174	.071224	
	EMPLOYMENT	.020302	.011934	
	SPIRITUALITY	.065454	.096879	
	MARITAL STATUS	.059289	.045496	
	EDUCATION	-.060221	-.179669	
	RELIGIOSITY	.085197	.142056	
	CHILDREN	.100644	.079124	
	INCOME	-.023042	-.058115	
	constant	1.807455		
				.12

*.05
 **.01
 ***.001

R²=.214***
 adjusted R²=.204
 R=.463***

TABLE 17: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using number of occasions where five or more drinks were consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.027930	-.2433070	.089
2.	SEASONALITY	.342976	.060118	
	EMPLOYMENT	-.439019	-.119406	
	SPIRITUALITY	.086791	.060693	
	MARITAL STATUS	.183714	.065976	
	EDUCATION	-.103619	-.145386	
	RELIGIOSITY	.218157	.173814	
	CHILDREN	.182728	.067669	
	INCOME	.056918	.067280	
	constant	1.317811		
				.105

*=.05

***=.01

****=.001

R²=.194***

adjusted R²=.084

R=.441**

TABLE 18: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using maximum number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.016119	-.299647	.129
2.	SEASONALITY	.143372	.053683	
	EMPLOYMENT	-.158457	-.091126	
	SPIRITUALITY	.095633	.139679	
	MARITAL STATUS	.090539	.068589	
	EDUCATION	-.052346	-.154254	
	RELIGIOSITY	.110432	.183568	
	CHILDREN	.131946	.102655	
	INCOME	0.30610	.076273	
	constant	1.731862		
				.148

*.05
 **.01
 ***.001

R² = .277***
 adjusted R² = .267
 R = .526***

TABLE 1^a: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using quantity-frequency as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.010080	-.077265	.011
2.	SEASONALITY	.421318	.064623	
	EMPLOYMENT	-.249893	-.058941	
	SPIRITUALITY	.153543	.090981	
	MARITAL STATUS	.142471	.043852	
	EDUCATION	-.010763	-.012866	
	RELIGIOSITY	.278520	.186962	
	CHILDREN	.377149	.118960	
	INCOME	.129451	.131096	
	constant	2.388665		
				.107

*.05
 **.01
 ***.001

R²=.118***
 adjusted R²=.107
 R=.344***

TABLE 20: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using yearly frequency of drinking transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.009032	.066820	.003
2.	SEASONALITY	.243123	.035991	
	EMPLOYMENT	-.303537	-.069098	
	SPIRITUALITY	.062390	.035680	
	MARITAL STATUS	.059071	.017548	
	EDUCATION	.048598	.056069	
	RELIGIOSITY	.224782	.145630	
	CHILDREN	.343163	.104467	
	INCOME	.154972	.151469	
	constant	1.081879		
				.078

*=.05
 ***=.01
 ****=.001

R²=.081***
 adjusted R²=.069
 R=.285***

TABLE 21: Hierarchical regression with age entered at step one for the Aboriginal male sub-sample using usual number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.003992	-.053571	.025
2.	SEASONALITY	.742072	.326498	
	EMPLOYMENT	.038686	.020129	
	SPIRITUALITY	.177315	.193936	
	MARITAL STATUS	.110210	.060309	
	EDUCATION	-.007984	-.011731	
	RELIGIOSITY	.194930	.116435	
	CHILDREN	-.309468	-.165577	
	INCOME	-.137329	-.261268	
	constant	1.708071		
				.238

*=.05
 **=.01
 ***=.001

adjusted R²=.263**
 R²=.177
 R=.513**

TABLE 22: Hierarchical regression with age entered at step one for the Aboriginal male sub-sample using number of occasions where five or more drinks were consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.016653	.156095	.008
2.	SEASONALITY	.742207	.223038	
	EMPLOYMENT	.202009	.069958	
	SPIRITUALITY	.374433	.272328	
	MARITAL STATUS	.177615	.065645	
	EDUCATION	.172330	.175271	
	RELIGIOSITY	.321422	.133906	
	CHILDREN	.066862	.024158	
	INCOME	-.141357	-.179816	
	constant	-1.655564		
				.188

*=.05
 **=.01
 ***=.001

R²=.195 ns
 adjusted R²=.088
 R=.442 ns

TABLE 23: Hierarchical regression with age entered at step one for the Aboriginal male sub-sample using maximum number of drinks consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.005404	-.100490	.030
2.	SEASONALITY	.192211	.127257	
	EMPLOYMENT	-.073708	-.052217	
	SPIRITUALITY	.018396	.029411	
	MARITAL STATUS	.094925	.076063	
	EDUCATION	-.008035	-.017593	
	RELIGIOSITY	.277449	.251880	
	CHILDREN	.049197	.0381235	
	INCOME	.018124	.049069	
	constant	1.039259		
				.072

*=.05
 **=.01
 ***=.001

R²=.114 ns
 adjusted R²=-.003
 R=.337 ns

TABLE 24: Hierarchical regression with age entered at step one for the Aboriginal male sub-sample using quantity-frequency transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.025409	.184129	.001
2.	SEASONALITY	.730378	.173544	
	EMPLOYMENT	.749966	.210735	
	SPIRITUALITY	.500081	.295380	
	MARITAL STATUS	.231446	.068397	
	EDUCATION	.063717	.050557	
	RELIGIOSITY	.536278	.172990	
	CHILDREN	-.281108	-.081224	
	INCOME	-.121010	-.124330	
	constant	.120345		
				.215

*=.05
 **=.01
 ***=.001

R²=.216*
 adjusted R²=.124
 R=.465*

TABLE 25: Hierarchical regression with age entered at step one for the Aboriginal male sub-sample using yearly frequency of drinking transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.036244	.281221	.030
2.	SEASONALITY	-.011340	-.002885	
	EMPLOYMENT	.824032	.247992	
	SPIRITUALITY	.337062	.213170	
	MARITAL STATUS	.001669	5.282E-04	
	EDUCATION	.043201	.036702	
	RELIGIOSITY	.471995	.1630076	
	CHILDREN	.137613	.042574	
	INCOME	-.094727	-.104209	
	constant	-1.255187		
				.171

**=.05
 ***=.01
 ****=.001

R²=.201*
 adjusted R²=.08
 R=.448*

TABLE 26: Hierarchical regression with age entered at step one for the Aboriginal female sub-sample using usual number of drinks consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.009517	-.157043	.002
2.	SEASONALITY	.750553	.290334	
	EMPLOYMENT	.214906	.137324	
	SPIRITUALITY	.017730	.021824	
	MARITAL STATUS	-.261593	-.183487	
	EDUCATION	-.068633	-.126909	
	RELIGIOSITY	.038963	.044567	
	CHILDREN	.131429	.092855	
	INCOME	-.151262	-.393198	
	constant	2.728679		
				.403

*.05
 ***.01
 ****.001

R²=.405***
 adjusted R²=.318
 R=.637***

TABLE 27: Hierarchical regression with age entered at step one for the Aboriginal female sub-sample using number of occasions where five or more drinks were consumed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.001902	-.016525	.017
2.	SEASONALITY	.209022	.043289	
	EMPLOYMENT	-.187270	-.063959	
	SPIRITUALITY	-.055028	-.035695	
	MARITAL STATUS	-.934815	-.348806	
	EDUCATION	-.012413	-.012119	
	RELIGIOSITY	.373604	.214318	
	CHILDREN	.603058	.226951	
	INCOME	-.366407	-.508113	
	constant	2.138558		
				.366

*=.05

**=.01

***=.001

adjusted R²=.383**
R²=.292
R=.619**

TABLE 28: Hierarchical regression with age entered at step one for the Aboriginal female sub-sample using maximum number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.006925	.119198	.024
2.	SEASONALITY	-.117424	-.045069	
	EMPLOYMENT	-.020402	-.013556	
	SPIRITUALITY	.036840	.048814	
	MARITAL STATUS	-.335379	-.247921	
	EDUCATION	-.047410	-.091568	
	RELIGIOSITY	.104870	.129962	
	CHILDREN	.291817	.217483	
	INCOME	-.182796	-.497939	
	constant	2.151939		
				.309

*.05
 ***.01
 ****.001

R²=.333**
 adjusted R²=.228
 R=.577**

TABLE 29: Hierarchical regression with age entered at step one for the Aboriginal female sub-sample using quantity-frequency transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.004294	-.026744	.013
2.	SEASONALITY	.420206	.061322	
	EMPLOYMENT	-.281813	-.067831	
	SPIRITUALITY	.193026	.088351	
	MARITAL STATUS	-1.038740	-.273260	
	EDUCATION	.110060	.076806	
	RELIGIOSITY	.283004	.122111	
	CHILDREN	1.025217	.272064	
	INCOME	-.416769	-.407374	
	constant	4.187687		
				.249

*=.05
 **=.01
 ***=.001

R²=.262*
 adjusted R²=.153
 R=.512*

TABLE 30: Hierarchical regression with age entered at step one for the Aboriginal female sub-sample using yearly frequency of drinking as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.009100	.062439	.026
2.	SEASONALITY	.023245	.003737	
	EMPLOYMENT	-.549268	-.145651	
	SPIRITUALITY	.242755	.122413	
	MARITAL STATUS	-.588246	-.170487	
	EDUCATION	.155133	.119270	
	RELIGIOSITY	.150747	.071659	
	CHILDREN	.802850	.234722	
	INCOME	-.267224	-.287764	
	constant	2.364353		
				.150

*=.05
 **=.01
 ***=.001

R²=.177 ns
 adjusted R²=.055
 R=.421 ns

TABLE 31: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using usual number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.015904	-.283622	.10
2.	SEASONALITY	.157272	.067771	
	EMPLOYMENT	.136020	.063972	
	SPIRITUALITY	.075731	.104570	
	MARITAL STATUS	.020973	.041972	
	EDUCATION	-.060432	-.166340	
	RELIGIOSITY	.081374	.106910	
	CHILDREN	.160038	.113133	
	INCOME	-.021694	-.047999	
	constant	1.763374		
				.112

**=.05

***=.01

****=.001

R²=.212***
adjusted R²=.194
R=.461***

TABLE 32: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using number of occasions where five or more drinks were consumed transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.041789	-.352843	.136
2.	SEASONALITY	.101265	.021126	
	EMPLOYMENT	-.547910	-.122672	
	SPIRITUALITY	-.002851	-.001974	
	MARITAL STATUS	-.11127	-.040186	
	EDUCATION	-.092686	-.126656	
	RELIGIOSITY	.246418	.163283	
	CHILDREN	.320095	.112977	
	INCOME	.096126	.105122	
	constant	2.319601		
				.081

*.05
 **.01
 ***.001

R² = .217***
 adjusted R² = .198
 R = .466***

TABLE 33: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using maximum number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.019834	-.382049	.171
2.	SEASONALITY	.041061	.018962	
	EMPLOYMENT	-.162092	-.082782	
	SPIRITUALITY	.081627	.122877	
	MARITAL STATUS	-.033074	-.025731	
	EDUCATION	-.056188	-.168090	
	RELIGIOSITY	.103243	.148462	
	CHILDREN	.192552	.148815	
	INCOME	.050645	.121407	
	constant	2.093808		
				.124

*.05
 **.01
 ***.001

R² = .294***
 adjusted R² = .277
 R = .543***

TABLE 34: Hierarchical regression with age entered at step one for the non-Aboriginal sub-sample using quantity-frequency as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.020265	-.164121	.033
2.	SEASONALITY	.135017	.026160	
	EMPLOYMENT	-.359781	-.076965	
	SPIRITUALITY	.025219	.015793	
	MARITAL STATUS	.053390	.017255	
	EDUCATION	-.028925	-.036042	
	RELIGIOSITY	.352192	.210444	
	CHILDREN	.420840	.134867	
	INCOME	.120167	.120140	
	constant	3.417133		
				.096

*.05
 **.01
 ***.001

R² = .129***
 adjusted R² = .108
 R = .359***

TABLE 35: Hierarchical regression with age entered at step one for the non-Aboriginal male sub-sample using yearly frequency of drinking as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.001622	-.012221	.000
2.	SEASONALITY	-.088004	-.015859	
	EMPLOYMENT	-.423472	-.084258	
	SPIRITUALITY	-.093650	-.054546	
	MARITAL STATUS	-.038831	-.011672	
	EDUCATION	.042817	.049623	
	RELIGIOSITY	.370428	.205869	
	CHILDREN	.364521	.108652	
	INCOME	.132792	.123482	
	constant	1.951138		
				.086

**=.05

***=.01

****=.001

adjusted R²=.086**
R²=.064
R=.292**

TABLE 36: Hierarchical regression with age entered at step one for the non-Aboriginal male sub-sample using usual number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.012628	-.274938	.105
2.	SEASONALITY	-.032814	-.008924	
	EMPLOYMENT	-.031450	-.024210	
	SPIRITUALITY	.032037	.053727	
	MARITAL STATUS	.008596	.007574	
	EDUCATION	-.050709	-.175807	
	RELIGIOSITY	.088781	.196335	
	CHILDREN	.004557	.004243	
	INCOME	-.048834	-.148639	
	constant	2.109627		
				.128

**=.05
 ***=.01
 ****=.001

R²=.233***
 adjusted R²=.212
 R=.483***

TABLE 37: Hierarchical regression with age entered at step one for the non-Aboriginal female sub-sample using number of occasions where five or more drinks were consumed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.020923	-.216385	.077
2.	SEASONALITY	4.64327E-04	5.820E-05	
	EMPLOYMENT	-.163636	-.059931	
	SPIRITUALITY	.089276	.071385	
	MARITAL STATUS	.262486	.110544	
	EDUCATION	-.104025	-.172608	
	RELIGIOSITY	.148875	.159352	
	CHILDREN	.047242	.020993	
	INCOME	-.067861	-.098261	
	constant	1.356059		
				.121

*=.05
 **=.01
 ***=.001

R²=.198***
 adjusted R²=.174
 R=.444***

TABLE 38: Hierarchical regression with age entered at step one for the non-Aboriginal female sub-sample using maximum number of drinks transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.015853	-.324699	.146
2.	SEASONALITY	.023612	.006234	
	EMPLOYMENT	-.070176	-.050997	
	SPIRITUALITY	.063079	.100874	
	MARITAL STATUS	.084769	.071386	
	EDUCATION	-.037633	-.125293	
	RELIGIOSITY	.092995	.198753	
	CHILDREN	.063011	.056215	
	INCOME	-.034718	-.101670	
	constant	1.939363		
				.130

*.05
 **.01
 ***.001

R²=.275***
 adjusted R²=.255
 R=.525***

TABLE 39: Hierarchical regression with age entered at step one for the non-Aboriginal female sub-sample using quantity-frequency as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	-.004073	-.032866	.004
2.	SEASONALITY	.025181	.002542	
	EMPLOYMENT	.032597	.009254	
	SPIRITUALITY	.196393	.120961	
	MARITAL STATUS	-.027087	-.008833	
	EDUCATION	.036276	.046395	
	RELIGIOSITY	.196964	.161455	
	CHILDREN	.236381	.081231	
	INCOME	.030352	.034262	
	constant	2.378537		
				.062

**=.05
 ***=.01
 ****=.001

R²=.065**
 adjusted R²=.039
 R=.256**

TABLE 40: Hierarchical regression with age entered at step one for the non-Aboriginal female sub-sample using yearly frequency of drinking transformed as the dependent variable.

