

Socio-Cultural Variables and Family History of Alcoholism as
Predictors of Drinking Behaviour

by

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**SOCIO-CULTURAL VARIABLES AND FAMILY HISTORY OF ALCOHOLISM
AS PREDICTORS OF DRINKING BEHAVIOUR**

BY

M. MAUREEN RODRIGUE

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial
fulfillment of the requirements for the degree of**

MASTER OF SCIENCE

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ABSTRACT

Drinking behaviour is viewed as a social activity influenced by norms and traditions which vary according to one's ethnic background, religious affiliation, social class and family history of alcohol consumption. This study investigated the ability of family history along with each of the socio-demographics variables to predict three measures of drinking behaviour; 1) the sum of alcohol abuse or dependency symptoms, 2) the number of problems resulting from drinking alcohol, and 3) the number of ounces of alcohol consumed per day. Two subsamples based on each of mother's and father's ethnicity were drawn from the general population sample of the Winnipeg Health and Drinking Survey. Each subsample was composed of subjects from the following ethnic groups; British, Ukrainian, French, German, Irish, Mennonite, Asian, Jewish, Aboriginal and Italian. One-way analysis of variance (ANOVA) with Duncan's multiple range test was performed and results indicated that for each subsample significant differences existed amongst the categories of each of the independent variables on all dependent variables, with the exception of number of ounces of alcohol consumed. The ethnic groups found to be the most immoderate in their drinking behaviour were the Aboriginal, Irish and French while the most moderate behaviour was found in the Jewish, Asian and Mennonite. Multivariate analyses using Multiple Classification Analysis (MCA) were used to determine whether the effects of the independent variables shown to be significant in the univariate analysis, continued to be significant predictors when analyzed with other correlated variables. It was shown that those independent variables that were significant predictors of drinking behaviours in the univariate analyses were still significant as predictors in the multivariate analyses.

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To me, success in reaching a goal is measured as much by what I gain during the journey, as by what I achieve in reaching my destination (which may explain why I've made this such a long journey!). Completion of this Master's thesis is just the final adventure in my long and enjoyable career as a student. There are many people I've had the privilege and pleasure of being associated with over those years, and for the part each has played in making this such a learning experience, I wish to say thank you.

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For nearly three years I have worked in a variety of positions at the Health, Leisure, & Human Performance Research Institute in the Faculty of Physical

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CHAPTER 1 - INTRODUCTION

The act of drinking alcohol is a social behaviour and as such it's consumption is influenced by specific norms, customs, and traditions. There is tremendous variation in style of drinking found among North Americans. If asked, most people would have an opinion typically gained through personal experience, regarding which ethnic groups are heavy drinkers and which groups drink moderately. Early research in the area of ethnicity and drinking behaviour (Bales, 1962; Cisin & Crossley, 1967; Glad, 1947; Knupfer & Room; Room, 1968) focused primarily on the distinctively different drinking styles of Irish and Jewish groups. Results of those studies demonstrated that despite assimilation which increased with each successive generation, certain behaviours characteristic to each group, such as patterns of alcohol consumption, endured. The interest in ethnicity as it relates to drinking behaviour has not decreased over time. Researchers are challenged to understand the enduring influence of ethnicity, and to develop an explanation for the differences that exist in the way in which members of different ethnic groups continue to define and view their use of alcohol. The study of drinking behaviour and ethnicity is complex and over the years has produced both useful and confusing information. Many factors combine to complicate the process. One important factor relates to the uncertainty surrounding the concept of ethnicity itself. Weinreich (1985) in an attempt to operationalize ethnic identity, states that basic to that identity are the concepts of ancestry, a sense of peoplehood, and folklore. He further expands on the concept quoting Dashefsky's (1976) definition of ethnicity as being "a shared sense of peoplehood, based on presumed shared socio-cultural experiences, which represents a part of the collective experience of members of an ethnic group"(p.158).

The maintenance of ethnic self-identity is believed to be facilitated by several contributing factors. In Driedger's (1977) study of cultural identity in Winnipeg,

Manitoba, he maintained that identification with one's ethnic group is more likely to continue if there is also the unifying force of a common religious and/or political belief that provides shared purpose and values to a group. As examples of ethnic groups whose religio-political upheaval appear to have facilitated solidarity he cites the Israelis and Arabs in the Near East, the Protestants and Catholics in Ireland and the Parti Quebecois in Canada. In a later publication (1989) Driedger supports Durkheim's belief that "more important than creed or belief, religion's most enduring elements are in ritual, ceremony, hierarchy, and community" (p.20).

Another factor often related to ethnicity in alcohol research is social class. Glazer and Moynihan (1975) emphasize the importance of the ability to organize and compete for both power and resources. They note that some ethnic groups seem to be more successful in this process, and as a result appear over-represented in the middle and upper class groups. If this perpetuates over generations and the ethnic group remains cohesive there continue to be ample opportunities as well as benefits to the members of that successful group. On the other hand, if members of an ethnic group are collectively unable to access power and resources in society, each successive generation will remain in the deprived lower class groups with fewer opportunities to rise above that status (Cheung, 1990).

Studies of family history of alcohol consumption are also of interest when associated with ethnicity and drinking behaviour. There is considerable support for the theory that alcoholism is more likely to develop in individuals with a positive family history of alcoholism. It has also been demonstrated that there is less likelihood of alcoholism occurring in offspring from families where there is a history of moderate drinking behaviour (Barnes, 1990). Despite controversy over the extent to which social, psychological or biological factors contribute to the transmission of alcoholism from one generation to the other, if the norms associated with a particular ethnic and/or religious

group do in fact influence the way individuals use alcohol, then it seems likely that the family of origin is the vehicle by which these norms and meanings are transmitted to the individuals in that group.

It would seem appropriate that a study of patterns of alcohol consumption both of moderate and excessive drinking, would be enriched by a study of the individual and collective influence of ethnicity, religion, social class and family history of drinking behaviour. It also seems appropriate to conduct such a study with a sample from a population that facilitates maintenance of ethnic identity. In few countries is ethnic identification granted more importance than in Canada. Such is the value accorded the concept of multiculturalism that its preservation and enhancement are guaranteed in the Canadian Charter of Rights and Freedoms in hopes that cultural diversity will become the standard and a definition of what Canada represents.

The "ethnic mosaic" of Canada distinguishes it from the "melting pot" philosophy of the United States which has forged a new "American" culture from its' many immigrating cultures. So while similarities between the people of Canada and the United States are numerous, Canada's structure as a bilingual, multicultural country, should of itself ensure a stronger influence of those cultural norms which govern the drinking behaviour of its inhabitants. In addition to differences in ethnic philosophies there are also the more obvious differences in the actual ethnic and racial composition of the two countries.

In a demographic history of Canada, Driedger (1989) reports that the first census taken in 1871 showed a non-native Indian population totaling approximately 3.5 million. That consisted of the two "charter" groups, 61% of which were English and 31% were French. Additionally, 7% of the population were German. Over 110 years later in the 1981 census, the ethnic composition of Canada had changed dramatically. British and French constituted 40.2 percent and 26.7 percent of the population respectively, while

other European groups comprised 19.6 percent, Asian/Africans 3.3 percent, Native people 1.7 percent and Other (including Latin American and multiple origins) 8.5 percent of the Canadian population.

While the country has seen considerable change over the past 100 years, the composition of Canada still remains primarily (86.5%) Caucasian and Judeo-Christian. In the United States the ethnic/racial make up is significantly different from that found in Canada. In the United States, African-Americans constitute 12.1% of the population; Latinos (Mexican, Puerto Rican, Cuban, and those from Central and South American countries) 8.2%; Asians 2%; and Native Americans 0.8% (Gordon, 1994). Despite the fact these figures demonstrate noteworthy differences in ethnic composition between Canada and the United States, much of the literature in the area of ethnicity and alcohol behaviour is based on American samples with an emphasis on the drinking behaviour of Black and Hispanic inhabitants.

Another problem found in past and present literature on ethnicity and alcohol use is that in many American studies racial categories ("White", "Black", "Hispanic" and "Oriental") are used as synonymous with ethnic categories. In a review of alcohol and ethnicity research Cheung (1990) clarified the definition of the term "race" as "a group that is socially defined but on the basis of physical criteria"; and "ethnic" as "a group of people who share the same culture or are descendants of such people who identify themselves and/or are identified by others as belonging to the same involuntary group". The synonymous use of race and ethnicity has proven to be problematic when attempting to compare studies conducted to evaluate the effects of one's ethnic background on past and current drinking behaviour. It also makes difficult any attempt to generalize from American studies to a Canadian population with their considerably different racial structure.

My thesis is that drinking behaviour, as a social activity, is influenced by specific norms and traditions. These traditions vary according to one's ethnic background, religious affiliation, social class and family history of alcohol consumption. The style of drinking which develops in different ethno-religious cultures is transmitted from generation to generation as traditions, rituals and behaviours are observed and taught. Therefore with knowledge of the norms and traditions governing drinking behaviour for each of the socio-cultural groups, each could be significant as a predictor of an individual's drinking behaviour. Furthermore, given the inter-relatedness of these variables, I believe a more accurate determination of their power as predictors of drinking behaviour could be obtained from investigating their simultaneous effect. In addition, data gathered as part of a general population survey, conducted in a location known to facilitate the maintenance of strong ethnic identification, should provide a better representation of the actual value of these variables in predicating an individual's style of drinking.