STEP	VARIABLES	B	BETA	sr ²
1.	AGE	.014512	.117498	.013
2.	SEASONALITY	-.071092	-.007406	
	EMPLOYMENT	.003546	.001039	
	SPIRITUALITY	.134634	.083212	
	MARITAL STATUS	-.068374	-.022375	
	EDUCATION	.075057	.096329	
	RELIGIOSITY	.085470	.070306	
	CHILDREN	.235265	.081130	
	INCOME	.068686	.077804	
	constant	1.155578		
				.036

*=.05
 **=.01
 ***=.001

R²=.049 ns
 adjusted R²=.022
 R=.221 ns

TABLE 41: p values for coefficients for Hierarchical regression using usual number of drinks.

	Entire	Aboriginal	Non- Aboriginal	Aboriginal male	Aboriginal female	non- Aboriginal male	non- Aboriginal female
Age	.0000	.2673	.0000	.6253	.1891	.0000	.0000
Seasonality	.0000	.0000	.0345	.0022	.0145	.1466	.8579
Employment	.1639	.2287	.7287	.8560	.2474	.1814	.6344
Spirituality	.0054	.1057	.0074	.0732	.8403	.0350	.3142
Marital status	.5025	.4403	.2309	.6010	.0919	.7869	.8894
Education	.0000	.2705	.0000	.9134	.2817	.0006	.0007
Religiosity	.0000	.2204	.0001	.2886	.6833	.0311	.0003
Children	.1055	.8464	.0293	.1456	.4018	.0284	.9351
Income	.0001	.0014	.1043	.0228	.0015	.3275	.0064
Constant	.0000	.0016	.0000	.1187	.0008	.0000	.0000

TABLE 42: p values for coefficients for Hierarchical regressions using number of occasions where five or more drinks were consumed as the dependent variable.

	Entire	Aboriginal	Non- Aboriginal	Aboriginal male	Aboriginal female	non- Aboriginal male	non- Aboriginal female
Age	.0000	.3251	.0000	.2019	.8904	.0000	.0001
Seasonality	.0047	.0473	.0867	.0569	.7155	.6626	.9991
Employment	.0220	.5746	.0009	.5669	.5970	.0132	.2604
Spirituality	.0431	.1223	.1069	.0252	.7440	.9693	.2006
Marital status	.5125	.0899	.0941	.6049	.0023	.4799	.0519
Education	.0001	.4719	.0001	.1470	.9187	.0106	.0014
Religiosity	.0000	.0092	.0000	.2753	.0534	.0015	.0048
Children	.0087	.0335	.0716	.8483	.0475	.0327	.6988
Income	.7373	.0019	.0696	.1472	.0001	.0370	.0803
Constant	.0064	.4942	.0029	.3446	.1621	.0004	.0116

TABLE 43: P values for coefficients for Hierarchical regressions using maximum number of drinks as the dependent variable.

	Entire	Aboriginal	Non- Aboriginal	Aboriginal male	Aboriginal female	non- Aboriginal male	non- Aboriginal female
Age	.0000	.8974	.0000	.4507	.3658	.0000	.0000
Seasonality	.0078	.1963	.1028	.2962	.7295	.6475	.8990
Employment	.0438	.7892	.0067	.6847	.9152	.0731	.3106
Spirituality	.0007	.6691	.0001	.8181	.6830	.0107	.0574
Marital status	.2274	.4355	.0648	.5700	.0373	.6301	.1852
Education	.0000	.6692	.0000	.8881	.4804	.0004	.0139
Religiosity	.0000	.0069	.0000	.0520	.2792	.0021	.0002
Children	.0008	.0681	.0038	.7711	.0750	.0029	.2743
Income	.6513	.0857	.0288	.7027	.0002	.0107	.0563
Constant	.0000	.0694	.0000	.2373	.0088	.0000	.0000

TABLE 44: p values for coefficients for Hierarchical regressions using quantity-frequency as the dependent variable.

	Entire	Aboriginal	Non- Aboriginal	Aboriginal male	Aboriginal female	non- Aboriginal male	non- Aboriginal female
Age	.1034	.3464	.0400	.1064	.8406	.0019	.5721
Seasonality	.0029	.0427	.0719	.1067	.6368	.5965	.9634
Employment	.7693	.1998	.1080	.0686	.6090	.1285	.8698
Spirituality	.0029	.0243	.0180	.0090	.4676	.7625	.0417
Marital status	.7056	.3261	.2792	.5654	.0260	.7679	.8843
Education	.7702	.6976	.7273	.6496	.5598	.4763	.4165
Religiosity	.0000	.0337	.0000	.1279	.3219	.0001	.0072
Children	.0004	.0599	.0021	.4866	.0311	.0132	.1628
Income	.1333	.0465	.0006	.2872	.0031	.0206	.5691
Constant	.0000	.5914	.0000	.9537	.0747	.0000	.0014

TABLE 45: p values for coefficients for Hierarchical regressions using yearly frequency of drinking as the dependent variable.

	Entire	Aboriginal	Non- Aboriginal	Aboriginal male	Aboriginal female	non- Aboriginal male	non- Aboriginal female
Age	.0251	.0685	.0818	.0157	.6570	.8240	.0459
Seasonality	.1858	.5205	.3258	.9786	.9782	.7540	.8945
Employment	.3841	.3685	.0650	.0345	.3001	.1044	.9854
Spirituality	.1131	.0519	.3626	.0590	.3415	.3086	.1641
Marital status	.9458	.6425	.6714	.9956	.1827	.8455	.7148
Education	.0808	.4559	.1370	.7439	.3927	.3386	.0949
Religiosity	.0000	.1050	.0002	.1551	.5811	.0001	.2441
Children	.0011	.0265	.0082	.7177	.0764	.0509	.1669
Income	.0089	.1430	.0001	.3765	.0436	.0202	.2004
Constant	.0681	.7789	.0519	.5218	.2899	.0149	.1193

TABLE 46: R square change for the entire sample and sub - samples after addition of indicants of stake.

Sr ²	Usual number of drinks	5+ drinks	maximum	quantity- frequency	yearly frequency
Entire	N=890 .165 (.0000)	N=843 .109 (.0000)	N=852 .141 (.0000)	N=882 .098 (.0000)	N=882 .063 (.0000)
Aboriginal	N=158 .273 (.0000)	N=148 .212 (.0000)	N=146 .139 (.0081)	N=157 .178 (.0002)	N=157 .117 (.0134)
non- Aboriginal	N=732 .121 (.0000)	N=694 .105 (.0000)	N=706 .148 (.0000)	N=725 .107 (.0000)	N=725 .078 (.0000)
Aboriginal male	N=87 .238 (.0044)	N=77 .188 (.0641)	N=78 .084 (.6012)	N=87 .215 (.0135)	N=87 .171 (.0514)
Aboriginal female	N=72 .401 (.0001)	N=71 .366 (.0002)	N=67 .309 (.0035)	N=71 .249 (.0177)	N=71 .151 (.2190)
non- Aboriginal male	N=398 .112 (.0000)	N=373 .081 (.0600)	N=381 .124 (.0000)	N=395 .096 (.0000)	N=395 .086 (.0000)
non- Aboriginal female	N=334 .128 (.0000)	N=321 .121 (.0000)	N=325 .130 (.0000)	N=330 .062 (.0082)	N=330 .013 (.0395)

Table A: Descriptive Statistics for original and transformed usual number of drinks using the entire sample.

	USUAL NUMBER			SQUARE-ROOT TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	890	3.91	3.27	890	1.85	.69
SEX						
male	485	4.36	3.73	485	1.95	.75
female	406	3.38	2.54	406	1.74	.59
ETHNICITY						
aboriginal	158	5.65	4.25	158	2.23	.83
other	732	3.54	2.89	732	1.77	.63
Age						
15 thru 19	71	5.38	4.17	71	2.17	.82
20 thru 29	241	4.88	3.70	241	2.09	.72
30 thru 39	298	3.74	2.99	298	1.82	.65
40 thru 49	159	2.77	1.94	159	1.59	.47
50 thru 59	75	2.98	2.43	75	1.62	.61
60 thru 69	36	2.91	2.04	36	1.62	.53
70 thru 79	10	4.01	7.56	10	1.60	1.27
MARITAL STATUS						
With spouse/partner	525	3.48	3.00	525	1.75	.65
Without	365	4.54	3.54	365	2.01	.72
EDUCATION						
elementary	29	5.52	3.68	29	2.21	.82
some secondary	199	5.32	4.13	199	2.16	.82
comp secondary	284	3.99	3.24	284	1.89	.66
some college	54	3.85	2.01	54	1.90	.51
comp college	103	2.81	1.76	103	1.61	.48
some university	63	3.61	3.89	63	1.74	.77
comp university	159	2.58	1.70	159	1.54	.46
RELIGIOUS INVOLVEMENT						
yes-daily	6	1.36	.53	6	1.15	.22
yes-weekly	90	2.23	1.66	90	1.42	.45
yes-monthly	32	2.65	1.41	32	1.57	.44
yes-yearly	23	4.68	3.61	23	2.02	.78
no	740	4.17	3.40	740	1.92	.70

Table A cont: Descriptive Statistics for original and transformed usual number of drinks using the entire sample.

	USUAL NUMBER			SQUARE-ROOT TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	97	3.16	3.72	97	1.62	.73
moderately spiritual	408	3.57	2.88	408	1.78	.64
not very spiritual	206	4.18	3.51	206	1.92	.72
not at all spiritual	179	4.79	3.38	179	2.08	.68
CHILDREN UNDER 15						
yes	383	3.67	3.09	383	1.79	.67
no	507	4.10	3.40	507	1.90	.70
INCOME						
no income	5	6.04	1.46	5	2.44	.31
less than \$10,000	32	6.10	4.66	32	2.32	.86
\$10,000-19,999	109	6.52	5.44	109	2.35	1.00
\$20,000-29,000	77	3.65	2.47	77	1.81	.60
\$30,000-39,000	150	3.15	1.98	150	1.70	.52
\$40,000-59,000	245	3.57	2.30	245	1.80	.56
\$60,000-74,999	139	3.42	3.06	139	1.74	.64
75,000 plus	133	3.34	2.62	133	1.73	.60
SEASONAL EMPLOYMENT						
non-seasonal	822	3.72	3.06	822	1.81	.66
seasonal	68	6.27	4.61	68	2.34	.89
EMPLOYMENT						
employed	722	3.73	2.98	722	1.82	.65
other	168	4.72	4.22	168	2.00	.84

Table B: Descriptive statistics for original and transformed five plus drinks for the entire sample

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	843	11.50	25.99	843	1.50	1.36
SEX						
male	451	15.98	31.89	451	1.87	1.38
female	392	6.34	15.32	392	1.07	1.20
ETHNICITY						
aboriginal	148	17.15	39.69	148	1.93	1.36
other	694	10.29	21.84	694	1.41	1.34
Age						
15 thru 19	65	9.19	17.95	65	1.47	1.24
20 thru 29	229	16.51	26.80	229	2.02	1.34
30 thru 39	287	11.07	28.87	287	1.43	1.35
40 thru 49	155	8.39	16.72	155	1.30	1.29
50 thru 59	69	8.11	33.49	69	.94	1.21
60 thru 69	29	9.65	24.82	29	1.00	1.43
70 thru 79	9	.11	.34	9	.08	.23
MARITAL STATUS						
With spouse/partner	503	9.17	20.01	503	1.35	1.31
Without	340	14.94	32.63	340	1.72	1.41
EDUCATION						
elementary	25	23.20	54.47	25	1.90	1.59
some secondary	184	14.64	36.19	184	1.74	1.36
comp secondary	267	13.75	25.55	267	1.62	1.42
some college	50	11.20	14.43	50	1.70	1.36
comp college	101	8.42	16.75	101	1.33	1.28
some university	59	9.80	16.53	59	1.57	1.30
comp university	157	4.85	10.16	157	.97	1.14
RELIGIOUS INVOLVEMENT						
yes-daily	6	.11	.35	6	.08	.24
yes-weekly	88	1.66	3.96	88	.51	.82
yes-monthly	32	5.00	7.81	32	1.11	1.18
yes-yearly	21	11.57	15.26	21	1.81	1.29
no	696	13.14	28.09	696	1.65	1.37

Table B cont: Descriptive statistics for original and transformed five plus drinks for the entire sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	93	9.42	23.18	93	1.20	1.36
moderately spiritual	391	9.17	21.20	391	1.32	1.31
not very spiritual	189	11.70	20.56	189	1.60	1.37
not at all spiritual	170	17.78	38.89	170	1.97	1.35
CHILDREN UNDER 15						
yes	372	8.91	21.54	372	1.33	1.27
no	471	13.54	28.89	471	1.64	1.41
INCOME						
no income	5	3.68	1.42	5	1.51	.26
less than \$10,000	28	12.74	17.01	28	1.94	1.21
\$10,000-19,999	102	23.92	54.57	102	2.00	1.55
\$20,000-29,000	71	10.56	17.90	71	1.46	1.37
\$30,000-39,000	143	9.24	21.21	143	1.26	1.33
\$40,000-59,000	230	9.35	17.85	230	1.39	1.31
\$60,000-74,999	131	9.05	16.18	131	1.42	1.29
75,000 plus	133	11.08	19.26	133	1.58	1.34
SEASONAL EMPLOYMENT						
non-seasonal	780	10.54	24.73	780	1.45	1.33
seasonal	62	23.58	36.63	62	2.17	1.56
EMPLOYMENT						
employed	689	11.94	27.35	689	1.54	1.36
other	154	9.50	18.71	154	1.34	1.36

Table C: Descriptive statistics for original and transformed maximum number of drinks for the entire sample.

	q16 max. drinks in past 12 months			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	852	8.49	7.17	852	2.03	.66
SEX						
male	459	10.36	7.64	459	2.23	.64
female	393	6.30	5.88	393	1.79	.59
ETHNICITY						
aboriginal	146	11.31	9.38	146	2.28	.68
other	706	7.91	6.49	706	1.98	.64
Age						
15 thru 19	69	10.20	7.18	69	2.20	.71
20 thru 29	230	11.28	8.51	230	2.30	.66
30 thru 39	287	7.86	6.10	287	1.99	.61
40 thru 49	156	6.57	4.56	156	1.86	.57
50 thru 59	67	6.71	9.46	67	1.74	.68
60 thru 69	33	5.08	3.02	33	1.70	.46
70 thru 79	8	2.80	1.16	8	1.29	.32
MARITAL STATUS						
With spouse/partner	507	7.47	6.03	507	1.94	.62
Without	344	9.99	8.37	344	2.17	.68
EDUCATION						
elementary	22	11.55	13.01	22	2.18	.86
some secondary	187	10.61	7.80	187	2.24	.68
comp secondary	271	8.72	7.29	271	2.06	.65
some college	53	8.68	5.89	53	2.10	.60
comp college	101	7.02	5.47	101	1.91	.58
some university	60	9.56	9.10	60	2.10	.70
comp university	156	5.59	3.65	156	1.74	.54
RELIGIOUS INVOLVEMENT						
yes-daily	6	2.79	1.26	6	1.29	.34
yes-weekly	89	4.54	5.03	89	1.49	.61
yes-monthly	31	6.82	6.87	31	1.78	.72
yes-yearly	22	11.20	13.26	22	2.17	.79
no	705	9.03	7.00	705	2.11	.62