CHAPTER 2 - REVIEW OF LITERATURE

This review of literature will provide a general overview of early alcohol research. This study is concerned with describing drinking behaviour ranging from abstinence to abuse, and so the review of literature will also include the natural history of alcoholism. It is not within its scope to provide a review of all areas of research on alcoholism, but will focus instead on the specific areas of ethnicity, religious affiliation, socio-economic status and family history of alcoholism, as each relates to alcohol consumption behaviour. In addition there will be a brief mention of theories currently in use in alcohol research and a more detailed description of the sociologic study of drinking behaviour with specific reference to the social learning theory which will be utilized in this study.

Introduction

A major focus of alcohol research has been an attempt to first define and then determine the cause of alcoholism. Throughout the course of over fifty years of research there have been competing definitions and theories related to its occurrence. Much of the early research focused on data collected from identified alcoholics. However a more clear understanding of how and why alcohol is used may be gained by investigating drinking behaviour that occurs naturally in the general population. A study of this nature should examine both moderate and immoderate drinking behaviours.

Studies investigating the impact of socio-cultural variables such as ethnicity, religion and social class on drinking behaviour, demonstrate the difficulty in looking at any one variable in isolation from the others. Socialization to behave in a certain way as one reaches adulthood, including the way in which one uses alcohol, is "based upon

ethno-religious heritage, family culture and personal experience" (Bennett & Ames, 1985). The norms influencing style of drinking are drawn from traditions and rituals basic to a sense of belonging including the immediate influence of families, religious communities, and cultures. There is speculation that the complexity of this method of socialization is what facilitates the endurance of its effect on drinking behaviour. Regardless, it seems clear that the continuing effect of this process is not easily arrested.

Historical Study of Alcoholism

In the late 1930's, in an attempt to combat the stigma associated with chronic drunkenness, the concept of "alcoholism" as a disease was introduced by scientists at the Yale Center of Alcohol Studies. Several years prior to the establishment of the Center, Alcoholics Anonymous, a self-help group, had advanced the belief that craving for alcohol as was exhibited by their members was as a result of an "allergy" to alcohol (Fillmore, 1988). In 1944 the National Committee for Education for Alcoholism was formed and despite a lack of empirical evidence, helped launch Marty Mann the first woman to join Alcoholics Anonymous, on a public speaking tour to bring the concept of alcoholism as a disease to the general population. The motivation of the campaign was to create a more sympathetic reaction to the problem of chronic drunkenness that would, in turn, generate resources leading toward finding a solution.

There was difficulty at that time formulating a standardized definition of alcoholism and a description of the symptoms associated with alcoholic behaviour. That difficulty continued to plague the field of alcohol research. In the 1960's additional controversy emerged as support grew for placing less emphasis in alcohol research on the amount consumed and the subsequent signs of addiction, and more on the social, psychological, and interpersonal problems that result from drinking (Clark 1966). The sociological "problem drinking model" was one stream that developed as an attempt to

avoid the issue of what constituted a “real” alcoholic, and instead focused on the existence and type of problems that occurred as a result of immoderate alcohol use.

The diverse approaches to alcohol abuse, many based on adherence to a specific theoretical model, resulted in development of a variety of measures. While each measure may be considered successful for the purpose for which it was designed, lack of a common definition or measure in alcohol research has produced confusion in the field as well as limited ability to generalize from one study to the next (Murray, Barnes & Patton, 1994).

Natural History of Alcoholism

Despite controversy in the field of alcohol research as to the definition of alcohol abuse, some researchers have looked to outline the progression or natural history of alcoholism (Goodwin, Crane & Guze, 1971). Some followed Jellinek’s developmental stages and others (Park, 1973) adapted his markers to develop their own stages. While there is general support for progression of symptoms, there is no consensus as to the exact sequence nor have all the symptoms been found to occur in everyone who experiences problem drinking.

Taylor & Helzer, (1983) adapted and categorized Jellinek’s symptoms (1952) into a pre-alcoholic phase, a prodromal phase, a crucial phase and a chronic phase. Progression of the symptoms is demonstrated as follows: 1) occasional relief drinking, 2) drinking more than once a week and sometimes getting drunk, 3) first amnesia, 4) drinking before a party to ensure against shortage, 5) increase in tolerance to alcohol, 6) sneaking drinks, 7) daytime drunks, 8) frequent amnesia, 9) loss of control over drinking, 10) prolonged intoxication (benders), 11) early morning drinking, 12) alibis for drinking to excess, 13) periods of abstinence (“going on the wagon”), 14) uncontrollable tremors, 15) decrease in tolerance to alcohol, and 16) seeking medical advice for physical illness due to drink.

In Glatt's (1961) drinking history of male and female alcoholics as reported by Taylor & Helzer (1983), the rates of drinking and alcoholism were higher for male subjects than for females, with men tending to develop problem drinking at a younger age than women. Men who experienced early onset of alcoholism were shown to have had more fathers who were heavy drinkers or alcoholics, more frequent separations from their fathers, and a more unhappy childhood (Rosenberg, 1969).

The physical symptoms associated with problem drinking are typically manifest when the subject is in his fifties and has already experienced social problems as a result of drinking. The types of social problems that occur vary with age. The highest rates of problems were found in subjects who were in their twenties (Clark & Cahalan, 1976). The problems experienced by young alcoholics are often as a result of aggressive behaviour such as fighting, and getting into trouble with the police. Alcoholics of all ages experience a higher mortality rate than non-alcoholics, with those who are younger typically experiencing more violent deaths due to accidents, homicides and suicide. Violent, aggressive behaviour appears to decline with age, and older alcoholics often experience problems associated more with negative reactions from family members, marriage breakdown, and/or employment difficulties.

Alcoholism in females, as previously noted, occurs with less frequency than it occurs in males, but the course of the symptoms related to heavy drinking are more rapid and the prognosis worse for women than for men. Findings (Winokur & Clayton, 1968) suggest that women often begin problem drinking as the result of experiencing difficulties in their lives, and because of negative social connotations associated with being a female alcoholic, tend to keep their excessive drinking more secret. It also seems that female alcoholics are more likely than male alcoholics to attempt suicide. Despite the belief that there is no cure for alcoholism and that the only way to control it is through abstinence, there is evidence that some alcoholics are able to return to social

drinking without experiencing any disastrous consequences. It is also the case that for a substantial number of alcoholics, the symptoms of alcoholism disappear with advancing age.

Ethnicity and Alcohol Use

Social science researchers in the United States were reluctant to investigate ethnicity as the basis for any differences in behaviour in the late 1940's and early 1950's. The first of the two reasons for their reluctance was the assumption that the melting pot philosophy was successful, that the various groups of immigrants were becoming "American" and so any differences based on ethnicity would be minimal at best. The other reason was sensitivity to the recent atrocities committed by Hitler in the name of racial superiority, and unwillingness to engage in research that focused on investigating behaviour based on ethnic background. However that reluctance did not extend to those researchers involved in the area of alcohol studies and ethnicity. Contributing to their willingness to pursue this area of research was their discovery that ethnic groups previously suffering from some negative stereotyping such as Jews, Italians and Asians, were in fact the groups with the least problematic drinking behaviours (Room, 1985).

Early research on drinking and alcohol conducted between 1946 and 1968 focused primarily on Italian, Jewish and Irish ethnic groups. From that mainly descriptive research, conclusions were drawn about these groups' attitudes toward drinking. Italians, who as a group have a low rate of abstinence, were found to have fewer serious problems related to their drinking. It is believed that this occurred because they usually approach alcohol as "food". Typically the beverage consumed is wine, and usually any drinking occurs at meal time (Ahlstrom-Laakso, 1976).

Another group with a high percentage of drinkers are Jews. Yet, despite a large percentage of Jews who are non-abstainers, it is evident that alcohol is generally treated with respect and consumed moderately. This may be due in part to the fact that alcohol (wine) is an important part of Jewish religious rituals, and the respect allocated to it in that circumstance appears to transmit to occasions of social drinking as well. It has been noted that both the amount of alcohol consumed and the number of problems experienced as a result of drinking, are very low for Jews (Cahalan & Cisin, 1968; Knupfer & Room, 1967). The Irish are thought to differ from both the Italians and the Jews in their attitudes toward drinking. To them, drinking is considered to be a form of entertainment and, for the men, as escape from the harsh matriarchal environment believed to exist in Irish families. It is this attitude that is considered responsible for some of the heavy drinking that occurs, as well as the problems experienced as a result of the heavy drinking (Bales, 1962).

Other ethnic groups for which there are varying amounts of research related to their drinking behaviour include the French. In France they have been shown to have some of the highest rates of alcohol consumption as well as occurrences of death from cirrhosis of the liver (Sadoun, Lolli & Silverman, 1965) of any country. Similar to the Italians, much of their drinking takes place at meal time, yet it has been noted that nearly one third of men, especially those in the lower economic groups, visit a cafe for a drink every day or at least several times a week. Therefore, while they do drink at meals, a regular portion of their drinking takes place between meals and would appear to have a social recreational aspect to it.

Another group attracting research on behaviours and attitudes toward alcohol are the North American Native Indians. Despite considerable dissimilarity in beliefs and

behaviours among members of the many different Aboriginal groups, there has been an attempt to formulate a general attribution for their excessive use of alcohol, and for the many problems they experience as a result of that excessive drinking. Some factors believed to contribute to their heavy and problem laden drinking style are poverty, prejudice, and cultural isolation (Welte & Barnes, 1987). Others believe that excessive drinking in this population is related to family structure and rituals of friendship (Waddell, 1973). As well, support exists for the notion that some Indian cultures use drunkenness as an legitimate excuse for behaving in ways that would be considered unacceptable if the individual were sober (Holloway, 1966). Another enduring theory is the "firewater" myth that claims Indians have a genetic weakness for alcohol, making it difficult for them to drink in moderation (Young, 1991).