Table C cont: Descriptive statistics for original and transformed maximum number of drinks for the entire sample.

	q16 max. drinks in			log transformation		
	past 12 months					
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	95	7.48	9.74	95	1.81	.74
moderately spiritual	394	7.39	6.00	394	1.92	.63
not very spiritual	194	8.86	6.91	194	2.09	.62
not at all spiritual	169	11.20	7.58	169	2.33	.59
CHILDREN UNDER 15						
yes	369	7.39	6.10	369	1.93	.62
no	482	9.34	7.80	482	2.11	.67
INCOME						
0	5	15.03	4.25	5	2.73	.37
less than \$10,000	27	11.45	12.05	27	2.28	.65
\$10,000-19,999	98	10.74	8.93	98	2.23	.70
\$20,000-29,000	75	7.92	6.19	75	1.98	.65
\$30,000-39,000	144	7.45	6.55	144	1.92	.64
\$40,000-59,000	236	7.93	6.55	236	1.97	.65
\$60,000-74,999	135	8.24	7.21	135	2.01	.65
75,000 plus	131	8.71	6.17	131	2.08	.63
type of employment						
non-seasonal	787	8.20	6.88	787	2.01	.64
seasonal	64	12.05	9.47	64	2.32	.73
EMPLOYMENT						
employed	700	8.56	7.09	700	2.04	.65
other	151	8.19	7.56	151	1.97	.69

Table E: Descriptive statistics for original and transformed quantity-frequency using the entire sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	882	368.43	726.82	882	4.82	1.63
SEX						
male	481	514.18	894.35	481	5.31	1.55
female	401	193.41	382.02	401	4.25	1.54
ETHNICITY						
aboriginal	157	584.27	1198.0	157	5.07	1.88
other	725	321.53	566.13	725	4.77	1.57
Age						
15 thru 19	71	373.31	1118.9	71	4.35	1.78
20 thru 29	239	450.58	639.88	239	5.21	1.55
30 thru 39	294	340.04	700.46	294	4.78	1.58
40 thru 49	157	265.15	306.14	157	4.77	1.47
50 thru 59	75	335.09	657.35	75	4.33	1.88
60 thru 69	36	366.29	388.11	36	4.91	1.78
70 thru 79	10	1073.3	2896.6	10	4.36	2.16
MARITAL STATUS						
With spouse/partner	519	324.38	704.75	519	4.73	1.58
Without	363	431.49	753.79	363	4.96	1.70
EDUCATION						
elementary	29	604.33	730.58	29	5.31	1.88
some secondary	197	501.30	1086.7	197	4.92	1.79
comp secondary	282	383.85	753.42	282	4.79	1.70
some college	54	304.83	406.55	54	4.96	1.39
comp college	102	251.20	317.02	102	4.69	1.49
some university	62	393.81	583.37	62	5.04	1.58
comp university	157	217.84	244.29	157	4.63	1.42
RELIGIOUS INVOLVEMENT						
yes-daily	6	48.65	71.28	6	3.10	1.48
yes-weekly	90	117.65	149.49	90	3.77	1.61
yes-monthly	32	167.71	209.64	32	4.21	1.56
yes-yearly	23	427.10	679.62	23	4.98	1.60
no	732	408.66	778.79	732	4.99	1.58

Table E cont: Descriptive statistics for original and transformed quantity-frequency using the entire sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	95	239.87	388.37	95	4.18	1.86
moderately spiritual	405	324.46	680.42	405	4.70	1.59
not very spiritual	205	388.84	761.21	205	4.95	1.54
not at all spiritual	177	514.97	891.82	177	5.31	1.56
CHILDREN UNDER 15						
yes	380	260.64	443.90	380	4.53	1.60
no	502	450.15	874.49	502	5.04	1.63
INCOME						
0	5	264.22	220.23	5	5.38	.66
less than \$10,000	32	612.51	822.39	32	5.15	1.90
\$10,000-19,999	107	776.57	1624.2	107	5.10	2.05
\$20,000-29,000	77	309.99	445.00	77	4.59	1.79
\$30,000-39,000	149	236.24	313.82	149	4.58	1.54
\$40,000-59,000	241	312.84	509.83	241	4.69	1.63
\$60,000-74,999	137	312.89	489.03	137	4.83	1.45
75,000 plus	133	323.08	330.77	133	5.16	1.31
type of employment						
non-seasonal	815	338.74	655.63	815	4.77	1.62
seasonal	67	728.35	1266.2	67	5.47	1.72
EMPLOYMENT						
employed	715	349.78	605.97	715	4.85	1.61
other	167	448.37	1103.1	167	4.69	1.74

Table E: Descriptive statistics for original and transformed yearly frequency of drinking using the entire sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	882	86.62	99.08	882	3.79	1.64
SEX						
male	481	110.24	105.65	481	4.25	1.62
female	401	58.24	82.14	401	3.23	1.50
ETHNICITY						
aboriginal	157	84.38	102.54	157	3.69	1.72
other	725	87.10	98.38	725	3.81	1.63
Age						
15 thru 19	71	45.55	76.00	71	2.93	1.42
20 thru 29	239	87.64	92.52	239	3.91	1.53
30 thru 39	294	82.40	93.03	294	3.75	1.59
40 thru 49	157	99.83	102.94	157	4.03	1.67
50 thru 59	75	83.11	112.21	75	3.56	1.82
60 thru 69	36	137.96	134.87	36	4.39	2.07
70 thru 79	10	108.08	145.95	10	3.88	2.05
MARITAL STATUS						
With spouse/partner	519	86.34	97.84	519	3.79	1.63
Without	363	87.01	100.96	363	3.78	1.67
EDUCATION						
elementary	29	109.91	122.08	29	4.08	1.87
some secondary	197	75.89	96.94	197	3.56	1.63
comp secondary	282	86.84	101.45	282	3.74	1.71
some college	54	76.56	78.65	54	3.76	1.43
comp college	102	90.59	102.04	102	3.87	1.65
some university	62	104.51	92.46	62	4.20	1.58
comp university	157	89.24	99.36	157	3.89	1.57
RELIGIOUS INVOLVEMENT						
yes-daily	6	30.74	34.47	6	2.73	1.22
yes-weekly	90	55.83	80.70	90	3.14	1.54
yes-monthly	32	55.83	68.55	32	3.32	1.36
yes-yearly	23	69.76	79.25	23	3.65	1.36
no	732	92.71	102.09	732	3.90	1.66

Table E cont: Descriptive statistics for original and transformed yearly frequency of drinking using the entire sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	95	79.26	103.72	95	3.47	1.83
moderately spiritual	405	82.60	99.58	405	3.72	1.62
not very spiritual	205	89.00	96.20	205	3.86	1.63
not at all spiritual	177	97.03	98.60	177	4.04	1.59
CHILDREN UNDER 15						
yes	380	70.36	85.67	380	3.51	1.55
no	502	98.94	106.59	502	4.00	1.69
INCOME						
0	5	53.83	62.32	5	3.45	1.18
less than \$10,000	32	103.62	126.05	32	3.83	2.01
\$10,000-19,999	107	84.75	106.85	107	3.66	1.76
\$20,000-29,000	77	80.56	92.54	77	3.61	1.73
\$30,000-39,000	149	79.40	95.19	149	3.67	1.60
\$40,000-59,000	241	79.59	96.91	241	3.65	1.63
\$60,000-74,999	137	86.89	93.17	137	3.88	1.53
75,000 plus	133	109.13	102.43	133	4.28	1.53
type of employment						
non-seasonal	815	85.59	98.32	815	3.77	1.64
seasonal	67	98.98	107.96	67	4.02	1.67
EMPLOYMENT						
employed	715	89.81	99.72	715	3.85	1.64
other	167	72.94	95.38	167	3.50	1.62

Table F: Descriptive statistics for original and transformed usual number of drinks for the Aboriginal sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	158	5.65	4.25	158	2.23	.83
SEX						
male	87	6.35	4.98	87	2.36	.90
female	72	4.80	2.97	72	2.07	.71
Age						
15 thru 19	18	4.62	5.27	18	1.92	.99
20 thru 29	71	6.11	3.78	71	2.37	.72
30 thru 39	38	6.35	5.12	38	2.34	.94
40 thru 49	13	3.86	2.66	13	1.88	.59
50 thru 59	13	4.67	3.75	13	1.96	.95
60 thru 69	6	5.14	3.47	6	2.16	.76
70 thru 79	1	3.00		1	1.73	
MARITAL STATUS						
With spouse/partner	66	5.50	4.62	66	2.19	.85
Without	93	5.75	3.99	93	2.25	.82
EDUCATION						
elementary	12	7.16	2.87	12	2.61	.60
some secondary	73	6.84	5.27	73	2.44	.95
comp secondary	44	4.30	2.43	44	2.00	.56
some college	10	4.37	2.54	10	2.01	.62
comp college	10	3.39	2.53	10	1.68	.79
some university	5	4.86	4.33	5	2.04	.94
comp university	4	4.01	2.32	4	1.91	.69
RELIGIOUS INVOLVEMENT						
yes-daily	1	2.00		1	1.41	
yes-weekly	5	2.73	1.37	5	1.60	.45
yes-monthly	4	2.93	1.72	4	1.65	.54
yes-yearly	3	5.09	2.78	3	2.19	.69
no	146	5.85	4.34	146	2.27	.84

Table F cont: Descriptive statistics for original and transformed usual number of drinks for the Aboriginal sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	16	4.80	5.33	16	1.93	1.08
moderately spiritual	70	5.30	3.18	70	2.19	.71
not very spiritual	39	6.09	5.05	39	2.30	.89
not at all spiritual	34	6.27	4.71	34	2.36	.85
CHILDREN UNDER 15						
yes	67	5.80	4.21	67	2.27	.80
no	91	5.53	4.30	91	2.20	.85
INCOME						
0	1	4.00		1	2.00	
less than \$10,000	24	7.35	4.89	24	2.57	.87
\$10,000-19,999	39	8.41	5.55	39	2.73	.99
\$20,000-29,000	10	3.71	2.06	10	1.85	.56
\$30,000-39,000	36	4.37	2.21	36	2.02	.55
\$40,000-59,000	30	4.08	2.76	30	1.91	.68
\$60,000-74,999	11	3.98	3.01	11	1.90	.65
75,000 plus	8	3.74	1.83	8	1.88	.49
type of employment						
non-seasonal	136	5.02	3.80	136	2.11	.76
seasonal	22	9.42	4.94	22	2.95	.86
EMPLOYMENT						
employed	110	5.13	3.88	110	2.12	.79
other	48	6.84	4.83	48	2.47	.86

Table G: Descriptive statistics for original and transformed five plus drinks for the Aboriginalsub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	148	17.15	39.69	148	1.93	1.36
SEX						
male	77	22.31	51.59	77	2.19	1.34
female	71	11.50	18.58	71	1.65	1.34
Age						
15 thru 19	17	4.75	10.06	17	.93	1.14
20 thru 29	64	14.73	27.23	64	2.07	1.17
30 thru 39	36	27.04	66.53	36	2.08	1.58
40 thru 49	13	14.30	25.84	13	1.83	1.38
50 thru 59	12	13.13	12.51	12	2.16	1.20
60 thru 69	6	36.58	47.96	6	2.52	1.79
70 thru 79	1			1		
MARITAL STATUS						
With spouse/partner	63	12.96	17.18	63	2.00	1.18
Without	86	20.21	50.01	86	1.88	1.48
EDUCATION						
elementary	11	12.09	13.54	11	2.10	1.05
some secondary	67	21.28	54.09	67	2.00	1.41
comp secondary	42	15.77	26.23	42	1.83	1.44
some college	10	14.69	20.48	10	1.75	1.63
comp college	9	11.47	7.92	9	2.23	.96
some university	5	9.45	9.90	5	1.87	1.23
comp university	4	4.62	5.11	4	1.32	1.12
RELIGIOUS INVOLVEMENT						
yes-daily	1			1		
yes-weekly	5	2.11	2.55	5	.80	.96
yes-monthly	4	1.03	2.03	4	.42	.82
yes-yearly	2	21.84	33.79	2	2.44	1.88
no	137	18.14	40.96	137	2.02	1.34

Table G cont: Descriptive statistics for original and transformed five plus drinks for the Aboriginal sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	14	10.07	15.13	14	1.69	1.25
moderately spiritual	69	11.13	14.00	69	1.78	1.27
not very spiritual	35	16.26	27.19	35	1.90	1.41
not at all spiritual	30	35.23	77.93	30	2.42	1.49
CHILDREN UNDER 15						
yes	65	10.32	15.48	65	1.66	1.25
no	84	22.43	50.56	84	2.14	1.42
INCOME						
no income	1	6.00		1	1.95	
less than \$10,000	21	16.01	18.44	21	2.19	1.27
\$10,000-19,999	36	36.35	71.98	36	2.68	1.37
\$20,000-29,000	9	10.43	16.47	9	1.58	1.38
\$30,000-39,000	35	11.82	19.93	35	1.75	1.24
\$40,000-59,000	27	8.52	14.18	27	1.37	1.35
\$60,000-74,999	11	4.92	7.48	11	1.24	1.04
75,000 plus	8	10.83	12.96	8	1.89	1.23
SEASONAL EMPLOYMENT						
non-seasonal	127	15.85	39.14	127	1.82	1.37
seasonal	21	24.89	43.00	21	2.59	1.11
EMPLOYMENT						
employed	104	17.25	45.14	104	1.85	1.38
other	44	16.66	22.65	44	2.13	1.32

Table H: Descriptive statistics for original and transformed maximum number of drinks for the Aboriginal sub-sample.

	q16 max. drinks in			log transformation		
	past 12 months					
	n	mean	sd	n	mean	sd
TOTAL	146	11.31	9.38	146	2.28	.68
SEX						
male	78	13.46	9.39	78	2.49	.62
female	67	8.81	8.78	67	2.05	.68
Age						
15 thru 19	18	6.44	6.64	18	1.70	.79
20 thru 29	63	12.26	7.63	63	2.44	.55
30 thru 39	36	12.49	10.07	36	2.37	.68
40 thru 49	13	8.14	3.53	13	2.13	.45
50 thru 59	10	14.95	19.76	10	2.26	1.02
60 thru 69	4	9.91	3.73	4	2.33	.41
70 thru 79	1	3.00		1	1.39	
MARITAL STATUS						
With spouse/partner	63	10.75	8.49	63	2.26	.63
Without	83	11.72	10.02	83	2.30	.72
EDUCATION						
elementary	9	16.60	17.25	9	2.65	.61
some secondary	66	12.62	9.61	66	2.37	.73
comp secondary	42	9.51	8.17	42	2.15	.63
some college	10	7.33	5.36	10	1.96	.57
comp college	10	9.96	6.39	10	2.24	.58
some university	5	11.33	8.71	5	2.27	.88
comp university	4	10.51	5.49	4	2.33	.60
RELIGIOUS INVOLVEMENT						
yes-daily	1	2.00		1	1.10	
yes-weekly	5	4.35	1.21	5	1.66	.23
yes-monthly	4	4.22	4.06	4	1.45	.73
yes-yearly	3	31.99	32.01	3	3.13	1.15
no	133	11.44	8.42	133	2.32	.65

Table H cont: Descriptive statistics for original and transformed maximum number of drinks for the Aboriginal sub-sample.