There has also been considerable alcohol research in the United States which focuses on the drinking style of Blacks. Herd (1986), in her interpretation of Black drinking, suggests studies in this area are fraught with ambiguity. Some studies report attitudes and behaviours that are drawn from the typical "ghetto" life style with drinking and drunkenness a common occurrence. Other studies discovered an anti-alcohol sentiment among Blacks supporting infrequent drinking or total abstention from alcohol. Evidence suggests there are low rates of consumption and percentages of heavy drinkers among Blacks, but that as a group they experience a higher number of problems among those who do drink (Welte & Barnes, 1987).

Asians, similar to Jews, consume little alcohol and experience few problems when they do drink. The moderate use of alcohol by Asians is thought to have both a physiological and cultural explanation. Physiologically, some Asians experience a flushing reflex which includes a reddening of the face, neck and upper chest after

ingesting as little as one drink. It is felt that this may be uncomfortable enough for some people to keep them from indulging in alcohol (Kitano, Hatanaka, Yeung & Sue, 1985). Others suggest that Asians may drink to enhance their degree of sociability so that they will appear friendlier. Contrary to the values of individuality and assertiveness found in North Americans where drinking may lead to aggressive behaviour, the collective mentality typically results in fewer problems when those of Asian background do drink (Sue, Kitano, Hatanaka & Yeung, 1985).

Another ethnic group known to drink in a moderate fashion are the Mennonites. While the early European history of some German-Mennonite groups included involvement in the distillation of alcohol, generally speaking they advocated either abstinence or moderate consumption of wine and beer only. Those immigrating to North America slowly came under the influence of the temperance movement and by the early 20th century most North American Mennonites especially the Fundamentalists, abstained from alcohol as well as smoking, and card playing. The trend appears to be continuing with some studies (Currie, Driedger & Linden, 1980) showing that over two-thirds of Canadian -Mennonites are abstainers.

This review of research will focus on the specific results of studies of ethnicity and alcohol. Attention will be given to how each of the studies determined ethnicity, from what population their sample was drawn and the dependent measure(s) that were used to determine their results. Due to the aforementioned differences in ethnic populations in Canada and the United States, a separate review of selected U.S. and Canadian studies will be conducted. A report will also be given of any relevant European studies.

U.S. Studies

Abuse or Dependency Symptoms

Attempting to overcome the problem of few general population samples in alcohol and ethnicity research, Room (1968) conducted an analysis of the 1890 U.S. Census rates of death due to alcohol-related illness, in five white ethnic (as determined by birthplace of mother) groups. The combined results for both men and women confirmed prior expectations and revealed that those of Irish background had the highest rates for death from alcoholism (2.12/1000), followed by the Scottish and English (1.76 and 1.08/1000 respectively), and Germans (.74/1000). Lower rates were found in Italians (.29/1000), and the lowest rates of all in Jews (.06/1000). Similar results were shown for deaths from liver disease with the Irish again having the highest number per 1000 deaths at 3.53 and Jews the lowest at .38 deaths due to liver disease per thousand. Unlike other ethnic groups where women typically drink far less than men, in this analysis it was found that Irish women experienced death from liver disease at 3.97 deaths per thousand which actually exceeded the rate for Irish men (3.08 deaths per thousand).

Many studies that look at ethnicity and symptoms of alcohol abuse or dependency use a sample of alcoholics to determine in which ethnic groups a higher rate of abuse will be found. One study (Muhlin, 1985) using a clinical sample looked at patients who were foreign born and had been given a diagnosis related to alcohol. Of the Irish born men in the sample, over 50% were hospitalized for an alcohol related illness. The next highest group were those from the United Kingdom with 32%. The lowest percentage was for Italian male patients of which only 4% were admitted with alcohol related symptoms.

Other U.S. studies investigating the effect of culture on the number of abuse or dependency symptoms have looked primarily at racial groups. In a study by Castandea & Galanter (1988) there were markedly different rates of cognitive impairment found in patients in the detoxification unit of an alcohol treatment center. It is believed that differences in drinking practices contributed to the significantly higher rates of impairment found in the Puerto Rican sample as compared to either the Caucasian or Black patients. Similarly, in a study of alcoholics being treated in a Veterans Hospital (Booth, Blow, Cook, Bunn & Fortney, 1992), it was found that proportionately more Native Americans were in the alcoholic sample than were in the overall hospital sample. Concern has been expressed as to the generalizability of these studies since doctors may not be consistent from one race or ethnic group to the other, in listing alcohol as the primary diagnosis or cause of death.

User Status/Frequency

The first national survey of American Drinking Practices (ADP) was conducted in 1964-65 (Cahalan, Cisin & Crossley, 1969). The study determined ethnicity of each participant based on the birthplace of their fathers. Individuals, were asked to report on the amount of alcohol they would usually consume, and on the basis of that information were given a user description as either an abstainer, light, moderate, heavy, or problem drinker. Those of Irish background had the highest percentage (93%) of drinkers as well as the highest percentage (33%) of heavy drinkers. The proportion of drinkers whose ethnic group was Italian was also high (91%), but the percentage of heavy drinkers was considerably lower at 21%. While those of British heritage were slightly lower than those of Italian heritage in percentage of drinkers (89%), they were higher in heavy drinkers with 27% of their population. The ethnic group with the lowest percentage of

drinkers was the Latin America/Caribbean group, and the lowest percentage of heavy drinkers were Eastern Europe (Russia, Poland, Baltic's), Germany and Canada at 16%, 15% and 15% respectively.

A study of older urban adults (Meyers, Hingson, Mucatel, Heeren & Goldman, 1986) investigated the average daily volume of alcohol consumed by people sixty years or older. When controlling for education and income, it was found that ethnicity was significantly related to drinking behaviour. Older Blacks and Jews were more likely to be abstainers (67% and 68%), and those who describe themselves as White Anglo Saxons or American were the least likely to be abstainers (46%). Of those identifying themselves as belonging to "Other white ethnic groups" which consisted mainly of Italian, Eastern European or Irish, approximately 50% were abstainers. The group with the highest percentage of heavy drinkers was the WASP or American group with a rate of 8%.

The study by Abraham, Danko & Johnson (1994) compared Chinese American and Korean American college students to determine whether there was any difference in their use status and the quantity that they drank. It was found that fewer Korean Americans were abstainers and that while they drank more than Chinese Americans, it was not at a level considered significantly different.

Problems associated with drinking

Follow-up studies to the 1964-65 National drinking survey were conducted (Cahalan & Room, 1974) to look at the problems that occurred as a result of drinking in men ages twenty-one to fifty-nine. The results were based on ethno-religious categories and looked at the percentage of each group who were heavy drinkers and who suffered some consequences from their heavy drinking. Examples of problems included frequent

intoxication, binge drinking, problems with spouse or relatives, friends or neighbours, the law, police or accidents, health or finances. Ethnicity was defined by religion for Jews, by race for Blacks and by "country most ancestors come from" for all the others. Results indicated that 9% of British Catholics, 10% of Liberal Protestants, and 16% of Conservative Protestants suffered some consequences of their heavy drinking. Of the Irish Catholics and Protestant, 21% and 10% respectively suffered problems related to their drinking. In the German group, Catholics had 11%, Liberal Protestants had 8% and Conservative Protestants, 9%. Italian Catholics had 6% of their population experiencing some negative consequences and Jews had the lowest rate at 3%. Black Conservative Protestants had 31% who experienced problems associated with their drinking.

Amount of Alcohol Consumed

In a study of New York adolescents Barnes & Welte (1986) showed while controlling for other sociodemographic variables such as age and gender, that those who listed their ethnic status as Black were less likely to drink, and Blacks who did drink were less likely to drink heavily. The mean number of absolute ounces of alcohol consumed per day for those in the various ethnic groups who did drink, ranged from .51 oz. for Blacks, .53 oz for West Indians, .76 oz. for Whites, .86 oz for Hispanics, and 1.29 oz. for Native Americans. In the Oriental group, the rate of drinkers was very low, but for those who did drink their rates of consummation were extremely high at 1.46 oz. per day.

Multiple Measures

There are some studies which look at multiple dependent measures of the use of alcohol. In a study of high school students (Welte & Barnes, 1987), measures of the amount they drank, whether they were heavy drinkers and the number of problems they

experienced due to their drinking was determined for each of the White, Oriental, American Indian, Black, West Indian and Hispanic groups. The results show that despite the fact the American Indian group is the highest in both percentage who drink and are heavy drinkers, when the number of alcohol related problems were calculated for each oz. of alcohol consumed, it was the Black group who were found to have the highest number of problems per oz. Whites and Orientals had the lowest number of problems despite the fact the Oriental group had the highest number of ounces consumed per day.

European Studies

One study (Lindman & Lang, 1994) asked university students in eight different countries to indicate the number of times they had been intoxicated per month and the number of times they had been drunk in a year. It was found that Belgium and the U.S. with 3.2 and 6.8 times respectively were the highest in a group that also included Finland, France, Italy, Panama, Poland and Spain. The fewest number of intoxicated episodes were found in those from Italy with only 1.4 incidences per month. For drunkenness per year, the U.S. sample was again significantly higher than all the other countries with 33.7 reported incidences per year.

The first general survey on adolescent drinking in the European Community (van Reek, Adriaanse & Knibbe, 1994) measured amount and type of alcohol consumed by 11-15 year olds in Italy, Greece, Spain, Belgium, Great Britain, Denmark, Portugal, France, Germany, Luxembourg, Netherlands, and Ireland. It was found that the percentages for weekly drinking are high in Italy and Greece and low in Ireland.

Canadian Studies

There have been few studies of ethnicity and drinking behaviour in Canada. However one study (Li & Rosenblood, 1994) compared Chinese and Caucasian

university students and found differences in quantity of alcohol consumed and frequency of drinking. Model testing via path analysis was used to determine whether the differences that existed were attributed to physiological experiences such as flushing, or to differences in cultural norms between the two groups. The study found that cultural norms rather than physical symptoms were a significant predictor of alcohol consumption patterns.

Another study (Legge & Sherlock, 1991) looked at the drinking behaviour of Chinese, Indo-Pakistani and Latin American groups in British Columbia. They found that level of drinking and perceived problems associated with drinking were lower in the Chinese community. The Latin American and Indo-Pakistani communities on the other hand were found to be considerably higher in both problems and drinking levels.

In a 1989 (Adlaf, Smart and Tan) study of ethnicity and drug use, a random sample of students ranging from 10 to 19 years of age were given a self-administered questionnaire in which their ethnic ancestry was determined through their fathers' ethnic background. From their responses eight ethnic categories were constructed including: Eastern European (Austrian, Czechoslovakian, Hungarian, Polish, and Ukrainian); Western European (Dutch, French, German, and Scandinavian); British Isles (English, Irish, Scottish); Black; Oriental (Chinese, Japanese); East-West Indian; Jewish; and Mediterranean (Greek, Italian, Portuguese). Other independent variables of interest included, age, gender, region of residence, and frequency of religious attendance.

The dependent variables were frequency of alcohol use, and any problems that resulted from the use of alcohol. Results showed ethnicity to be a significant predictor of drinking behaviour with the highest use by those of Western European descent, followed closely by the Eastern European group. Those in the Oriental group reported the lowest

frequency of alcohol use, and ethnic variation in problems associated with alcohol use were not found to be significant. However the groups with the least frequent use of alcohol were found to have the lowest number of problems.

Summary

The review of literature on ethnicity and alcohol use indicates a lack of consistency in how ethnicity has been operationalized; in some instances it is based on the ethnic ancestry of the subject's father, in other studies on the ancestry of the mother. There is also a tendency to amalgamate ethnic groups for the purpose of analysis based strictly on geographical location (Eastern Europe). Seldom is any evidence offered for whether the drinking style of these groups are in fact at all similar. Most of the studies use either the amount and frequency of drinking to construct a user designation, or the number of problems experienced as a result of drinking, but not all studies use multiple dependent measures.

It is still the case in research on ethnicity and alcohol, that few studies use a random sample of the population. Instead it is fairly common to find studies that use either high school or university subjects or a clinical sample of alcoholics. It also remains a problem to try and generalize from U.S. data to Canadian samples due to the differences in ethnic composition of these countries. While the U.S. has significant portions of their population belonging to different racial groups, Canada's diversity remains concentrated around a variety of primarily white, ethnic groups. Often in U.S. studies the ethnic categories that are reported actually represent a racial grouping rather than an ethnic one.

Religion and Alcohol Use

Stivers (1983) describes religion in broad terms as the synthesis of a set of myths and rituals bound to a sense of the sacred. How organized a specific religion becomes varies from the highly organized with a creed, theology and clergy, to the few which remain at the level of myths and rituals. Common to the structure of most religions, regardless of their complexity, is the development of morals or norms to regulate behaviour. In this review of literature on religion, the focus will be first to provide some background information on the norms regulating drinking behavior in the Judeo-Christian religions throughout North America. Then a review of the current research to determine whether there is evidence of the continued influence of these norms regarding alcohol on members of today's religious denominations.

In earlier research, Larsen and Abu-laban (1968) used a general typology to investigate drinking behaviour. They described the type of drinking norms as 1) proscriptive, in which all drinking is forbidden, 2) prescriptive, which permits moderate drinking, and 3) nonscriptive which neither permits or forbids drinking, nor suggests any limits to encourage a moderate form of drinking. The authors believe that groups which have nonscriptive norms, allowing individuals to make their own rules regarding how much they drink, will have a higher incidence of heavy or problem drinkers. They attribute this to a lack of shared rules, resulting in a condition of anomie. However Stivers (1983) argues that there are groups such as the Irish and the American Indians that have prescriptive norms which actually promote heavy drinking, and that the highest rates of drinking may really occur within those groups.

Research on religion and its effect on drinking behaviour in western cultures, has consistently focused on Roman Catholic, Protestant, (often with distinctions made

between the fundamentalist and liberal groups), Jewish, and those with no religious affiliation. According to the criteria set out by Larsen and Abu-laban (1968), Roman Catholic, Liberal Protestant and Jewish religions are considered prescriptive, in varying degrees, in their approach to drinking behaviour. Conservative Protestants would be proscriptive, and those having no religion would have nonscriptive norms related to alcohol consumption.

In the Roman Catholic faith the social use of alcohol is integrated into the fabric of parish life. It is served at church sponsored events such as fairs and fund-raisers, and celebrations after the sacraments of baptism or confirmation. It is also common to have bottles of hard liquor or wine as raffle prizes at church events (Ablon, 1986). Alcohol is considered an integral component of the ritualistic ceremony of the Eucharist, in which bread and wine are changed into the body and blood of Christ. At one time only the priest partook of the wine during communion, now it is not uncommon to have parishioners offered both bread and wine at the communion table.

It is not as straightforward to define belief and practices related to drinking behaviour among the Protestant populations in North America. In churches such as the Anglican, Lutheran, and Episcopalian there is usually no opposition to moderate drinking. Similar to the Roman Catholic church, the sacrament of the Eucharist (or Holy Communion) is central to their beliefs. The body and blood of Christ is distributed to the congregation through the bread and wine. Unlike the Roman Catholics, taking part in drinking the wine has always been an integral part of their Eucharist tradition. In the social environment of these churches, while some alcohol is permitted, it is not as common or as extensive as what might be found in Catholic church communities (Bennett, 1986).

Other Protestant groups such as the Baptists, Methodists, Presbyterian, Congregationalists, and some smaller and fundamentalist groups, do oppose the consumption of alcohol and view drunkenness as sinful. This stance on alcohol can be traced to the later part of the 18th century when the religious revivals were sweeping through the United States. On the verge of the Temperance era, which spanned approximately 100 years from 1820 to 1920, the preachers at these revivals declared any man who consumed alcohol to be immoral, depraved and wicked (Ames, 1986). Credit for the lasting power of the Temperance movement goes not only to the "loss of grace" assertion, but to the reformers declaration that "those who used alcohol squandered capital, dissipated and destroyed wealth for selfish, nonproductive ends and deterred opportunities for saving and investing money" (Ames, 1986, p.441). These two contentions convinced the Protestant middle class to maintain a moralistic attitude toward alcohol and drunkenness. From the mid-nineteenth century it became an accepted standard of middle-class respectability differentiating the Protestant middle-class from the mainly German and Irish-Catholic lower working classes. Though revivalist-temperance is an era of the past, its influence remains in the enduring attitudes of many middle-class Protestants who still equate alcoholism with moral weakness.

There has been extensive research conducted on the drinking practices of Jews (Bales, 1946; Glad, 1947; Knupfer & Room, 1967), because so many of them drink but so few have drinking-related problems or become alcoholics. Gressard and Bainwol (1988) reviewed the research on Jewish drinking practices, and identify three recurring, plausible theories related to this phenomenon. The first is the "in-group vs. out-group theory first developed by Snyder (1958) in which he suggests that originally Jews did not drink because they were concerned they may lose control in a hostile environment of

other, differing cultures. They then began to identify themselves as the non-drunken in-group as opposed to the out of control drunken out-groups. Thus Jews became known for their moderate drinking behaviours and drunkenness became a non-Jewish activity (Gressard & Bainwol, 1988).

The second theory is that which has already been mentioned, proscriptive and prescriptive norms. Summarizing from before, proscriptive norms direct people not to perform an activity while prescriptive norms describes ways in which an activity that is allowed should be performed. Knupfer and Room (1967) compared Jews, Irish and Protestants and found not only were Jews the least likely to approve of drunkenness, they were also less intolerant of drunkenness. The researchers concluded that since the number of Jews who drank was in fact larger than in the other groups, that their drinking patterns were not the result of religious negative norms against it, but rather learning how to drink in an appropriate manner.

The final theory presented by Gressard & Bainwol (1988) is that of instrumental and affective drinking, developed by Glad (1947) in his study of Irish and Jewish drinking practices. In this study he concluded that the Jewish use of alcohol is instrumental, as it's primary use occurs in the context of rituals to symbolize both religious and secular events as important. It is not used for it's physiological effects. Affective drinking on the other hand, makes use of alcohol as a way to feel good and as a "social lubricant". When the Irish use alcohol, the purpose of drinking is often to obtain the physical effects of alcohol or to achieve a drunken state.

Within the framework of religious norms developed above, I will now review some of the relevant research on religion and drinking behaviour, to see the extent of support for those theories. Stivers (1976) reviews three early surveys of drinking

behaviour, two of which were national, conducted in the United States between 1964 and 1969 (Cahalan, Cisin, & Crossley, 1969; Cahalan, 1970; Cahalan & Room, 1974). Amongst other variables, religious affiliation and what the authors termed problem drinking, (measured as incidences of binge drinking, heavy drinking, and high negative consequences of drinking) behaviours were investigated. Six religious affiliation categories were provided and the following is a list of the percentage of problem drinkers found in each group, recorded from the highest to the lowest: Catholic, 35%; no religion, 32%; other, 31%; liberal Protestant, 24%; conservative Protestant, 20%; and Jews, 8%. These studies offer support for the theory that differences in alcohol consumption occur based on differences in religious affiliation.