	q16 a. max. drinks in			log transformation		
	past 12 months					
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	16	14.31	16.56	16	2.35	.84
moderately spiritual	68	9.82	7.50	68	2.17	.67
not very spiritual	31	12.12	10.27	31	2.33	.71
not at all spiritual	31	12.23	6.82	31	2.44	.56
CHILDREN UNDER 15						
yes	62	10.06	8.13	62	2.17	.70
no	83	12.24	10.15	83	2.37	.66
INCOME						
0	1	18.00		1	2.94	
less than \$10,000	18	14.35	13.83	18	2.50	.65
\$10,000-19,999	33	13.69	8.30	33	2.55	.54
\$20,000-29,000	10	5.66	4.03	10	1.73	.62
\$30,000-39,000	34	10.33	8.74	34	2.25	.56
\$40,000-59,000	30	10.61	10.32	30	2.09	.89
\$60,000-74,999	11	8.60	4.63	11	2.14	.54
75,000 plus	8	11.48	7.81	8	2.37	.58
type of employment						
non-seasonal	124	10.85	9.39	124	2.24	.69
seasonal	21	13.99	9.03	21	2.55	.60
EMPLOYMENT						
employed	107	10.97	8.85	107	2.26	.68
other	39	12.26	10.78	39	2.36	.68

Table I: Descriptive statistics for original and transformed quantity-frequency for the Aboriginal sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	157	584.27	1198.0	157	5.07	1.88
SEX						
male	87	812.73	1490.5	87	5.64	1.66
female	71	304.68	589.11	71	4.36	1.90
Age						
15 thru 19	18	698.51	2100.4	18	3.40	2.42
20 thru 29	71	527.90	726.75	71	5.34	1.59
30 thru 39	37	713.01	1612.1	37	5.30	1.76
40 thru 49	13	329.95	349.64	3	5.29	1.16
50 thru 59	13	724.10	1170.5	13	4.91	2.55
60 thru 69	6	460.08	368.87	6	5.44	1.66
70 thru 79	1	36.00		1	3.61	
MARITAL STATUS						
With spouse/partner	65	554.24	1243.0	65	5.06	1.70
Without	93	605.34	1171.8	93	5.07	2.00
EDUCATION						
elementary	12	529.92	660.74	12	5.47	1.48
some secondary	73	861.94	1648.1	73	5.31	2.03
comp secondary	43	338.06	513.54	43	4.70	1.76
some college	10	258.91	294.93	10	4.75	1.59
comp college	10	273.27	236.49	10	4.69	2.10
some university	5	269.54	260.13	5	4.59	2.24
comp university	4	319.59	209.66	4	5.55	.86
RELIGIOUS INVOLVEMENT						
yes-daily	1	6.00		1	1.95	
yes-weekly	5	155.22	185.77	5	3.98	1.96
yes-monthly	4	38.56	47.98	4	2.79	1.71
yes-yearly	3	685.53	1203.7	3	4.81	2.86
no	145	615.89	1235.3	145	5.19	1.82

Table I cont: Descriptive statistics for original and transformed quantity-frequency for the Aboriginal sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	15	350.04	588.43	15	4.21	2.29
moderately spiritual	70	439.46	738.31	70	4.89	1.86
not very spiritual	39	709.84	1496.0	39	5.14	1.86
not at all spiritual	34	847.26	1684.8	34	5.73	1.59
CHILDREN UNDER 15						
yes	66	404.39	640.69	66	4.69	1.99
no	91	714.54	1466.1	91	5.34	1.76
INCOME						
0	1	624.00		1	6.44	
less than \$10,000	24	741.05	893.95	24	5.41	1.96
\$10,000-19,999	39	1174.4	2066.0	39	5.83	1.91
\$20,000-29,000	10	182.66	195.80	10	4.11	1.95
\$30,000-39,000	36	257.90	259.47	36	4.97	1.31
\$40,000-59,000	29	455.44	821.48	29	4.34	2.36
\$60,000-74,999	11	221.20	264.49	11	4.68	1.27
75,000 plus	8	198.05	196.72	8	4.98	.82
type of employment						
non-seasonal	135	492.16	1008.8	135	4.93	1.87
seasonal	22	1140.6	1935.5	22	5.91	1.73
EMPLOYMENT						
employed	110	479.03	1072.2	110	4.91	1.86
other	48	825.50	1429.5	48	5.42	1.88

Table J: Descriptive statistics for original and transformed yearly frequency of drinking for the Aboriginal sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	157	84.38	102.54	157	3.69	1.72
SEX						
male	87	103.67	103.33	87	4.18	1.55
female	71	60.77	97.14	71	3.09	1.72
Age						
15 thru 19	18	47.22	104.07	18	2.49	1.83
20 thru 29	71	74.71	78.38	71	3.73	1.42
30 thru 39	37	95.34	115.93	37	3.86	1.76
40 thru 49	13	103.77	108.37	13	4.18	1.58
50 thru 59	13	116.37	145.54	13	3.89	2.29
60 thru 69	6	146.22	135.00	6	4.51	2.30
70 thru 79	1	12.00		1	2.29	
MARITAL STATUS						
With spouse/partner	65	78.34	99.93	65	3.66	1.58
Without	93	88.61	104.66	93	3.72	1.81
EDUCATION						
elementary	12	76.98	92.68	12	2.67	1.61
some secondary	73	97.71	118.94	73	3.84	1.84
comp secondary	43	69.62	84.68	43	3.46	1.63
some college	10	57.77	54.50	10	3.43	1.38
comp college	10	92.66	114.72	10	3.76	1.98
some university	5	53.70	51.70	5	3.29	1.56
comp university	4	103.59	103.70	4	4.42	1.23
RELIGIOUS INVOLVEMENT						
yes-daily	1	3.00		1	1.44	
yes-weekly	5	56.07	61.47	5	3.20	1.74
yes-monthly	4	11.18	14.92	4	1.92	.93
yes-yearly	3	113.34	201.13	3	3.62	2.92
no	145	87.28	103.10	145	3.77	1.69

Table J cont: Descriptive statistics for original and transformed yearly frequency of drinking for the Aboriginal sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	15	82.53	124.56	15	3.27	2.16
moderately spiritual	70	67.76	80.70	70	3.48	1.55
not very spiritual	39	91.01	119.08	39	3.72	1.82
not at all spiritual	34	112.29	110.17	34	4.29	1.62
CHILDREN UNDER 15						
yes	66	59.53	79.41	66	3.23	1.59
no	91	102.37	113.52	91	4.03	1.73
INCOME						
0	1	156.00		1	5.38	
less than \$10,000	24	113.55	130.20	24	3.95	2.11
\$10,000-19,999	39	105.24	118.77	39	4.06	1.77
\$20,000-29,000	10	46.84	50.78	10	3.03	1.52
\$30,000-39,000	36	70.67	80.32	36	3.65	1.41
\$40,000-59,000	29	75.40	101.14	29	3.33	1.92
\$60,000-74,999	11	51.19	59.28	11	3.35	1.15
75,000 plus	8	75.93	107.60	8	3.73	1.45
type of employment						
non-seasonal	135	81.74	99.12	135	3.64	1.71
seasonal	22	100.32	122.57	22	3.97	1.75
EMPLOYMENT						
employed	110	80.39	101.66	110	3.61	1.71
other	48	93.52	105.02	48	3.87	1.74

Table K: Descriptive statistics for original and transformed usual number of drinks using the non-Aboriginal sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	732	3.54	2.89	732	1.77	.63
SEX						
male	398	3.93	3.24	398	1.86	.69
female	334	3.07	2.33	334	1.67	.54
Age						
15 thru 19	53	5.63	3.75	53	2.25	.76
20 thru 29	171	4.38	3.55	171	1.98	.69
30 thru 39	260	3.37	2.32	260	1.75	.57
40 thru 49	147	2.68	1.84	147	1.57	.46
50 thru 59	62	2.64	1.94	62	1.55	.50
60 thru 69	30	2.48	1.34	30	1.52	.42
70 thru 79	9	4.12	8.01	9	1.58	1.35
MARITAL STATUS						
With spouse/partner	459	3.19	2.57	459	1.68	.59
Without	273	4.13	3.28	273	1.92	.67
EDUCATION						
elementary	17	4.32	3.81	17	1.91	.84
some secondary	126	4.44	2.97	126	2.00	.68
comp secondary	240	3.93	3.37	240	1.86	.68
some college	43	3.73	1.88	43	1.87	.49
comp college	94	2.75	1.67	94	1.60	.44
some university	58	3.52	3.88	58	1.72	.75
comp university	155	2.54	1.67	155	1.53	.45
RELIGIOUS INVOLVEMENT						
yes-daily	5	1.27	.50	5	1.11	.21
yes-weekly	85	2.19	1.68	85	1.41	.45
yes-monthly	28	2.62	1.40	28	1.56	.44
yes-yearly	20	4.63	3.76	20	2.00	.81
no	594	3.76	2.99	594	1.83	.63

Table K cont: Descriptive statistics for original and transformed usual number of drinks using the non-Aboriginal sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	81	2.85	3.27	81	1.56	.64
moderately spiritual	338	3.21	2.68	338	1.69	.59
not very spiritual	168	3.74	2.90	168	1.83	.64
not at all spiritual	146	4.46	2.92	146	2.02	.62
CHILDREN UNDER 15						
yes	316	3.22	2.59	316	1.69	.59
no	416	3.78	3.08	416	1.83	.65
INCOME						
0	4	6.63	.91	4	2.57	.19
less than \$10,000	9	2.78	.85	9	1.65	.25
\$10,000-19,999	70	5.47	5.13	70	2.14	.95
\$20,000-29,000	67	3.64	2.54	67	1.81	.61
\$30,000-39,000	114	2.77	1.74	114	1.60	.47
\$40,000-59,000	215	3.50	2.23	215	1.79	.55
\$60,000-74,999	128	3.37	3.07	128	1.72	.64
75,000 plus	125	3.32	2.66	125	1.72	.61
type of employment						
non-seasonal	686	3.46	2.82	686	1.75	.62
seasonal	46	4.73	3.59	46	2.05	.74
EMPLOYMENT						
employed	612	3.47	2.72	612	1.76	.60
other -	120	3.88	3.64	120	1.82	.76

Table L: Descriptive statistics for original and transformed five plus for the non-Aboriginal sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	694	10.29	21.84	694	1.41	1.34
SEX						
male	373	14.67	25.92	373	1.81	1.39
female	321	5.21	14.29	321	.95	1.13
Age						
15 thru 19	48	10.75	19.86	48	1.66	1.23
20 thru 29	164	17.20	26.69	164	2.00	1.40
30 thru 39	252	8.81	17.27	252	1.34	1.29
40 thru 49	142	7.85	15.67	142	1.25	1.27
50 thru 59	57	7.06	36.36	57	.68	1.05
60 thru 69	23	2.90	6.26	23	.61	1.06
70 thru 79	8	.13	.36	8	.09	.25
MARITAL STATUS						
With spouse/partner	440	8.64	20.34	440	1.26	1.30
Without	254	13.16	24.00	254	1.67	1.38
EDUCATION						
elementary	14	31.85	71.63	14	1.76	1.94
some secondary	117	10.80	18.74	117	1.58	1.31
comp secondary	225	13.37	25.47	225	1.59	1.41
some college	40	10.31	12.63	40	1.68	1.30
comp college	92	8.11	17.38	92	1.24	1.27
some university	54	9.83	17.02	54	1.54	1.32
comp university	152	4.86	10.28	152	.96	1.14
RELIGIOUS INVOLVEMENT						
yes-daily	5	.13	.37	5	.09	.26
yes-weekly	84	1.64	4.04	84	.49	.81
yes-monthly	28	5.56	8.17	28	1.21	1.20
yes-yearly	19	10.62	14.02	19	1.75	1.28
no	559	11.91	23.78	559	1.56	1.36

Table L cont: Descriptive statistics for original and transformed five plus for the non-Aboriginal sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	79	9.31	24.42	79	1.11	1.37
moderately spiritual	322	8.75	22.43	322	1.22	1.30
not very spiritual	154	10.66	18.69	154	1.53	1.35
not at all spiritual	140	14.00	21.93	140	1.87	1.30
CHILDREN UNDER 15						
yes	307	8.62	22.62	307	1.25	1.27
no	387	11.62	21.15	387	1.53	1.39
INCOME						
no income	4	3.00		4	1.39	
less than \$10,000	7	2.57	1.90	7	1.16	.51
\$10,000-19,999	65	16.96	40.88	65	1.62	1.52
\$20,000-29,000	62	10.58	18.24	62	1.45	1.38
\$30,000-39,000	108	8.42	21.63	108	1.10	1.32
\$40,000-59,000	203	9.46	18.30	203	1.39	1.31
\$60,000-74,999	120	9.42	16.72	120	1.43	1.31
75,000 plus	125	11.10	19.63	125	1.56	1.35
SEASONAL EMPLOYMENT						
non-seasonal	654	9.51	20.70	654	1.37	1.31
seasonal	41	22.89	33.39	41	1.94	1.72
EMPLOYMENT						
employed	585	10.98	22.71	585	1.48	1.35
other	110	6.61	16.10	110	1.02	1.25

Table M: Descriptive statistics for original and transformed maximum number for the non-Aboriginal sub-sample.

	q16 a. max. drinks in past 12 months			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	706	7.91	6.49	706	1.98	.64
SEX						
male	381	9.73	7.08	381	2.18	.63
female	325	5.78	4.94	325	1.74	.56
Age						
15 thru 19	52	11.50	6.95	52	2.37	.60
20 thru 29	167	10.90	8.81	167	2.25	.69
30 thru 39	251	7.19	4.98	251	1.94	.58
40 thru 49	143	6.43	4.62	143	1.84	.58
50 thru 59	57	5.19	4.96	57	1.54	.57
60 thru 69	29	4.45	2.33	29	1.61	.40
70 thru 79	7	2.77	1.26	7	1.28	.35
MARITAL STATUS						
With spouse/partner	445	7.01	5.46	445	1.89	.61
Without	261	9.44	7.71	261	2.13	.66
EDUCATION						
elementary	14	8.31	8.68	14	1.88	.88
some secondary	121	9.52	6.39	121	2.17	.64
comp secondary	229	8.58	7.13	229	2.04	.65
some college	43	9.01	6.03	43	2.13	.61
comp college	91	6.70	5.30	91	1.87	.57
some university	56	9.41	9.19	56	2.09	.69
comp university	152	5.45	3.51	152	1.72	.53
RELIGIOUS INVOLVEMENT						
yes-daily	5	2.90	1.32	5	1.31	.36
yes-weekly	83	4.55	5.18	83	1.48	.62
yes-monthly	27	7.20	7.16	27	1.83	.72
yes-yearly	19	8.34	6.17	19	2.04	.66
no	572	8.46	6.51	572	2.06	.60

Table M: Descriptive statistics for original and transformed maximum number for the non-Aboriginal sub-sample.

	q16 a. max. drinks in past 12 months			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	80	6.13	7.16	80	1.71	.67
moderately spiritual	326	6.89	5.52	326	1.87	.61
not very spiritual	163	8.23	5.90	163	2.05	.59
not at all spiritual	138	10.97	7.75	138	2.31	.60
CHILDREN UNDER 15						
yes	307	6.85	5.46	307	1.88	.60
no	399	8.73	7.08	399	2.06	.66
INCOME						
0	4	14.16	4.56	4	2.67	.40
less than \$10,000	9	5.58	2.55	9	1.82	.37
\$10,000-19,999	65	9.21	8.92	65	2.06	.71
\$20,000-29,000	65	8.28	6.42	65	2.02	.66
\$30,000-39,000	110	6.57	5.46	110	1.82	.62
\$40,000-59,000	207	7.55	5.74	207	1.96	.61
\$60,000-74,999	124	8.21	7.41	124	2.00	.66
75,000 plus	123	8.53	6.04	123	2.06	.63
type of employment						
non-seasonal	663	7.71	6.18	663	1.96	.63
seasonal	43	11.08	9.64	43	2.21	.76
EMPLOYMENT						
employed	593	8.12	6.64	593	2.00	.63
other	113	6.81	5.51	113	1.84	.65

Table N: Descriptive statistics for original and transformed quantity-frequency for the non-Aboriginal sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	725	321.53	566.13	725	4.77	1.57
SEX						
male	395	448.62	685.31	395	5.23	1.52
female	330	169.53	316.97	330	4.22	1.46
Age						
15 thru 19	53	263.41	447.09	53	4.67	1.39
20 thru 29	169	418.29	599.30	169	5.15	1.53
30 thru 39	257	286.62	418.17	257	4.71	1.54
40 thru 49	144	259.37	302.66	144	4.73	1.49
50 thru 59	62	256.67	474.35	62	4.21	1.72
60 thru 69	30	348.13	395.06	30	4.81	1.80
70 thru 79	9	1189.4	3018.8	9	4.45	2.28
MARITAL STATUS						
With spouse/partner	454	291.53	584.18	454	4.68	1.56
Without	270	371.95	531.65	270	4.93	1.58
EDUCATION						
elementary	17	658.26	793.18	17	5.19	2.16
some secondary	124	289.15	412.32	124	4.68	1.60
comp secondary	239	392.16	789.70	239	4.81	1.69
some college	43	315.65	430.81	43	5.01	1.36
comp college	92	248.83	325.44	92	4.69	1.42
some university	57	403.64	601.76	57	5.08	1.54
comp university	152	214.94	245.18	152	4.60	1.43
RELIGIOUS INVOLVEMENT						
yes-daily	5	54.38	74.72	5	3.25	1.51
yes-weekly	85	115.26	147.93	85	3.76	1.60
yes-monthly	28	186.01	217.63	28	4.41	1.46
yes-yearly	20	394.11	627.53	20	5.01	1.49
no	587	357.49	607.00	587	4.94	1.52

Table N cont: Descriptive statistics for original and transformed
quantity-frequency for the non-Aboriginal sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	80	219.25	339.74	80	4.17	1.79
moderately spiritual	335	300.35	666.31	335	4.66	1.53
not very spiritual	166	314.29	419.27	166	4.91	1.46
not at all spiritual	143	436.93	547.50	143	5.21	1.55
CHILDREN UNDER 15						
yes	314	230.38	384.71	314	4.50	1.51
no	410	391.30	664.83	410	4.98	1.59
INCOME						
0	4	159.17	21.89	4	5.07	.15
less than \$10,000	9	269.53	475.82	9	4.45	1.63
\$10,000-19,999	69	551.87	1274.6	69	4.69	2.02
\$20,000-29,000	67	329.65	469.80	67	4.66	1.77
\$30,000-39,000	113	229.44	329.78	113	4.46	1.59
\$40,000-59,000	212	293.22	450.09	212	4.73	1.50
\$60,000-74,999	126	320.91	503.81	126	4.84	1.47
75,000 plus	125	331.06	336.45	125	5.17	1.34
type of employment						
non-seasonal	680	308.24	555.64	680	4.74	1.56
seasonal	45	522.77	682.44	45	5.25	1.69
EMPLOYMENT						
employed	606	326.37	472.88	606	4.84	1.56
other	119	296.87	904.70	119	4.40	1.59

Table O: Descriptive statistics for original and transformed yearly frequency of drinking for the non-Aboriginal sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	725	87.10	98.38	725	3.81	1.63
SEX						
male	395	111.69	106.23	395	4.26	1.63
female	330	57.70	78.70	330	3.26	1.45
Age						
15 thru 19	53	44.98	65.14	53	3.07	1.24
20 thru 29	169	93.04	97.52	169	3.98	1.57
30 thru 39	257	80.55	89.40	257	3.73	1.56
40 thru 49	144	99.48	102.83	144	4.02	1.68
50 thru 59	62	76.41	104.42	62	3.49	1.72
60 thru 69	30	136.36	137.06	30	4.36	2.06
70 thru 79	9	118.84	150.63	9	4.06	2.10
MARITAL STATUS						
With spouse/partner	454	87.47	97.60	454	3.81	1.63
Without	270	86.46	99.86	270	3.80	1.62
EDUCATION						
elementary	17	133.78	137.40	17	4.37	2.04
some secondary	124	63.05	79.03	124	3.40	1.47
comp secondary	239	89.97	104.05	239	3.79	1.72
some college	43	80.99	83.22	43	3.84	1.45
comp college	92	90.37	101.28	92	3.88	1.62
some university	57	108.53	94.04	57	4.28	1.57
comp university	152	88.83	99.56	152	3.88	1.58
RELIGIOUS INVOLVEMENT						
yes-daily	5	34.47	35.22	5	2.91	1.19
yes-weekly	85	55.81	82.06	85	3.13	1.54
yes-monthly	28	62.16	70.93	28	3.52	1.30
yes-yearly	20	64.19	59.04	20	3.66	1.13
no	587	94.05	101.89	587	3.93	1.65

Table O: Descriptive statistics for original and transformed yearly frequency of drinking for the non-Aboriginal sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	80	78.65	100.24	80	3.51	1.78
moderately spiritual	335	85.71	102.93	335	3.77	1.63
not very spiritual	166	88.53	90.49	166	3.89	1.58
not at all spiritual	143	93.45	95.75	143	3.98	1.58
CHILDREN UNDER 15						
yes	314	72.63	86.88	314	3.57	1.54
no	410	98.18	105.11	410	3.99	1.68
INCOME						
0	4	24.00		4	2.88	
less than \$10,000	9	77.14	117.30	9	3.50	1.78
\$10,000-19,999	69	73.17	98.52	69	3.43	1.72
\$20,000-29,000	67	85.77	96.62	67	3.70	1.76
\$30,000-39,000	113	82.14	99.57	113	3.68	1.65
\$40,000-59,000	212	80.16	96.55	212	3.69	1.58
\$60,000-74,999	126	90.01	95.09	126	3.93	1.56
75,000 plus	125	111.25	102.17	125	4.32	1.53
type of employment						
non-seasonal	680	86.36	98.21	680	3.79	1.63
seasonal	45	98.32	101.38	45	4.04	1.64
EMPLOYMENT						
employed	606	91.51	99.35	606	3.90	1.63
other	119	64.67	90.37	119	3.35	1.55

they reside. Therefore, while the indicants of a stake in society used in this analysis are culturally biased, the concept of a stake in society as influencing conforming behaviour was applicable to both cultural groups.

As discussed previously, while there is a lower proportion of Aboriginal peoples who are current drinkers (63% versus 81% of non-Aboriginals), one third of Aboriginal peoples who are current drinkers exhibit heavy levels of consumption (five or more drinks per occasion). Since 20% of Aboriginal peoples are in the regular former drinker category, there is polarization between heavy drinking and abstention among Aboriginal peoples in the Yukon. Furthermore, Aboriginal peoples who drink are more likely to be heavier drinkers than non-Aboriginals. Those who are at the highest risk for alcohol-related health problems, injury, or accidents are the heavier drinkers, particularly those who are heavy-frequents (five or more drinks per occasion/four or more occasions per month). In addition, it is the heavy-frequent drinker who is more likely than other types of drinkers to engage in risk behaviours including as other types of substance abuse, drinking and driving, and smoking (Yukon Alcohol and Drug Survey, 1991).

Given the serious implications of the YADS findings we undertook an analysis of the predictors of heavy drinking among the two sub-samples in spite of the problems inherent in a culturally biased study. While the YADS did provide

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Table P: descriptive statistics for original and transformed usual number of drinks for the Aboriginal male sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	87	6.35	4.98	87	2.36	.90
Age						
15 thru 19	9	6.31	6.75	9	2.27	1.15
20 thru 29	40	6.61	4.43	40	2.45	.81
30 thru 39	20	7.33	6.07	20	2.51	1.04
40 thru 49	7	3.77	3.49	7	1.83	.70
50 thru 59	7	6.28	4.30	7	2.35	.94
60 thru 69	4	3.42	1.71	4	1.80	.47
MARITAL STATUS						
With spouse/partner	34	6.08	5.76	34	2.26	1.00
Without	52	6.52	4.45	52	2.42	.83
EDUCATION						
elementary	6	7.42	3.25	6	2.65	.71
some secondary	46	7.43	6.05	46	2.52	1.04
comp secondary	23	4.67	2.74	23	2.07	.63
comp college	6	4.33	2.57	6	1.99	.65
some university	3	5.35	5.43	3	2.14	1.09
comp university	2	5.42	.65	2	2.33	.14
RELIGIOUS INVOLVEMENT						
yes-weekly	2	3.53	.68	2	1.87	.18
yes-monthly	1	1.00		1	1.00	
yes-yearly	2	4.73	3.64	2	2.09	.90
no	81	6.54	5.05	81	2.39	.90

Table P cont: descriptive statistics for original and transformed usual number of drinks for the Aboriginal male sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	11	5.85	6.10	11	2.18	1.11
moderately spiritual	32	5.66	3.29	32	2.27	.71
not very spiritual	24	7.14	6.06	24	2.47	1.05
not at all spiritual	20	6.75	5.35	20	2.44	.90
CHILDREN UNDER 15						
yes	31	6.92	5.07	31	2.49	.86
no	56	6.04	4.95	56	2.28	.92
INCOME						
less than \$10,000	10	7.29	6.72	10	2.47	1.14
\$10,000-19,999	24	10.06	6.10	24	3.02	1.01
\$20,000-29,000	7	3.51	2.44	7	1.77	.66
\$30,000-39,000	18	3.83	1.77	18	1.90	.50
\$40,000-59,000	17	5.43	2.69	17	2.26	.58
\$60,000-74,999	6	4.49	3.76	6	1.99	.77
75,000 plus	4	4.79	1.53	4	2.17	.33
type of employment						
non-seasonal	70	5.57	4.50	70	2.21	.82
seasonal	17	9.66	5.68	17	2.96	.99
EMPLOYMENT						
employed	59	5.79	4.54	59	2.26	.85
other	27	7.56	5.72	27	2.57	.98

Table Q: Descriptive statistics for original and transformed five plus for the Aboriginal male sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	77	22.31	51.59	77	2.19	1.34
Age						
15 thru 19	8	9.03	13.56	8	1.51	1.34
20 thru 29	33	17.87	34.53	33	2.27	1.13
30 thru 39	18	39.18	90.14	18	2.37	1.65
40 thru 49	7	8.92	9.23	7	1.82	1.17
50 thru 59	7	10.12	10.20	7	1.92	1.20
60 thru 69	4	48.85	51.12	4	3.02	1.85
MARITAL STATUS						
With spouse/partner	32	10.79	11.89	32	2.02	1.01
Without	46	30.35	65.58	46	2.30	1.53
EDUCATION						
elementary	4	8.32	9.21	4	1.88	.96
some secondary	41	27.59	67.82	41	2.13	1.51
comp secondary	21	20.78	28.87	21	2.27	1.38
comp college	6	14.24	6.87	6	2.62	.53
some university	3	9.65	11.78	3	1.98	1.07
comp university	2	7.96	4.56	2	2.12	.50
RELIGIOUS INVOLVEMENT						
yes-weekly	2	4.47	.68	2	1.70	.12
yes-monthly	1			1		
yes-yearly	1	3.00		1	1.39	
no	73	23.46	52.89	73	2.25	1.35

Table Q cont: Descriptive statistics for original and transformed five plus for the Aboriginal male sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	10	5.80	6.28	10	1.53	.97
moderately spiritual	30	12.71	12.49	30	2.12	1.13
not very spiritual	20	20.48	29.44	20	2.15	1.50
not at all spiritual	17	51.19	100.60	17	2.73	1.56
CHILDREN UNDER 15						
yes	28	11.65	15.17	28	1.92	1.17
no	49	28.45	63.16	49	2.34	1.42
INCOME						
less than \$10,000	8	12.61	10.18	8	2.10	1.31
\$10,000-19,999	22	49.32	90.56	22	2.90	1.42
\$20,000-29,000	6	13.20	20.02	6	1.71	1.56
\$30,000-39,000	17	10.40	16.19	17	1.74	1.16
\$40,000-59,000	14	12.56	14.73	14	2.02	1.24
\$60,000-74,999	6	7.47	9.11	6	1.62	1.17
75,000 plus	4	18.38	15.26	4	2.66	.99
SEASONAL EMPLOYMENT						
non-seasonal	62	21.18	52.56	62	2.08	1.37
seasonal	16	26.81	48.93	16	2.61	1.14
EMPLOYMENT						
employed	54	23.22	59.69	54	2.10	1.36
other	24	20.28	26.33	24	2.38	1.29

Table R: Descriptive statistics for original and transformed maximum number for the Aboriginal male sub-sample.