Other studies of religious affiliation and drinking behaviours have surveyed high school or university samples, and have had similar results (Amoateng & Bahr, 1986; Engs, Hanson, Gliksman & Smythe, 1990; Zucker, 1983). Emerging from the research on drinking and religious denomination are studies that also address the issue of religiosity or frequency of church participation, and drinking behaviour. In Amoateng & Bahr's (1986) study of religion, family, and adolescent drug use, a survey was administered to high school seniors asking for information on their use of alcohol and marijuana. To describe their religious behaviour, they were asked to indicate from a choice of eight, their religious denomination. As well they were to indicate how often they attend religious services (ranging from "never" to "about once a week or more") and to indicate how important religion is in their life from "not important" to "very important". The authors hypothesized that active involvement in their religious group would reduce the consumption of alcohol. A comparison of the active and inactive within each denomination indicate that there were differences in all groups. However,

the largest differences existed among Mormons and Fundamentalist Protestants, and the smallest differences were among Catholics and Jews.

Other studies (Burkett, 1980; Schlegel & Sanborn, 1979; Cochran, 1991) have produced similar results, but Francis (1992), believing that the proportions of variance in drinking patterns explained by church attendance in previous studies were quite small, conducted a study to determine the "relative power of denominational identity and church attendance to predict difference in drinking behaviour " among an adult sample in England (p.29) . A questionnaire was completed by a sample of men and women in adult education programs asking for information about their drinking behaviour, religious denomination and frequency of church attendance. The results showed drinking behaviour to be unrelated to church attendance, but significantly related to denominational identity. One conclusion emerging from this research is that the influence of religion is probably more a function of family background and less a matter of present participation.

Engs et al (1990) attempted to determine which was more important in predicting drinking patterns, culture or religion. A comparison was made between similar university samples in each of Canada and the United States. The theory was that since Canada is an ethnic mosaic and the U.S. is a melting pot, the influence of culture on the maintenance of religious norms would be stronger in Canada. The null hypothesis posited was: "that among drinkers within the Roman Catholic, mainstream Protestant or abstinent oriented Protestant groups, and Jews, there will be no significant differences between the two countries in the amount of alcohol consumed or the number of drinking related problems" (p.1476). There was support for the null hypothesis for the abstinent oriented Protestants and for the Jews, but the American Roman Catholics and mainstream Protestants

consumed more alcohol than their Canadian cousins, and all American groups, except for the fundamentalists, had more problems associated with drinking. The conclusion drawn from this study was that religion has a greater influence in cohesive religious groups, but when there is less cohesion in the religious group, culture has a greater influence.

Some studies (Glasser, Berg, 1983; Gressard, Bainhol, 1988) have focused specifically on Jewish drinking behaviour, in an attempt to identify those factors associated with their consistent moderate drinking. One study attempted to look at the exception in Jewish drinking, the Jewish alcoholic, hoping that some difference that they exhibited would shed light on the norm. In this Canadian study (Schmidt & Popham, 1976) case histories of only 29 Jewish alcoholics from a possible 6000 first time admissions in a 10 year period, in two treatment centers in Toronto could be found. Results of the study showed the alcoholics to have a somewhat higher than usual level of anxiety, and to be remote from their Jewish culture, but were in fact no further remote than half of the Jewish population at large. Three coping strategies were noted in these patients: one was to deny they were alcoholic; one was to deny that they were Jewish, saying that they identified with the non-Jewish social system; and the last was to deny altogether the notion of Jewish sobriety.

Some interesting studies have also been undertaken to examine the patterns of drinking that exist among adolescents and adults in Israel. In one of the first general population surveys of drinking in Israel (Kandel & Sudit, 1982) the results were compared with those of similar general population surveys in the U.S. They found large differences in the frequency of drinking and in the quantities consumed, with the Israeli population drinking significantly less than Americans. One explanation which was supported to explain the absence of heavy drinking among Jews, was it's relation to

religious orthodoxy. One surprise finding of this study was that "it was necessary for persons raised in the Jewish Israeli culture to experience drinking in association with religious rituals, in order to subsequently drink alcoholic beverages in settings and for purposes other than ritual ones"(p.16).

One concern of more recent research on Israeli drinking practices is that there may be an upward trend in the consumption of alcohol by all Israelis, including their young people (Barnea, Rahav & Teichman, 1992; Isralowitz & Anson, 1988). In the study by Barnea et al. three samples of young people were surveyed: high school students, high school drop-outs, and institutionalized juvenile delinquents. They found that there was an increase in the frequency of alcohol consumption in the 14 to 18 year age group, and that while they have nowhere near the rates as the American youths, they are approaching frequency rates of European adolescents. The Director General of the Ministry of Education for Israel stated that the rates of adolescent drinking are near to those of U.S. adolescents in the 1970's. Concern is that typically American social phenomena reach Israel 15 years later and that they may have very real cause for concern in the future (Barnes et al., 1992).

Another area of research on religion and drinking behaviour are the comparisons that have been made between Jewish moderate drinkers and Irish Catholics "hard drinkers". In one of the earliest works in this area, Bales (1946) found support for his theory of the differences in cultural attitude toward alcohol between the Irish and the Jews. The Jews possessed a ritualistic attitude toward alcohol which did not include its misuse, while the Irish attitudes he described as "convivial (to promote sociability)" and "utilitarian (serving individual psychological needs)".

A more detailed description of some of the issues surrounding Irish drinking has been provided in the section on ethnicity, but a reminder should be provided here of the role the Catholic Church is believed to play in the heavy indulgence in alcohol of its Irish population. Ablon (1986) in her case study of Irish-American Catholics presents a summary view from an unpublished dissertation on the role of religion and drinking in the case of Irish-Catholics (O'Carroll, 1979):

"The author hypothesizes that it is functionally imperative for Catholic ecclesiastics to both maintain institutional authority and to enforce prohibitive norms surrounding premarital sex by concurrently tolerating deviant drinking practices and relaxing regulations of alcohol consumption by its constituents in order to discharge the psychosexual tensions inherent in the relationship"(p.401).

Summary

A review of the literature in this area indicates that most research investigating the relationship of religious denomination to that of drinking behaviour has resulted in adherence to an enhanced typology of proscriptive and prescriptive norms as outlined for each of the various religious groups.

As expected, in most instances the highest rate of drinking was found in those belonging to the Roman Catholic religion, followed closely by Liberal Protestant, then conservative Protestant and Jewish. Of those four, the only religion that could be considered to have proscriptive norms regulating alcohol behaviour would be the conservative Protestants who disapprove of most or all (depending on the group) forms of drinking. On the other hand, the other groups all have norms that allow for the moderate use of alcohol (prescriptive), both in their religious traditions and social environment, yet there are differences in their drinking behaviours.

It seems reasonable to believe that those differences must include the attitudes toward drinking that the individual is exposed to, and so may best be described by the addition of the instrumental and affective theories of drinking. Those theories must also include some recognition of cultural socialization as evidenced by the differences that would likely exist between Irish-Catholics and Italian Catholics in their drinking behaviour. This is further supported by the evidence Francis (1992) found which showed denominational identity to be a better predictor of drinking behaviour than church attendance. Current drinking was found to be more strongly influenced by the values associated with alcohol that the individual had been taught as a child, and less by their present religious practice.

Social Class and Alcohol Use

It is a popular belief that alcoholism occurs more frequently in people of the lower classes than it does in people of the middle and upper classes. Historically, at the beginning of the eighteenth century in England, droves of peasants ousted from the rural areas arrived in London to amongst other things, abundant cheap gin produced to use up a surplus of grain. Frustrated by a lack of work and homes, and encouraged to drink by those looking for profit, an epidemic of gin drinking in public houses soon developed amongst the urban poor. Previous to arriving in the city, drinking by rural peasants was of ale and beer, low in alcohol content and consumed only occasionally and as part of social celebrations. In actual fact at that time, the heaviest drinking and the most unruly behaviour was more common in the upper classes. Those were the ones who could afford the stronger intoxicants such as French wine and brandy, and who regularly attended dinners and banquets where this type of alcohol was served.

A similar situation occurred a hundred years later in North America with the influx of European immigrants, especially the Irish, to eastern coastal cities. This time the culprit was whiskey produced from excess corn grown in the new mid-western frontier, and once again the poor gathered in local saloons to drown their sorrows in cheap alcohol. Park (1983) suggests that the commonly held belief in Europe and North America that the lower classes were the primary abusers of alcohol, may have developed because any immoderate use of alcohol, occurring as it did in public drinking houses, was more obvious than that of the middle or upper classes who more often drank at private functions than in public saloons.

Also contributing to early conclusions from studies about social class as it relates to alcoholism were data obtained from hospital statistics in New York State between 1910 and 1912. These records indicated that the majority of people admitted to hospital for alcohol-related problems were from lower class occupations. These records came from State hospitals however, that traditionally provided services to the poor, while the wealthy, who would go to private institutions, may have been admitted for "nervous exhaustion" rather than an illness related to abuse of alcohol. In more recent times in England where socialized medicine is practiced, admittance records for alcohol-related illnesses actually indicate a slight over-representation of people from the middle and upper classes. This suggests that the general assumption that alcoholism is more prevalent in the lower classes may, in fact, be an unfair bias (Park, 1983).