	MAXIMUM NUMBER			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	78	13.46	9.39	78	2.49	.62
Age						
15 thru 19	9	9.56	7.88	9	2.14	.70
20 thru 29	35	15.00	8.53	35	2.65	.50
30 thru 39	19	14.79	10.68	19	2.58	.58
40 thru 49	7	8.76	3.88	7	2.19	.49
50 thru 59	7	13.30	14.79	7	2.24	1.02
60 thru 69	2	8.50	4.66	2	2.18	.51
MARITAL STATUS						
With spouse/partner	33	12.30	9.40	33	2.38	.65
Without	45	14.31	9.40	45	2.56	.59
EDUCATION						
elementary	4	11.43	4.81	4	2.45	.47
some secondary	41	14.84	10.07	41	2.57	.64
comp secondary	21	11.80	10.53	21	2.32	.70
comp college	6	12.98	6.08	6	2.55	.45
some university	3	9.15	3.17	3	2.29	.29
comp university	2	14.31	2.61	2	2.72	.17
RELIGIOUS INVOLVEMENT						
yes-weekly	2	5.53	.68	2	1.87	.10
yes-monthly	1	1.00		1	.69	
yes-yearly	2	17.45	16.77	2	2.69	.99
no	73	13.79	9.29	73	2.53	.58

Table R: Descriptive statistics for original and transformed maximum number for the Aboriginal male sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	11	5.80	6.28	11	1.53	.97
moderately spiritual	30	12.71	12.49	30	2.12	1.13
not very spiritual	19	11.91	14.90	19	1.84	1.35
not at all spiritual	18	30.48	51.55	18	2.65	1.32
CHILDREN UNDER 15						
yes	28	12.23	15.76	28	1.94	1.21
no	50	16.72	30.52	50	2.15	1.25
INCOME						
less than \$10,000	7	12.71	11.06	7	2.03	1.40
\$10,000-19,999	21	23.85	44.88	21	2.52	1.15
\$20,000-29,000	7	13.20	20.02	7	1.71	1.56
\$30,000-39,000	17	11.23	16.78	17	1.80	1.20
\$40,000-59,000	17	12.56	14.73	17	2.02	1.24
\$60,000-74,999	6	7.47	9.11	6	1.62	1.17
75,000 plus	4	18.38	15.26	4	2.66	.99
SEASONAL EMPLOYMENT						
non-seasonal	62	11.86	13.99	62	1.93	1.22
seasonal	17	26.81	48.93	17	2.61	1.14
EMPLOYMENT						
employed	58	15.47	29.77	58	2.02	1.25
other	20	14.10	12.19	20	2.23	1.18

Table S: Descriptive statistics for original and transformed quantity-frequency for the Aboriginal male sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	87	812.73	1490.5	87	5.64	1.66
Age						
15 thru 19	9	1353.0	2871.8	9	4.49	2.63
20 thru 29	40	668.67	816.76	40	5.78	1.37
30 thru 39	20	1012.2	2025.3	20	5.99	1.46
40 thru 49	7	295.36	250.69	7	5.09	1.40
50 thru 59	7	968.66	1458.0	7	5.41	2.49
60 thru 69	4	616.14	279.12	4	6.30	.65
MARITAL STATUS						
With spouse/partner	34	799.17	1641.7	34	5.38	1.75
Without	52	821.56	1399.7	52	5.81	1.60
EDUCATION						
elementary	6	546.99	195.39	6	6.23	.49
some secondary	46	1130.2	1942.3	46	5.78	1.85
comp secondary	23	469.29	614.35	23	5.21	1.72
comp college	6	398.02	196.26	6	5.87	.57
some university	3	204.00	164.55	3	4.84	1.48
comp university	2	413.83	237.19	2	5.93	.57
RELIGIOUS INVOLVEMENT						
yes-weekly	2	253.75	233.91	2	5.21	1.18
yes-monthly	1	2.00		1	1.10	
yes-yearly	2	94.40	118.09	2	3.68	2.32
no	81	855.54	1527.2	81	5.76	1.57

Table S cont: Descriptive statistics for original and transformed quantity-frequency for the Aboriginal male sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	11	333.60	450.75	11	4.67	1.98
moderately spiritual	32	705.29	982.85	32	5.52	1.76
not very spiritual	24	941.68	1796.4	24	5.74	1.60
not at all spiritual	20	1080.5	2033.0	20	6.22	1.20
CHILDREN UNDER 15						
yes	31	609.21	752.20	31	5.54	1.67
no	56	923.67	1765.0	56	5.69	1.67
INCOME						
less than \$10,000	10	963.73	965.34	10	6.04	1.69
\$10,000-19,999	24	1592.5	2456.2	24	6.33	1.78
\$20,000-29,000	7	209.40	225.95	7	3.93	2.34
\$30,000-39,000	18	296.37	198.67	18	5.36	1.04
\$40,000-59,000	17	746.41	991.30	17	5.73	1.54
\$60,000-74,999	6	316.69	312.27	6	5.04	1.45
75,000 plus	4	197.46	20.45	4	5.29	.11
type of employment						
non-seasonal	70	726.15	1310.0	70	5.55	1.66
seasonal	17	1179.9	2106.1	17	6.04	1.65
EMPLOYMENT						
employed	59	627.74	1338.1	59	5.37	1.64
other	27	1214.2	1736.7	27	6.22	1.59

Table T: Descriptive statistics for original and transformed yearly frequency for the Aboriginal male sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	87	103.67	103.33	87	4.18	1.55
Age						
15 thru 19	9	85.56	138.43	9	3.31	2.19
20 thru 29	40	83.54	67.04	40	4.08	1.13
30 thru 39	20	132.65	127.21	20	4.54	1.72
40 thru 49	7	91.51	85.49	7	4.02	1.60
50 thru 59	7	111.14	140.73	7	4.04	2.04
60 thru 69	4	197.36	116.81	4	5.67	1.06
MARITAL STATUS						
With spouse/partner	34	96.04	111.06	34	3.98	1.63
Without	52	108.64	98.75	52	4.31	1.50
EDUCATION						
elementary	6	80.50	22.60	6	4.29	.40
some secondary	46	118.10	121.90	46	4.29	1.74
comp secondary	23	81.58	69.53	23	3.88	1.46
comp college	6	135.47	125.51	6	4.78	1.43
some university	3	47.80	51.59	3	3.31	1.30
comp university	2	73.98	33.88	2	4.14	.63
RELIGIOUS INVOLVEMENT						
yes-weekly	2	66.27	54.40	2	3.85	1.24
yes-monthly	1	2.00		1	1.26	
yes-yearly	2	14.46	15.31	2	2.23	1.05
no	81	108.15	104.55	81	4.28	1.52

Table T cont: Descriptive statistics for original and transformed yearly frequency for the Aboriginal male sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	11	86.34	120.11	11	3.53	2.02
moderately spiritual	32	95.89	96.56	32	4.06	1.55
not very spiritual	24	101.93	107.22	24	4.18	1.51
not at all spiritual	20	126.85	103.86	20	4.71	1.27
CHILDREN UNDER 15						
yes	31	78.78	71.68	31	3.86	1.39
no	56	117.23	115.39	56	4.36	1.62
INCOME						
less than \$10,000	10	139.70	114.01	10	4.72	1.69
\$10,000-19,999	24	128.45	129.24	24	4.46	1.74
\$20,000-29,000	7	56.30	59.66	7	3.11	1.83
\$30,000-39,000	18	87.94	78.88	18	4.14	1.18
\$40,000-59,000	17	110.19	106.67	17	4.28	1.60
\$60,000-74,999	6	67.86	73.43	6	3.68	1.33
75,000 plus	4	44.62	14.31	4	3.51	.43
type of employment						
non-seasonal	70	106.42	104.02	70	4.21	1.58
seasonal	17	92.01	102.71	17	4.04	1.46
EMPLOYMENT						
employed	59	90.66	99.50	59	3.95	1.55
other	27	131.90	107.68	27	4.69	1.46

Table U: Descriptive statistics for original and transformed usual number of drinks for the Aboriginal female sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	72	4.80	2.97	72	2.07	.72
Age						
15 thru 19	9	2.89	2.49	9	1.57	.63
20 thru 29	31	5.47	2.65	31	2.27	.59
30 thru 39	17	5.20	3.57	17	2.15	.79
40 thru 49	6	3.95	1.75	6	1.94	.49
50 thru 59	6	2.82	2.03	6	1.51	.80
60 thru 69	2	10.00		2	3.16	
70 thru 79	1	3.00		1	1.73	
MARITAL STATUS						
With spouse/partner	31	4.87	2.90	31	2.11	.66
Without	40	4.74	3.06	40	2.04	.76
EDUCATION						
elementary	6	6.93	2.75	6	2.59	.53
some secondary	27	5.81	3.39	27	2.29	.78
comp secondary	21	3.88	2.02	21	1.92	.47
some college	10	4.37	2.54	10	2.01	.62
comp college	4	1.73	1.55	4	1.13	.79
some university	2	4.04	3.82	2	1.88	1.11
comp university	2	2.33	2.68	2	1.41	.83
RELIGIOUS INVOLVEMENT						
yes-daily	1	2.00		1	1.41	
yes-weekly	3	2.18	1.56	3	1.41	.52
yes-monthly	3	3.73	1.20	3	1.92	.30
yes-yearly	1	6.00		1	2.45	
no	64	4.99	3.03	64	2.12	.72

Table U cont: Descriptive statistics for original and transformed usual number of drinks for the Aboriginal female sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	5	2.55	2.25	5	1.40	.87
moderately spiritual	39	5.00	3.10	39	2.12	.72
not very spiritual	15	4.39	1.90	15	2.04	.48
not at all spiritual	13	5.52	3.57	13	2.22	.79
CHILDREN UNDER 15						
yes	36	4.86	3.08	36	2.09	.72
no	35	4.73	2.89	35	2.06	.72
INCOME						
0	1	4.00		1	2.00	
less than \$10,000	13	7.39	3.15	13	2.65	.64
\$10,000-19,999	15	5.71	3.07	15	2.26	.79
\$20,000-29,000	3	4.11	1.23	3	2.01	.29
\$30,000-39,000	17	4.94	2.52	17	2.15	.59
\$40,000-59,000	13	2.36	1.72	13	1.45	.52
\$60,000-74,999	5	3.27	1.66	5	1.76	.49
75,000 plus	4	2.74	1.62	4	1.60	.48
type of employment						
non-seasonal	66	4.44	2.79	66	2.00	.69
seasonal	6	8.77	1.86	6	2.95	.33
EMPLOYMENT						
employed	51	4.36	2.80	51	1.97	.71
other	20	5.87	3.18	20	2.33	.67

Table V: Descriptive statistics for original and transformed five plus for the Aboriginal female sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	71	11.50	18.58	71	1.65	1.34
Age						
15 thru 19	9	.79	1.22	9	.40	.61
20 thru 29	31	11.31	15.91	31	1.85	1.19
30 thru 39	17	14.10	20.02	17	1.78	1.49
40 thru 49	6	19.90	36.47	6	1.84	1.68
50 thru 59	5	17.08	15.29	5	2.49	1.25
60 thru 69	2	2.00		2	1.10	
70 thru 79	1			1		
MARITAL STATUS						
With spouse/partner	31	15.22	21.32	31	1.99	1.35
Without	40	8.65	15.87	40	1.40	1.28
EDUCATION						
elementary	6	14.74	16.17	6	2.25	1.16
some secondary	27	11.67	17.15	27	1.81	1.25
comp secondary	21	10.81	22.95	21	1.39	1.39
some college	10	14.69	20.48	10	1.75	1.63
comp college	3	5.26	7.51	3	1.35	1.25
some university	2	9.12	11.47	2	1.69	2.12
comp university	2	.67	1.34	2	.37	.74
RELIGIOUS INVOLVEMENT						
yes-daily	1			1		
yes-weekly	2			2		
yes-monthly	3	1.46	2.41	3	.59	.97
yes-yearly	1	48.00		1	3.89	
no	64	12.08	18.83	64	1.75	1.30

Table V cont: Descriptive statistics for original and transformed five plus for the Aboriginal female sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	4	20.02	25.14	4	2.05	1.38
moderately spiritual	39	9.88	15.13	39	1.52	1.34
not very spiritual	15	10.50	23.53	15	1.56	1.25
not at all spiritual	13	14.61	20.76	13	2.01	1.33
CHILDREN UNDER 15						
yes	36	9.27	15.85	36	1.46	1.28
no	34	13.84	21.06	34	1.86	1.38
INCOME						
no income	1	6.00		1	1.95	
less than \$10,000	13	17.97	22.00	13	2.24	1.30
\$10,000-19,999	15	17.16	17.98	15	2.35	1.26
\$20,000-29,000	3	5.73	8.66	3	1.36	1.26
\$30,000-39,000	17	13.25	23.53	17	1.77	1.36
\$40,000-59,000	12	3.77	12.41	12	.60	1.07
\$60,000-74,999	5	1.31	1.21	5	.71	.59
75,000 plus	4	3.69	4.85	4	1.16	1.02
SEASONAL EMPLOYMENT						
non-seasonal	65	10.76	18.12	65	1.57	1.33
seasonal	6	19.77	23.39	6	2.54	1.13
EMPLOYMENT						
employed	50	11.11	19.29	50	1.58	1.35
other	20	12.46	17.14	20	1.83	1.33

Table W: Descriptive statistics for original and transformed maximum numberfor the Aboriginal female sub-sample.

	MAXIMUM NUMBER			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	67	8.81	8.78	67	2.05	.68
Age						
15 thru 19	9	3.22	2.86	9	1.26	.62
20 thru 29	29	8.96	4.67	29	2.19	.50
30 thru 39	17	9.95	8.99	17	2.14	.72
40 thru 49	6	7.48	3.33	6	2.07	.43
50 thru 59	4	17.86	29.38	4	2.29	1.17
60 thru 69	2	12.00		2	2.56	
70 thru 79	1	3.00		1	1.39	
MARITAL STATUS						
With spouse/partner	29	9.01	7.08	29	2.13	.58
Without	38	8.65	9.98	38	1.98	.74
EDUCATION						
elementary	4	22.01	24.62	4	2.86	.73
some secondary	25	8.91	7.62	25	2.04	.75
comp secondary	21	7.21	3.88	21	1.99	.52
some college	10	7.33	5.36	10	1.96	.57
comp college	4	4.62	1.64	4	1.70	.28
some university	2	14.98	17.59	2	2.23	1.93
comp university	2	6.00	4.18	2	1.86	.59
RELIGIOUS INVOLVEMENT						
yes-daily	1	2.00		1	1.10	
yes-weekly	3	3.55	.60	3	1.51	.13
yes-monthly	3	5.55	4.21	3	1.75	.61
yes-yearly	1	69.00		1	4.25	
no	60	8.58	6.19	60	2.07	.64

Table W cont: Descriptive statistics for original and transformed
maximum number for the Aboriginal female sub-sample.

	MAXIMUM NUMBER			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	5	14.56	25.40	5	2.10	1.10
moderately spiritual	37	8.17	6.84	37	2.00	.68
not very spiritual	12	6.72	3.37	12	1.94	.53
not at all spiritual	13	10.27	6.00	13	2.26	.63
CHILDREN UNDER 15						
yes	34	7.99	6.94	34	1.95	.73
no	33	9.65	10.38	33	2.14	.61
INCOME						
no income	1	18.00		1	2.94	
less than \$10,000	11	15.85	17.27	11	2.51	.79
\$10,000-19,999	13	10.75	6.44	13	2.32	.58
\$20,000-29,000	3	6.31	5.30	3	1.84	.60
\$30,000-39,000	17	7.65	3.63	17	2.08	.40
\$40,000-59,000	13	3.68	3.03	13	1.36	.63
\$60,000-74,999	5	6.80	3.46	5	1.97	.49
75,000 plus	4	6.70	2.66	4	2.00	.35
SEASONAL EMPLOYMENT						
non-seasonal	63	8.61	8.99	63	2.01	.69
seasonal	5	11.40	5.16	5	2.46	.36
EMPLOYMENT						
employed	49	7.77	5.21	49	1.99	.63
other	18	11.57	14.41	18	2.18	.79

Table X: Descriptive statistics for original and transformed yearly frequency of drinking for the Aboriginal female sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	71	60.77	97.14	71	3.09	1.72
Age						
15 thru 19	9	7.71	11.73	9	1.64	.81
20 thru 29	31	63.27	90.90	31	3.28	1.63
30 thru 39	17	49.76	83.01	17	3.03	1.48
40 thru 49	6	116.52	134.99	6	4.35	1.69
50 thru 59	6	122.33	164.53	6	3.71	2.73
60 thru 69	2	2.00		2	1.26	
70 thru 79	1	12.00		1	2.29	
MARITAL STATUS						
With spouse/partner	31	58.67	83.33	31	3.29	1.47
Without	40	62.38	107.57	40	2.93	1.90
EDUCATION						
elementary	6	73.78	131.81	6	3.12	2.12
some secondary	27	62.31	106.72	27	3.06	1.79
comp secondary	20	56.03	99.23	20	2.97	1.71
some college	10	57.77	54.50	10	3.43	1.38
comp college	4	17.05	22.06	4	1.96	1.53
some university	2	63.62	78.76	2	3.25	2.83
comp university	2	138.67	173.97	2	4.75	2.04
RELIGIOUS INVOLVEMENT						
yes-daily	1	3.00		1	1.44	
yes-weekly	3	49.14	75.93	3	2.76	2.12
yes-monthly	3	14.96	17.01	3	2.19	1.01
yes-yearly	1	365.00		1	7.15	
no	63	60.46	95.47	63	3.12	1.69

**Table X cont: Descriptive statistics for original and transformed
yearly frequency of drinking for the Aboriginal female
sub-sample.**

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	4	73.07	152.43	4	2.62	2.67
moderately spiritual	39	44.65	56.34	39	2.99	1.40
not very spiritual	15	73.38	138.26	15	2.99	2.07
not at all spiritual	13	89.71	119.91	13	3.65	1.93
CHILDREN UNDER 15						
yes	36	42.99	82.93	36	2.69	1.57
no	35	78.71	107.87	35	3.50	1.80
INCOME						
0	1	156.00		1	5.38	
less than \$10,000	13	93.44	142.44	13	3.36	2.27
\$10,000-19,999	15	67.21	90.88	15	3.41	1.67
\$20,000-29,000	3	28.05	23.25	3	2.87	.84
\$30,000-39,000	17	52.33	80.00	17	3.12	1.48
\$40,000-59,000	12	28.14	72.89	12	2.04	1.56
\$60,000-74,999	5	27.59	20.13	5	2.88	.74
75,000 plus	4	105.48	153.14	4	3.93	2.11
type of employment						
non-seasonal	65	55.10	86.68	65	3.03	1.64
seasonal	6	123.87	177.79	6	3.78	2.58
EMPLOYMENT						
employed	50	68.28	103.84	50	3.22	1.81
other	20	42.32	77.53	20	2.78	1.47

Table Y: Descriptive statistics for original and transformed usual number for the non-Aboriginal male sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	398	3.93	3.24	398	1.86	.69
Age						
15 thru 19	32	6.16	4.22	32	2.35	.83
20 thru 29	86	4.71	3.68	86	2.05	.72
30 thru 39	131	4.01	2.74	131	1.90	.64
40 thru 49	88	2.87	2.10	88	1.62	.50
50 thru 59	39	2.75	2.25	39	1.57	.55
60 thru 69	19	2.60	1.52	19	1.55	.47
70 thru 79	3	8.67	12.88	3	2.30	2.18
MARITAL STATUS						
With spouse/partner	238	3.44	3.01	238	1.74	.65
Without	160	4.66	3.44	160	2.04	.70
EDUCATION						
elementary	12	4.80	4.35	12	1.99	.96
some secondary	73	4.82	3.09	73	2.08	.70
comp secondary	134	4.36	3.61	134	1.96	.73
some college	18	4.02	1.77	18	1.96	.43
comp college	50	2.87	1.81	50	1.64	.44
some university	33	4.21	5.00	33	1.83	.95
comp university	79	2.77	1.89	79	1.59	.48
RELIGIOUS INVOLVEMENT						
yes-daily	2	1.00		2	1.00	
yes-weekly	29	2.65	2.32	29	1.53	.56
yes-monthly	14	3.04	1.55	14	1.68	.48
yes-yearly	17	5.04	4.04	17	2.08	.87
no	336	4.04	3.29	336	1.89	.69

Table Y cont: Descriptive statistics for original and transformed usual number for the non-Aboriginal male sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	39	2.85	2.64	39	1.57	.64
moderately spiritual	168	3.59	3.25	168	1.77	.66
not very spiritual	98	4.22	3.31	98	1.93	.71
not at all spiritual	92	4.71	3.21	92	2.07	.66
CHILDREN UNDER 15						
yes	151	3.27	2.33	151	1.71	.59
no	247	4.33	3.64	247	1.95	.73
INCOME						
less than \$10,000	2	3.00		2	1.73	
\$10,000-19,999	34	6.37	5.63	34	2.30	1.06
\$20,000-29,000	36	4.14	2.95	36	1.92	.69
\$30,000-39,000	47	3.02	2.03	47	1.66	.52
\$40,000-59,000	122	3.85	2.33	122	1.88	.56
\$60,000-74,999	77	3.81	3.62	77	1.82	.71
75,000 plus	80	3.60	3.04	80	1.78	.67
type of employment						
non-seasonal	359	3.80	3.17	359	1.83	.68
seasonal	39	5.11	3.73	39	2.14	.75
EMPLOYMENT						
employed	351	3.79	2.90	351	1.84	.64
other	47	4.94	5.07	47	2.00	.99

Table 2: Descriptive statistics for original and transformed five plus for the non-Aboriginal male sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	373	14.67	25.92	373	1.81	1.39
Age						
15 thru 19	27	14.20	24.22	27	1.91	1.28
20 thru 29	83	24.03	29.63	83	2.52	1.29
30 thru 39	127	14.21	21.51	127	1.88	1.33
40 thru 49	85	10.28	15.18	85	1.64	1.27
50 thru 59	35	10.53	46.27	35	.76	1.19
60 thru 69	14	3.25	7.33	14	.63	1.12
70 thru 79	2			2		
MARITAL STATUS						
With spouse/partner	228	12.68	25.01	228	1.69	1.34
Without	145	17.79	27.08	145	1.99	1.45
EDUCATION						
elementary	10	41.12	81.09	10	2.05	2.08
some secondary	65	12.50	20.68	65	1.77	1.30
comp secondary	125	17.85	27.67	125	1.97	1.44
some college	18	18.49	13.79	18	2.53	1.14
comp college	48	13.34	22.57	48	1.69	1.39
some university	29	14.52	20.81	29	2.00	1.35
comp university	78	7.78	13.13	78	1.38	1.23
RELIGIOUS INVOLVEMENT						
yes-daily	2			2		
yes-weekly	28	2.81	4.53	28	.85	.94
yes-monthly	14	8.18	10.23	14	1.57	1.29
yes-yearly	15	12.73	14.82	15	2.04	1.18
no	313	16.23	27.67	313	1.91	1.40

Table 2 cont: Descriptive statistics for original and transformed five plus for the non-Aboriginal male sub-sample.

	FIVE PLUS			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	38	13.41	24.79	38	1.45	1.55
moderately spiritual	157	13.60	28.95	157	1.67	1.38
not very spiritual	89	14.63	21.60	89	1.91	1.37
not at all spiritual	89	17.14	24.87	89	2.11	1.30
CHILDREN UNDER 15						
yes	147	12.24	28.03	147	1.63	1.29
no	227	16.24	24.39	227	1.92	1.43
INCOME						
less than \$10,000	2	3.00		2	1.39	
\$10,000-19,999	30	22.77	52.68	30	1.71	1.66
\$20,000-29,000	32	13.59	20.38	32	1.68	1.47
\$30,000-39,000	45	14.81	30.52	45	1.56	1.49
\$40,000-59,000	114	13.40	21.91	114	1.76	1.36
\$60,000-74,999	71	14.27	19.72	71	1.98	1.28
75,000 plus	80	14.38	20.29	80	1.95	1.32
SEASONAL EMPLOYMENT						
non-seasonal	339	13.46	24.54	339	1.77	1.34
seasonal	34	26.55	35.15	34	2.16	1.73
EMPLOYMENT						
employed	333	15.26	26.35	333	1.88	1.36
other	40	9.70	21.60	40	1.18	1.45

Table Aa: Descriptive statistics for original and transformed quantity-frequency for the non-Aboriginal female sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	395	448.62	685.31	395	5.23	1.52
Age						
15 thru 19	32	353.44	552.59	32	4.93	1.42
20 thru 29	86	590.72	626.32	86	5.80	1.21
30 thru 39	130	424.59	518.54	130	5.24	1.53
40 thru 49	86	358.69	343.19	86	5.24	1.35
50 thru 59	39	329.46	565.80	39	4.39	1.79
60 thru 69	19	323.34	338.90	19	4.88	1.66
70 thru 79	3	2928.0	4897.1	3	4.74	3.65
MARITAL STATUS						
With spouse/partner	237	401.61	718.83	237	5.11	1.53
Without	157	519.53	626.97	157	5.41	1.49
EDUCATION						
elementary	12	847.13	851.38	12	5.63	2.17
some secondary	72	359.83	479.73	72	5.00	1.52
comp secondary	134	541.82	945.78	134	5.35	1.54
some college	18	492.79	526.63	18	5.67	1.26
comp college	49	344.81	396.68	49	5.06	1.46
some university	33	593.49	721.44	33	5.77	1.25
comp university	78	301.64	292.46	78	4.97	1.49
RELIGIOUS INVOLVEMENT						
yes-daily	2	29.66	7.81	2	3.40	.26
yes-weekly	29	144.06	165.06	29	4.01	1.70
yes-monthly	14	262.50	242.73	14	4.91	1.38
yes-yearly	17	462.22	678.76	17	5.15	1.59
no	332	485.59	720.55	332	5.37	1.45

Table Aa cont: Descriptive statistics for original and transformed quantity-frequency for the non-Aboriginal female sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	39	325.69	434.29	39	4.61	1.86
moderately spiritual	167	435.17	841.00	167	5.18	1.45
not very spiritual	97	423.05	485.01	97	5.36	1.36
not at all spiritual	91	553.33	631.02	91	5.47	1.59
CHILDREN UNDER 15						
yes	150	304.59	368.93	150	4.96	1.45
no	245	537.06	809.46	245	5.40	1.54
INCOME						
less than \$10,000	2	72.00		2	4.29	
\$10,000-19,999	32	994.86	1756.1	32	5.24	2.28
\$20,000-29,000	36	428.47	551.74	36	5.02	1.78
\$30,000-39,000	47	364.72	439.52	47	4.97	1.67
\$40,000-59,000	121	371.20	403.87	121	5.15	1.41
\$60,000-74,999	76	446.06	602.36	76	5.35	1.31
75,000 plus	80	413.14	365.10	80	5.51	1.24
type of employment						
non-seasonal	357	432.37	680.74	357	5.21	1.50
seasonal	38	602.99	718.45	38	5.48	1.63
EMPLOYMENT						
employed	348	437.32	523.75	348	5.30	1.45
other	47	532.08	1393.4	47	4.72	1.86

Table Bb: Descriptive statistics for original and transformed yearly frequency for the non-Aboriginal male sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	395	111.69	106.23	395	4.26	1.63
Age						
15 thru 19	32	57.26	80.13	32	3.30	1.40
20 thru 29	86	130.17	106.11	86	4.67	1.43
30 thru 39	130	104.70	99.41	130	4.19	1.58
40 thru 49	86	131.43	109.51	86	4.59	1.62
50 thru 59	39	86.19	108.84	39	3.68	1.77
60 thru 69	19	125.63	120.54	19	4.35	1.89
70 thru 79	3	129.67	197.61	3	3.91	2.72
MARITAL STATUS						
With spouse/partner	237	112.79	104.86	237	4.28	1.63
Without	157	110.02	108.58	157	4.23	1.63
EDUCATION						
elementary	12	167.56	145.39	12	4.89	2.00
some secondary	72	71.08	79.08	72	3.63	1.44
comp secondary	134	116.44	112.11	134	4.31	1.68
some college	18	112.57	79.02	18	4.50	1.32
comp college	49	121.41	116.67	49	4.34	1.76
some university	33	149.72	88.69	33	5.06	1.20
comp university	78	110.08	107.15	78	4.25	1.62
RELIGIOUS INVOLVEMENT						
yes-daily	2	29.66	7.8	2	3.08	.27
yes-weekly	29	52.21	57.28	29	3.21	1.40
yes-monthly	14	71.65	58.73	14	3.87	1.11
yes-yearly	17	71.40	63.07	17	3.78	1.26
no	332	121.22	110.46	332	4.41	1.65

**Table Bb cont: Descriptive statistics for original and transformed
yearly frequency for the non-Aboriginal male sub-sample.**

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	39	99.83	107.17	39	3.97	1.77
moderately spiritual	167	115.18	115.27	167	4.30	1.65
not very spiritual	97	111.95	95.10	97	4.32	1.58
not at all spiritual	91	110.12	100.94	91	4.27	1.61
CHILDREN UNDER 15						
yes	150	97.97	96.91	150	4.08	1.56
no	245	120.11	110.92	245	4.38	1.67
INCOME						
less than \$10,000	2	24.00		2	2.88	
\$10,000-19,999	32	109.62	127.10	32	3.97	1.98
\$20,000-29,000	36	101.37	94.80	36	4.02	1.78
\$30,000-39,000	47	114.53	111.58	47	4.23	1.76
\$40,000-59,000	121	99.66	104.48	121	4.07	1.60
\$60,000-74,999	76	114.62	104.03	76	4.41	1.48
75,000 plus	80	132.59	103.68	80	4.69	1.47
type of employment						
non-seasonal	357	112.10	106.38	357	4.27	1.63
seasonal	38	107.78	106.16	38	4.20	1.65
EMPLOYMENT						
employed	348	115.60	106.50	348	4.35	1.60
other	47	82.82	100.68	47	3.65	1.73

Table Cc: Descriptive statistics for original and transformed usual number for the non-Aboriginal female sub-sample.

	q13. how many drinks			square-root		
	n	mean	sd	n	mean	sd
TOTAL	334	3.07	2.33	334	1.67	.54
Age						
15 thru 19	21	4.85	2.81	21	2.11	.63
20 thru 29	84	4.04	3.40	84	1.90	.66
30 thru 39	130	2.72	1.56	130	1.59	.43
40 thru 49	58	2.39	1.32	58	1.49	.40
50 thru 59	23	2.46	1.31	23	1.51	.42
60 thru 69	12	2.31	1.05	12	1.48	.35
70 thru 79	6	1.36	.53	6	1.15	.22
MARITAL STATUS						
With spouse/partner	221	2.91	1.97	221	1.63	.51
Without	113	3.39	2.88	113	1.75	.58
EDUCATION						
elementary	4	3.03	1.25	4	1.71	.35
some secondary	52	3.91	2.73	52	1.87	.64
comp secondary	106	3.40	2.98	106	1.75	.60
some college	25	3.52	1.96	25	1.81	.52
comp college	44	2.62	1.50	44	1.56	.43
some university	26	2.63	1.19	26	1.58	.36
comp university	76	2.30	1.38	76	1.46	.41
RELIGIOUS INVOLVEMENT						
yes-daily	3	1.52	.63	3	1.21	.26
yes-weekly	55	1.95	1.17	55	1.35	.37
yes-monthly	14	2.18	1.11	14	1.43	.37
yes-yearly	4	2.82	1.20	4	1.66	.33
no	258	3.38	2.49	258	1.75	.55

Table Cc cont : Descriptive statistics for original and transformed usual number for the non-Aboriginal female sub-sample.

	q13. how many drinks did you usually			square-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	42	2.84	3.80	42	1.56	.64
moderately spiritual	169	2.83	1.89	169	1.61	.50
not very spiritual	69	3.07	2.02	69	1.68	.51
not at all spiritual	54	4.02	2.29	54	1.93	.53
CHILDREN UNDER 15						
yes	165	3.17	2.81	165	1.68	.60
no	169	2.98	1.73	169	1.66	.47
INCOME						
0	4	6.63	.91	4	2.57	.19
less than \$10,000	7	2.73	.95	7	1.63	.28
\$10,000-19,999	36	4.63	4.54	36	2.00	.82
\$20,000-29,000	31	3.05	1.84	31	1.68	.49
\$30,000-39,000	67	2.59	1.49	67	1.55	.44
\$40,000-59,000	93	3.04	2.00	93	1.67	.50
\$60,000-74,999	51	2.69	1.79	51	1.57	.46
75,000 plus	45	2.82	1.73	45	1.61	.48
type of employment						
non-seasonal	327	3.08	2.34	327	1.67	.54
seasonal	7	2.73	1.91	7	1.58	.53
EMPLOYMENT						
employed	261	3.04	2.40	261	1.66	.54
other	73	3.19	2.08	73	1.70	.54

Table Dd: Descriptive statistics for original and transformed five plus for the non-Aboriginal female sub-sample.