Park's (1983) concern about unfair bias also extends to statistics dealing with the incidence of problems arising from excessive drinking. The arrest records for drunkenness indicate a higher prevalence among those from the lower classes, but may actually be more indicative of police differential treatment than of genuine lower class

problems. Statistics for traffic accidents occurring while impaired also indicate more involvement by persons of lower socio-economic status. In reality, that group may not drive impaired any more often than those in the upper class, but because they drive where they live, in heavily populated areas, they are more likely to have an accident than someone from the suburbs. It is also true that drinking problems that affect employment and debt that results from heavy drinking, may have more immediate consequences for a poorer person with few resources, than for a wealthier one.

In a review of the research that has included social class as a variable, it was found that various indicators have been used to measure socio-economic status. However the most consistently used, either alone or in combination with other indicators, is level of education (Amoateng & Bahr, 1986; Crowley, 1991; Keil, 1978; McCaul, Donaldson, Jr., Caladarci & Davis, 1992; Russell, Cooper & Frone, 1989; Skager & Fisher, 1989; Zucker & Harford, 1983;). The expectation is that the higher the level of education, the higher the level of social status an individual has the potential to attain. Other variables that have been used to gauge social status include family income, occupational status or employment status of the respondent.

Recent studies in this area are still producing mixed results predicting patterns of alcohol behaviour from a person's inclusion in a particular socio-economic group. However there appears to be some support for the theory that people from the lower class groups have more problems with alcoholism than do those from the other social class groups. Casswell & Gordon's (1984) study in New Zealand of occupational status and alcohol consumption found that high quantity-low frequency drinking is a pattern for men in lower status occupations. This type of "bingeing" is often associated with problem drinking. Additionally, this study indicated that the mortality rates from cirrhosis of the

liver were significantly higher than the norm for this group. Similar levels of mortality from cirrhosis have also been found in those who are unemployed (Hein & Pompelli, 1987). In a study of the demographic predictors of sudden, drug-related deaths (Trott, Barnes & Dumoff, 1981), it was found that the unemployed were much more likely to die a drug-related death than were people who were working.

School "drop-outs" also present an interesting area of research in the field of alcohol studies. Some of the consequences related to dropping out of school include "a higher possibility of being unemployed, of requiring public assistance and of engaging in antisocial behavior" (McCaul, Donaldson Jr., Coladarci & Davis, 1992, p.199). Included in the activities that might be considered antisocial behaviour, is the misuse of alcohol. The results of this longitudinal study demonstrate that there is a significantly higher rate of alcohol consumption in male dropouts compared to their peers who did not drop out. The same differences do not exist for the female dropouts.

Crowley (1991) which attempting to verify the results obtained using college students as subjects in alcohol research, claims a typical pattern in the lower classes to be that of higher rates for either abstention or heavy drinking, than exists in the middle and upper classes. In this study based on data from a National survey, education status was divided into four categories: high school dropouts; terminal high school graduates; youth with one or more years of college education who are no longer enrolled in school; and college students. The alcohol variables included a measure of both quantity and frequency. Results showed that there was very little difference based on educational status for women, but for men the differences were substantial. Compared to the college-educated groups, high school graduates and dropouts had higher rates of abstention, but

for those who did drink the quantities of alcohol consumed per day were significantly higher than for the college students.

A significant amount of research has also focused on the drinking behaviour of adolescents in relation to their parents socio-economic status. Some of these studies (Amoateng & Bahr, 1986; Zucker & Harford, 1983) did not find any significant differences in adolescent consumption of alcohol between those whose parents worked in unskilled labour and had minimal education, and those whose parents were professionals with higher levels of education. Other studies (Martin & Pritchard, 1991; Skager & Fisher, 1989) did find some significant differences in adolescent drinking based on differences in social class. Those studies concluded that an individual will be more likely to consume higher levels of alcohol if they come from a family with a higher socio-economic status. It seems that there is more acceptance for consuming alcohol among those adolescents in that group than there is for adolescents who come from families with a lower socio-economic status.

Summary

Historically society has believed that the poor are more likely to drink to the point of having problems than are people who are well off. The stereotype is of a lower class drunk who can't hold a job, spending his welfare cheques on alcohol and then getting into fights and generally exhibiting behaviour that puts society at risk. While the picture is not as black and white as has been painted above, from this review of literature it would appear that there is still some support for the theory that those who are poorer are more likely to drink heavily than are those from the middle-classes. Some of that evidence focuses on the pattern of drinking that emerges in the lower class, typically engaging in sporadic bouts of heavy drinking that are referred to as "bingeing". Park

(1983) offers as an explanation the fact that those in blue collar jobs who sometimes work on heavy equipment, have a more difficult time covering up the effects of alcohol on the job than do the white collar workers, sitting at a desk. In that case they may not drink during the week, but then drink to the point of drunkenness on the weekend. Or if they do drink during the week, any difficulty they may have working as a result of drinking would be that much more apparent.

A contradiction would be the conclusions drawn from research on adolescents' drinking behaviour that indicate that those from a higher economic status family drink more than those from lower economic status families. It is difficult to draw conclusions based on economic status alone. Jellinek (1977) saw participation in drinking as a "rite of passage". Looked at in that context, it is possible that, for young people from wealthier families, it is considered acceptable to experiment with frequent, heavy use of alcohol. The adults in their world may sanction that behaviour as something that will eventually be moderated with maturity. There may be a different level of tolerance for drinking behaviour in adolescents of the lower economic classes resulting in the development of a different way of drinking. It is obvious that more research needs to be done in the area of socio-economic status and drinking behaviour.

Family History of Alcohol Use

Alcoholism tends to run in families. "Drunkards beget drunkards" (Plutarch). Since biblical times it has been thought that a person is more likely to grow up and have problems with alcohol if they have a family member or members who are alcoholic. In the general population, it has been found that 3 to 5% of men and 0.1 to 1% of women are alcoholics (Goodwin 1988). Therefore to say that alcoholism runs in families, it

would be necessary to show that in vulnerable families it occurred in more than 5% of the males and in more than 1% of the females. This has been demonstrated, but what has not been shown is whether that propensity to alcoholism is "inherited", or genetic in nature, or whether there may be other factors at work.

That a person was destined at birth to become an alcoholic was put forth by the Alcoholics Anonymous organization around 1939 (Peele, 1986). Those in the organization believed that with the first drink of alcohol certain people began a journey mapped by loss of control and resulting in their final diseased state. This disease and loss of control could only be stopped if, somewhere within themselves, the individual found the resources to totally abstain from alcohol. Later scientific research in this field disputed the loss of control disease model, and instead painted a picture of problem drinking as described in the National Study of drinking conducted by Cahalan & Room in 1970 and 1974 (Peele, 1985).

The controversy continues as to whether nature or nurture is the strongest factor in the intergenerational transmission of alcoholism. Genetic studies of alcoholism (Cadoret, Troughton & O'Gorman, 1987; Cadoret, Troughton, O'Gorman & Heywood, 1986; Cloninger, Sigvardsson, Gilligan, von Knorring, Reich & Bohman, 1988; Goodwin, 1985; Kaprio, Koskenvuo, Langinvainio, Romanov, Sarna & Rose, 1987; Tarter, Alterman & Edwards, 1985; Whipple, Parker & Noble, 1987) have demonstrated that there may be an inheritable, biologic vulnerability to becoming an alcoholic in individuals with a positive family history of alcoholism. However, further research in the area of family history of alcoholism has provided additional pieces to the puzzle. Other research claims that personality factors are also critical components in determining whether or not problems with alcohol will occur.

Researchers (Cahalan & Cisin, 1983) believe that a number of factors may be related to drinking behaviour. Cahalan (1983, p.100-101) quotes Plaut (1967, p.4) and his model as follows:

A tentative model may be developed for understanding the causes of problem drinking, even though the precise roles of the various factors have not yet been determined. An individual who (1) responds to beverage alcohol in a certain way, perhaps physiologically determined, by experiencing intense relief and relaxation, and who (2) has certain personality characteristics, such as difficulty in dealing with and overcoming depression, frustration, and anxiety, and who (3) is a member of a culture in which there is both pressure to drink and culturally induced guilt and confusion regarding what kinds of drinking behavior are appropriate, is more likely to develop trouble than will most other persons. An inter-mingling of certain factors may be necessary for the development of problem drinking, and the relative importance of the differential causal factors no doubt varies from one individual to another.

In this review of literature, acknowledgment is given at the onset to the contribution of knowledge gained about family history and alcoholism by studies of psychological-personality correlates and genetic-biological components of alcoholism. However this review of literature will focus on those studies which look at the cultural-sociological aspects of family history and alcohol abuse.

One of the earliest studies that investigated family environment as a possible factor in intergenerational transmission of alcoholism (Wolin, Bennett, Noonan & Teitelbaum, 1980) questioned why in some alcoholic families, problem drinking occurred in the offspring while in other alcoholic families it did not. Twenty-five families were interviewed and asked for detailed information about six areas of family life including dinners, holidays, evenings, weekend, vacations and visitors in the home, to determine how extensive were the rituals in each family. It was found that if family rituals were negatively altered during episodes of heavy drinking, the offspring would be more likely

to engage in problem drinking behaviour as adults than were those for whom heavy drinking in the family had little effect on family rituals.

Support for this result was found in a later study (Bennett, Wolin, Reiss & Teitelbaum, 1987) that developed a two-generation sociocultural model for the transmission of alcoholism. It was found that certain predictors including disrupted or non-existent family rituals were significant in determining whether alcoholism would transmit to the second generation.