	FIVE			Q15.12LN		
	n	mean	sd	n	mean	sd
TOTAL	321	5.21	14.29	321	.95	1.13
Age						
15 thru 19	21	6.39	11.55	21	1.34	1.11
20 thru 29	81	10.22	21.30	81	1.48	1.31
30 thru 39	124	3.27	8.43	124	.78	.98
40 thru 49	57	4.22	15.83	57	.67	1.03
50 thru 59	22	1.55	2.78	22	.57	.79
60 thru 69	10	2.40	4.70	10	.59	1.05
70 thru 79	6	.18	.42	6	.12	.29
MARITAL STATUS						
With spouse/partner	212	4.27	12.27	212	.79	1.07
Without	109	7.01	17.48	109	1.25	1.17
EDUCATION						
elementary	3	3.27	5.39	3	.86	1.26
some secondary	52	8.65	15.90	52	1.35	1.31
comp secondary	101	7.83	21.32	101	1.12	1.24
some college	22	3.63	6.21	22	.99	.99
comp college	44	2.35	3.88	44	.74	.91
some university	25	4.27	8.49	25	1.01	1.07
comp university	75	1.82	4.39	75	.52	.85
RELIGIOUS INVOLVEMENT						
yes-daily	3	.24	.54	3	.17	.37
yes-weekly	55	1.04	3.65	55	.30	.67
yes-monthly	14	2.91	4.33	14	.84	1.03
yes-yearly	4	2.00	4.47	4	.55	1.07
no	245	6.38	16.04	245	1.11	1.17

Table Dd cont: Descriptive statistics for original and transformed
five plus for the non-Aboriginal female sub-sample.

	FIVE			Q15.12LN		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	41	5.46	23.71	41	.79	1.09
moderately spiritual	164	4.10	11.89	164	.80	1.06
not very spiritual	65	5.26	11.94	65	1.01	1.15
not at all spiritual	51	8.51	14.15	51	1.46	1.21
CHILDREN UNDER 15						
yes	161	5.31	15.53	161	.91	1.15
no	160	5.11	12.98	160	.98	1.10
INCOME						
no income	4	3.00		4	1.39	
less than \$10,000	5	2.44	2.22	5	1.09	.57
\$10,000-19,999	35	12.08	27.26	35	1.55	1.41
\$20,000-29,000	30	7.36	15.31	30	1.20	1.25
\$30,000-39,000	64	3.90	9.98	64	.77	1.08
\$40,000-59,000	89	4.42	10.36	89	.92	1.08
\$60,000-74,999	49	2.45	6.52	49	.65	.90
75,000 plus	45	5.28	17.10	45	.88	1.10
SEASONAL EMPLOYMENT						
non-seasonal	315	5.24	14.40	315	.95	1.13
seasonal	7	3.67	8.21	7	.79	1.16
EMPLOYMENT						
employed	251	5.31	14.96	251	.95	1.13
other	70	4.83	11.65	70	.93	1.12

Table Ee: Descriptive statistics for original and transformed maximum number for the non-Aboriginal female sub-sample.

	MAXIMUM NUMBER			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
TOTAL	325	5.78	4.94	325	1.74	.56
Age						
15 thru 19	21	10.98	7.00	21	2.29	.68
20 thru 29	82	8.03	7.13	82	1.99	.65
30 thru 39	125	4.83	2.77	125	1.66	.44
40 thru 49	58	4.06	2.09	58	1.54	.42
50 thru 59	23	4.08	2.23	23	1.53	.46
60 thru 69	11	3.80	2.30	11	1.49	.38
70 thru 79	5	2.66	1.59	5	1.22	.43
MARITAL STATUS						
With spouse/partner	216	5.17	3.86	216	1.67	.52
Without	109	7.00	6.43	109	1.88	.61
EDUCATION						
elementary	4	4.60	3.14	4	1.58	.65
some secondary	52	7.03	5.51	52	1.89	.61
comp secondary	100	6.52	6.44	100	1.82	.60
some college	25	6.85	4.67	25	1.89	.59
comp college	44	5.04	3.32	44	1.66	.52
some university	26	5.96	3.93	26	1.82	.48
comp university	74	4.02	2.39	74	1.52	.44
RELIGIOUS INVOLVEMENT						
yes-daily	3	3.28	1.83	3	1.38	.52
yes-weekly	55	3.44	3.05	55	1.36	.48
yes-monthly	13	4.42	2.89	13	1.56	.54
yes-yearly	4	3.83	2.47	4	1.49	.48
no	250	6.43	5.23	250	1.85	.54

Table Ee cont: Descriptive statistics for original and transformed maximum number for the non-Aboriginal female sub-sample.

	MAXIMUM NUMBER			LOG TRANSFORMED		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	42	5.34	7.61	42	1.62	.58
moderately spiritual	165	5.02	3.66	165	1.65	.53
not very spiritual	69	5.61	3.28	69	1.78	.48
not at all spiritual	50	8.88	6.44	50	2.11	.61
CHILDREN UNDER 15						
yes	161	5.67	5.48	161	1.72	.56
no	165	5.90	4.36	165	1.77	.56
INCOME						
no income	4	14.16	4.56	4	2.67	.40
less than \$10,000	7	6.14	2.47	7	1.92	.34
\$10,000-19,999	35	7.56	8.62	35	1.92	.61
\$20,000-29,000	30	6.74	4.56	30	1.88	.61
\$30,000-39,000	65	4.87	3.83	65	1.62	.54
\$40,000-59,000	90	5.76	4.52	90	1.75	.54
\$60,000-74,999	50	4.46	2.75	50	1.59	.46
75,000 plus	45	5.90	4.92	45	1.75	.59
SEASONAL EMPLOYMENT						
non-seasonal	318	5.80	4.97	318	1.74	.56
seasonal	7	4.95	3.49	7	1.64	.58
EMPLOYMENT						
employed	257	5.78	5.13	257	1.74	.55
other	68	5.80	4.15	68	1.74	.59

Table Ff: Descriptive statistics for original and transformed quantity-frequency for the non-Aboriginal female sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	330	169.53	316.97	330	4.22	1.46
Age						
15 thru 19	21	129.69	138.57	21	4.29	1.29
20 thru 29	82	237.21	513.78	82	4.46	1.55
30 thru 39	127	145.97	202.19	127	4.17	1.37
40 thru 49	58	112.70	132.74	58	3.97	1.38
50 thru 59	23	135.93	223.75	23	3.92	1.58
60 thru 69	12	387.09	484.46	12	4.69	2.09
70 thru 79	6	133.13	140.81	6	4.27	1.40
MARITAL STATUS						
With spouse/partner	217	171.16	350.81	217	4.20	1.45
Without	113	166.41	240.31	113	4.25	1.47
EDUCATION						
elementary	4	142.45	181.73	4	3.98	1.84
some secondary	52	191.83	270.94	52	4.25	1.61
comp secondary	105	202.24	469.13	105	4.14	1.64
some college	25	190.25	299.76	25	4.54	1.24
comp college	43	140.71	166.56	43	4.27	1.27
some university	25	151.73	221.67	25	4.16	1.41
comp university	75	124.98	135.73	75	4.21	1.25
RELIGIOUS INVOLVEMENT						
yes-daily	3	76.25	108.15	3	3.11	2.31
yes-weekly	55	100.05	137.18	55	3.63	1.54
yes-monthly	14	108.80	163.08	14	3.91	1.41
yes-yearly	4	91.46	52.12	4	4.36	.75
no	254	190.11	350.87	254	4.38	1.41

Table Ff cont: Descriptive statistics for original and transformed quantity-frequency for the non-Aboriginal female sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	41	117.43	163.22	41	3.75	1.63
moderately spiritual	168	166.14	384.97	168	4.15	1.44
not very spiritual	69	162.03	233.34	69	4.28	1.37
not at all spiritual	52	231.88	252.14	52	4.75	1.37
CHILDREN UNDER 15						
yes	164	162.48	387.40	164	4.09	1.44
no	166	176.51	227.86	166	4.35	1.46
INCOME						
0	4	159.17	21.89	4	5.07	.15
less than \$10,000	7	312.41	521.02	7	4.46	1.82
\$10,000-19,999	36	156.49	178.53	36	4.19	1.63
\$20,000-29,000	31	212.98	320.64	31	4.24	1.69
\$30,000-39,000	66	132.40	165.32	66	4.09	1.43
\$40,000-59,000	91	189.59	488.26	91	4.18	1.45
\$60,000-74,999	50	130.67	175.84	50	4.07	1.37
75,000 plus	45	185.36	213.97	45	4.56	1.31
type of employment						
non-seasonal	323	170.91	320.13	323	4.22	1.46
seasonal	7	108.75	94.87	7	4.08	1.60
EMPLOYMENT						
employed	258	176.89	342.11	258	4.23	1.48
other	72	143.19	202.59	72	4.19	1.36

Table Gg: Descriptive statistics for original and transformed yearly frequency for the non-Aboriginal female sub-sample.

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
TOTAL	330	57.70	78.70	330	3.26	1.45
Age						
15 thru 19	21	26.75	24.11	21	2.73	.89
20 thru 29	82	54.04	69.18	82	3.25	1.37
30 thru 39	127	55.94	70.14	127	3.27	1.40
40 thru 49	58	52.30	69.66	58	3.18	1.40
50 thru 59	23	60.18	96.74	23	3.17	1.63
60 thru 69	12	153.24	164.07	12	4.39	2.39
70 thru 79	6	112.26	137.34	6	4.16	1.93
MARITAL STATUS						
With spouse/partner	217	59.81	80.56	217	3.30	1.47
Without	113	53.63	75.20	113	3.19	1.41
EDUCATION						
elementary	4	41.53	45.21	4	2.95	1.52
some secondary	52	52.00	78.38	52	3.08	1.48
comp secondary	105	56.38	81.73	105	3.15	1.55
some college	25	58.63	80.18	25	3.36	1.37
comp college	43	55.41	65.94	43	3.36	1.27
some university	25	53.87	71.20	25	3.24	1.40
comp university	75	66.77	86.31	75	3.50	1.45
RELIGIOUS INVOLVEMENT						
yes-daily	3	38.73	53.43	3	2.75	1.81
yes-weekly	55	57.71	92.96	55	3.09	1.61
yes-monthly	14	52.58	82.61	14	3.17	1.43
yes-yearly	4	32.16	15.40	4	3.11	.57
no	254	58.55	76.21	254	3.31	1.43

Table Gg cont: Descriptive statistics for original and transformed yearly frequency for the non-Aboriginal female sub-sample.fqf22-

	yearly frequency of drinking			cubed-root transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	41	58.39	89.81	41	3.07	1.69
moderately spiritual	168	56.37	79.02	168	3.24	1.43
not very spiritual	69	55.75	72.36	69	3.28	1.39
not at all spiritual	52	64.07	78.46	52	3.48	1.41
CHILDREN UNDER 15						
yes	164	49.45	69.10	164	3.11	1.37
no	166	65.85	86.61	166	3.42	1.52
INCOME						
0	4	24.00		4	2.88	
less than \$10,000	7	88.67	127.90	7	3.64	1.97
\$10,000-19,999	36	40.64	44.03	36	2.95	1.31
\$20,000-29,000	31	67.35	97.02	31	3.32	1.68
\$30,000-39,000	66	58.90	83.35	66	3.28	1.48
\$40,000-59,000	91	54.25	78.16	91	3.18	1.42
\$60,000-74,999	50	52.61	64.32	50	3.20	1.40
75,000 plus	45	73.36	88.46	45	3.66	1.44
type of employment						
non-seasonal	323	57.88	79.23	323	3.27	1.45
seasonal	7	49.46	53.27	7	3.19	1.42
EMPLOYMENT						
employed	258	59.06	78.01	258	3.29	1.47
other	72	52.81	81.51	72	3.16	1.39

Table Hh: Descriptive statistics for original and transformed quantity-frequency for the Aboriginal female sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
TOTAL	71	304.68	589.11	71	4.36	1.90
Age						
15 thru 19	9	24.31	27.87	9	2.28	1.64
20 thru 29	31	345.68	551.24	31	4.78	1.70
30 thru 39	17	347.63	806.44	17	4.45	1.77
40 thru 49	6	365.91	452.17	6	5.49	.93
50 thru 59	6	444.81	768.40	6	4.33	2.73
60 thru 69	2	20.00		2	3.04	
70 thru 79	1	36.00		1	3.61	
MARITAL STATUS						
With spouse/partner	31	282.02	411.10	31	4.71	1.59
Without	40	322.07	700.58	40	4.10	2.08
EDUCATION						
elementary	6	514.41	934.25	6	4.77	1.78
some secondary	27	396.37	776.76	27	4.50	2.11
comp secondary	20	188.99	321.71	20	4.11	1.64
some college	10	258.91	294.93	10	4.75	1.59
comp college	4	52.91	89.46	4	2.60	2.27
some university	2	379.76	476.36	2	4.19	4.39
comp university	2	208.00	159.44	2	5.09	1.13
RELIGIOUS INVOLVEMENT						
yes-daily	1	6.00		1	1.95	
yes-weekly	3	88.27	152.79	3	3.15	2.10
yes-monthly	3	53.62	50.68	3	3.49	1.48
yes-yearly	1	2190.0		1	7.69	
no	63	307.96	582.39	63	4.45	1.87

Table Mh cont: Descriptive statistics for original and transformed quantity-frequency for the Aboriginal female sub-sample.

	QF			log transformation		
	n	mean	sd	n	mean	sd
SPIRITUALITY						
very spiritual	4	390.97	931.70	4	3.06	2.89
moderately spiritual	39	221.14	327.80	39	4.38	1.79
not very spiritual	15	335.72	719.34	15	4.17	1.87
not at all spiritual	13	485.88	880.32	13	4.97	1.85
CHILDREN UNDER 15						
yes	36	228.33	469.56	36	3.96	1.97
no	35	381.73	687.59	35	4.77	1.76
INCOME						
0	1	624.00		1	6.44	
less than \$10,000	13	569.79	831.58	13	4.92	2.07
\$10,000-19,999	15	489.08	891.13	15	5.02	1.90
\$20,000-29,000	3	129.56	132.62	3	4.47	1.06
\$30,000-39,000	17	217.04	312.59	17	4.57	1.48
\$40,000-59,000	12	60.13	105.38	12	2.45	1.94
\$60,000-74,999	5	86.06	86.28	5	4.17	.83
75,000 plus	4	198.60	294.25	4	4.70	1.13
type of employment						
non-seasonal	65	239.63	392.35	65	4.26	1.86
seasonal	6	1029.2	1511.4	6	5.53	2.08
EMPLOYMENT						
employed	50	303.71	597.34	50	4.36	1.98
other	20	307.07	583.22	20	4.36	1.73

END

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