Several studies (Barry & Fleming, 1990; Filstead, McElfresh & Anderson, 1981) also note the importance of family cohesion and expressiveness in protecting against the transmission of alcoholism. The negative effect of conflict in alcoholic families is also explored.

Family History in a Clinical Population

Samples of Veterans

In a study of alcoholics in a Veterans Hospital (Read, Penick, Powell, Nickel, Bingham & Campbell, 1990), it was found that 47% had a positive family history of alcoholism and at least one other mental disorder. Additionally 18% reported having a positive family history of problems with alcohol, but no other disorder.

The results of a study of alcoholics in a Navy rehabilitation program (Frances, Timm & Bucky, 1980) demonstrated that the familial alcoholism group more often experienced less consistent or stable family environments, came from broken homes with larger families, and may have experienced emotional problems when growing up. They also demonstrated poorer academic and social performance, plus more severe alcohol-related physical and psychological symptoms.

In another study of alcoholics in a veterans alcohol program (Penick, Powell, Bingham, Liskow, Miller & Read, 1987), it was found that 65% of the group had a first degree relative with a drinking problem. Those with a positive family history of alcoholism experienced more extensive symptoms of drinking such as more job instability, being separated from a loved one because of drinking, and were also more likely to have been either hospitalized or arrested because of their drinking. Similar results were found in another study (Worobec, Turner, O'Farrell, Cutter, Bayog & Tsuang, 1990) where it was determined that the course of alcoholism was more severe in those alcoholics with a positive family history of alcoholism.

Non-Veteran Clinical Sample

Male and female alcoholics in a treatment center were surveyed (Glenn & Parsons, 1987) to determine what differences existed between those with a positive and those with a negative family history of alcoholism. No differences on age or education were found, but in addition to more alcoholism on both the maternal and paternal sides of their families there was also a higher incidence of other forms of psychopathology. Typically those from a positive family history background also came from larger families and had more attention deficit, conduct and learning disorders.

Turnbull (1994) comparing women who had and had not been treated for alcoholism, found significantly more family members in the alcoholic sample than in the non-alcoholic group. As well it was noted that there were more negative perceptions in the alcoholic group such as feeling unjustly punished, unloved, and not receiving enough attention.

Non-Clinical Sample

A series of three studies were performed on longitudinal data from a health study (Webster, Harburg, Gleiberman, Schork & DiFranceisco, 1989; Harburg, DiFranceisco, Webster, Gleiberman & Schork, 1990; Harburg, Gleiberman, DiFranceisco, Schork & Weissfeld, 1990) in Tecumseh Michigan beginning in 1960. Self report drinking practices which the parents had completed in 1960 were compared with their adult child's report of their own drinking behaviour 17 years later. A sample consisting of three-member sets of father, mother and adult offspring were investigated in each of the three studies.

The first study (Webster, Harburg, Gleiberman, Schork & DiFranceisco, 1989) examining whether there was any association between the parental and the offspring pattern of drinking, found that drinking varied depending on the parent's pattern of consumption, the sex of the offspring and the sex of the parent. However there was a general tendency for the offspring to drink in a similar fashion to their parents, especially if the parent was a low volume drinker or an abstainer. If the offspring were heavy drinkers, especially daughters, typically the parent also was found to be a heavy drinker. These results offered support for the influence that the parent's drinking may have had on their offspring.

The second and third studies (Harburg, DiFranceisco, Webster, Gleiberman & Schork, 1990; Harburg, Gleiberman, DiFranceisco, Schork & Weissfeld, 1990) demonstrated a "fall-off" effect in which an offspring reacts to the heavy drinking parental model, by drinking in a moderate fashion. This aversion seems to hold more for the cross-sex, high volume problem drinkers. However there is some evidence that

daughters may imitate a high drinking father if there were no significant problems experienced by him because of his drinking.

The last study to be reported was conducted in 1991 (Lewis & Bucholz) with a general population sample. It determined from DSM-III criteria which factors increased the likelihood of having a lifetime diagnoses of alcoholism. It found that having a antisocial personality, a positive family history of alcoholism and being female resulted in more risk of becoming an alcoholic.

Summary

Controversy exists about which factors influence the intergenerational transmission of alcoholism. Some believe it is due to genetic, biological influences while others support one of the psychological, personality theories. From a sociological perspective, there is also strong rationale for the influence of the cultural environment of the family and its ability to maintain an influence on the drinking behaviour of it's members. It appears that a more inclusive model should be considered for transmission of alcoholism over generations. It seems evident that each of biology, personality and culture has a contribution to make to a model of intergenerational transmission of alcoholism.

There is strong support that a positive family history of problems with alcohol significantly increases the likelihood of the next generation having a problem with alcohol. It was evident in both the studies on disruption of family rituals as well as the research on alcoholics. From both clinical and non-clinical samples, a positive family history of alcoholism increased the chances of becoming an alcoholic.

One of the major limitations of the research on family history is the heavy reliance on both clinical and non-random samples for information. Stronger results would be obtained from a general population random sample of subjects.

Theory - An Overview

Historically in western culture, research on alcohol has been directed toward understanding problematic drinking. As a result the theories that have developed within the field of alcohol research have been specific to explaining the development of alcoholism in individuals. In a recent Canadian text Theories On Alcoholism, (Chaudron & Wilkinson, 1988), current theories are grouped into three distinct categories, the first the biological includes the genetic, neurobiological and neurobehavioural theories. The second category consists of psychological theories including psychoanalytic, personality, classical conditioning, and social learning. And finally the last section encompasses the social theories of alcoholism including systems, availability, anthropological and economic. As noted, the focus of these theories is directed more toward explaining how abnormal drinking or alcoholism develops, while this research study looks at describing the factors that influence not only immoderate, but moderate drinking behaviour as well.

Cahalan (1988) suggests that the study of alcoholism has lacked a cooperative team effort in determining its causes. While each theory purports to explain the sole cause, he claims it is more likely that a combination of theories encompassing the biological, psychological and social aspects are required to attain a full explanation. He accompanies his analysis with the suggestion that a more comprehensive view of alcoholism would be facilitated by a bio-psycho-social perspective.

Somewhat contrary to this view is the view which was put forth by Seldon Bacon in 1943 and which was cited as still relevant in the 1990's (Roman, 1991) that the problems of alcohol are basically social in nature and will best be solved utilizing a

socio-psychological approach rather than a physiological or biological one. He believes the most pressing of the problems arising from problem drinking is not the physical effects but rather the individual and social ramifications.

Bacon's description (Roman, 1991) of a sociologic study of the problems of alcohol proposes that it be a study of drinking behaviour, one that situates drunkenness in a continuum including abstinence and moderate drinking. He believes that concentrating on the "exotic" behaviour found in alcoholics will tell us no more about drinking behaviour than will studying millionaires tell us about American society. He proposes that the study of problem drinking along with all other types of drinking behaviour, will best be served by the method of inquiry utilized in sociologic study. He suggests that the sociologist is . . .

"interested in the customs of drinking, the relationship between these customs and other customs, the way in which drinking habits are learned, the social controls of this sort of behaviour, and those institutions of society through which such control issues. The sociologist wishes to know the social categories in which much or little or no drinking occurs, he seeks correlation's of amount and type of drinking with occupation, marital, nationality, religious, and other statuses. More importantly, he poses the broad questions: What are the social rules concerned with drinking? What are the pressures for or against this practice? How does this behavioral pattern jibe with other institutions and folkways? " (p.140)

Customs and norms, the like of which Bacon suggests influence and regulate drinking behaviour, are typically developed within a culture. Some of the rules are based on the laws of the larger society, such as those governing the age at which alcohol can be purchased, and the method of the distribution and sale of alcohol. Other rules such as where you can drink, the time of day to drink, the people to drink with and the type of beverage to drink, vary according to the subculture or group to which you belong. Examples of this can be found in a comparison of Irish and Italians. In the traditional Irish culture, most drinking took place not at home, but rather in the neighbourhood pub, during the evening after work was finished, with only the men drinking Guinness or Irish

whiskey. Contrast that with traditional Italians who drank almost exclusively at home, during meals with their family, and only drank wine (Ablan, 1986; Ames, 1986; Bennett, 1986). So, while in one culture drinking is a form of male recreation and escape, in the other, it is a normal part of a family meal. For these behaviours to become normative to the next generation of Irish and Italians, it will depend on the degree of both maintenance of ethnic self-identity and the amount of social learning that takes place within both the family and their social and religious groups.

Social Learning Theory

Bandura's social learning theory (1977) makes the assumption that the same set of principles are operational for learning both normal and abnormal behaviour. It further assumes that drinking habits are vicariously learned through the modeling effect. The strength of the modeling effect as an influence on social drinking was first tested in a study by Caudill & Marlatt, (1975) in which in the guise of performing a taste test, subjects were exposed to a heavy consumption, a light consumption or a no consumption model. Social interaction between the model and the subject was also varied between warm and supportive or cold and unresponsive. The results of the study demonstrated support for a modeling effect, with subjects who were exposed to heavy drinking models consuming significantly more alcohol than those who were exposed to light or no consumption models.

Further testing of this theory (DeRicco & Niemann, 1980; Reid, 1978) provided additional support for the influence of the modeling effect of supportive peers and from that evidence Collins & Marlatt (1981) concluded that an individual would be strongly influenced by parental models of drinking behaviour as well. Typically the first early exposure a child has to alcohol is to watch his or her parents drinking in their home. That exposure contributes to development of beliefs and norms about the type and quantity of alcohol that it is appropriate to drink, the occasions on which to drink and the reasons one

usually has for drinking. If the parental model is one of abstinence from alcohol, that will also have a strong impact on the individual. We are influenced by and tend to model the behaviour of significant others in our lives (Barnes, 1990; Barnes, Farrell & Cairns, 1986).

The drinking behaviours that individuals are exposed to in both their families and their social groups are usually ones that have developed within the norms and traditions of their culture and religion, along with the circumstances of their socio-economic group. It appears that despite generations of assimilation, cultural variation in norms will continue to exert an influence over the style of drinking one adopts.

Summary of Review of Literature

This review of literature in the area of drinking behaviour and socio-cultural variables has demonstrated that together the variables of ethnicity, religion, social class and family history are a major factor in determining the drinking behaviour of an individual. A psycho-sociologic model along with the social learning theory demonstrates that social groups, including the family are the primary socializing agent responsible for the transmission through modeling of the norms and values of the family, within the context of its religion and culture. Through the family, which has been influenced by its particular culture, meaning and norms for drinking behaviour are developed. Nikelly (1994) cites as an example of differences in meaning based on culture, the example of Korea and Taiwan. Even though both adhere to the Confucian moral ethic of moderation and temperance, the Koreans have a rate of alcoholism three times that of Taiwan. The difference between the two is that drinking in Korean culture even to excess, is evidence of male mastery and strength, while in Taiwan drunkenness is viewed as degenerate and immoral behaviour.

Research Hypotheses

Based on the review of literature, the following hypotheses were formulated and have been tested in this study:

1. There will be significant differences in drinking behaviour amongst subjects based on their membership in a specific ethnic and/or religious group.
 - a) If the ethnic and/or religious group has a more tolerant or ambivalent attitude toward the use of alcohol, drinking behaviour will be more immoderate resulting in higher alcohol consumption, and/or a greater number of problems associated with drinking, and/or abuse or dependency symptoms.
 - b) If the ethnic and/or religious group has prohibitions or a more limited and defined acceptance of alcohol, a more moderate style of drinking will occur with lower alcohol consumption, and/or fewer problems associated with drinking, and/or no abuse or dependency symptoms.
2. There will be significant differences in drinking behaviour amongst subjects based on their membership in a specific socio-economic group.
 - a) Those with membership in the lower socio-economic groups will exhibit a more immoderate style of drinking resulting in higher alcohol consumption, and/or a greater number of problems associated with drinking, and/or abuse or dependency symptoms.
3. There will be significant differences in drinking behaviour amongst subjects based on their family history of drinking behaviour.

- a) Those with a positive family history of problems with alcohol will exhibit a more immoderate style of drinking resulting in higher alcohol consumption, and/or a greater number of problems associated with drinking, and/or abuse or dependency symptoms.
4. The multivariate analyses will confirm that the hypothesized effect of ethnicity, religion, social class and family history is in fact due to the effect of each of the variables and not to any correlation between them.

CHAPTER 3 - METHOD

This study is based on data obtained from the Winnipeg Health and Drinking Survey (WHADS) (Murray, Barnes & Patton, 1994). Therefore the methodology of that project forms the basis of the present study. Included in the description of the methodology are details of the procedures used in the sample selection and data collection. As well a description of the instruments and variables is given, along with the method of data analysis.

Sample Selection and Description

The Manitoba Health Services Commission (MHSC) provided a randomized list of 4,000 noninstitutionalized adult men and women between the ages of 18 and 65 years of age, who were residents of Winnipeg, Manitoba. A subset of 2,761 names and addresses was then used as the basis for obtaining the sample for the study. From that list, it was not possible to contact 446 of the people, and 722 were contacted but refused to take part in the study. There were also 336 who were not eligible to participate because they had either moved out of the city, had died, were institutionalized or could not read or write English well enough to understand the questions that were to be asked. The final sample, which represented a 64.3% response rate, was composed of 642 females and 615 males for a total of 1,257 subjects, all of whom will be used in this study. This is Wave 1 of a longitudinal study.

Procedure for Data Collection

An interview schedule and a self-administered questionnaire were used to obtain the data. Approximately one to three weeks prior to being contacted by an interviewer, a letter (Appendix A) was sent to potential subjects describing the purpose of the project, asking them to consider participation, and inviting them to call the project office with any questions they had. The letter also advised that their name had been selected at random and that the confidentiality of their responses would be guaranteed. Trained interviewers then followed up with a telephone call to book an appointment for an in-person interview. At least five attempts were made to contact the subject before their name was discarded from the subject pool. The interview usually took place in the subject's home and typically lasted about 90 minutes. Before the interview took place each subject signed a consent form which explained the nature of the interview and also advised them of their rights as subjects.

Variables and Measures

In this study family history of alcohol use and socio-demographic variables are used as possible predictors of patterns of drinking behaviour. The independent variables, the dependent variables and measures used in this study are listed below.

Independent Variables

Demographic Variables

The independent variables investigated in this study include: (1) respondents' mothers' ethnicity, (2) respondents' fathers' ethnicity, (3) respondents' religion: ((i) Catholic (ii) Protestant (iii) other (iv) none), and (4) respondents' socio-economic status,

((i) lower SES, (ii) middle SES, (iii) high SES), which is a constructed variable determined through a composite score of years of education and total family income.

Family History of Alcoholism

The last independent variable is family history of alcoholism. This variable, when used in the univariate analysis, is based on parental alcoholism as measured by the short form of the Michigan Alcoholism Screening Test (SMAST) (Selzer, Vinokur & Von Rooijen, 1975) for the mother, (M-SMAST) and the father (F-SMAST). This 13 item test, adapted from the 25 item MAST has reliability comparable to the MAST when it is used as a predictor of parental alcoholism (Saunders & Schuckit, 1981). This variable also includes one question which asked for the number of grandparents who experienced problems with alcohol (questions 27 through 34). The three categories of the Family History variable for the univariate analysis are (i) no history of alcohol problems in either the parents or grandparents (ii) mother's and/or father's SMAST score equal to or greater than 5 (iii) mother's and/or father's SMAST score equal to or greater than 5 plus any grandparent with respondent reported alcohol problems. In the multivariate analysis in which the ethnicity variable is determined by the mother's or father's culture, the variable Family History reports the mother's history of drinking (based on the M-SMAST) in the mother's culture sample and the father's history of drinking (based on the F-SMAST) in the father's culture sample. The two categories that form the variable Family History in the multivariate analysis are (i) no history of alcohol problems in the mother/ or no history of alcohol problems in the father (Family History (-)) and Mother's/ Father's SMAST score equal to or greater than 5 (Family History (+)), (Appendix B).

Dependent Variables

Style of drinking behaviour is the dependent variable and was measured by three separate constructs: (1) the number of abuse or dependency symptoms, (2) daily amount of alcohol consumed and (3) the number of problems associated with alcohol consumption.

1. The variable, number of abuse or dependency symptoms, was calculated from the questions administered in the short form (15 item) Alcohol Dependence Data Questionnaire (SADD) (Raistrick, Dunbar & Davidson, 1983)(Appendix C, Part 1) and the NIMH Diagnostic Interview Schedule Version III Revised (DIS-III-R) (Robins, Helzer, Cattler & Goldring, 1989) (Appendix C, Part 2). The Short Alcohol Dependence Data Questionnaire was chosen because it has successfully distinguished the alcoholic population in both clinical and non-clinical samples. In an assessment of the split-half reliability of the short form, Jorge and Mazur (1985) found it to be 0.88 when given in an interview, and 0.82 when self-administered. The test-retest reliability was 0.90. The DIS-III-R, a 28 item instrument, uses the criteria from the Diagnostic and Statistical Manual (DSM-III) (American Psychiatric Association, 1980), to assess alcohol misuse.
2. The daily amount of alcohol consumed was determined from the respondent's answers to questions 13a, 13b, 14a, 14b, 15a and 15b. (Appendix C, Part 3). This series of questions produced the total number of drinks each of beer, wine and hard liquor consumed over a 30 day period. Those totals were multiplied by a constant of either .6 for beer and hard liquor, or .64 for wine, in order to account for the varying amounts of alcohol in each drink. The total number of drinks was then divided by 30 to obtain the variable Ethanol, which is the average number of drinks of alcohol consumed per day.

3. The number of problems associated with alcohol consumption was measured based on the drinking problem scale (Cahalan & Room, 1974) that was used successfully in a previous study conducted by Murray (1978) in Manitoba. Those problems, (heavy, binge, symptom, control, spouse, job, police, health and accident) are found in questions 18, 19 and 20 (Appendix C, Part 4).

Data Analysis

Data analysis in this study was performed using the Statistical Package for the Social Sciences, version X (SPSSX), and the following procedures were followed: The WHADS survey asked subjects to specify for each parent "to which ethnic or cultural group (aside from Canadian) does your mother/father belong?" This resulted in seventy-seven (77) categories of mother's and father's culture. The planned methodology was to arrange the categories according to their size, geographical proximity and drinking style as reported in the literature. For this study then, first frequency distributions were computed for each of the seventy-seven ethnic categories. First the distribution was examined to determine whether any categories could logically be grouped together. As a result Cree, North American Indian, Native, and Metis became an Aboriginal group which despite being small in number, was included in the univariate analysis to respond to literature describing their drinking behaviour as highly immoderate. This group was not included in the multivariate analysis.

Then groups whose geographical proximity and cultural similarity suggested they may be able to be grouped together were examined. Examples of potential groupings were British, Welsh, and Scottish into a "British" category, and Asian, Vietnamese, Chinese, Filipino, Japanese and Korean into an "Asian" category. The Irish category was

not considered for inclusion in the British sample because of existing literature that suggests their drinking behaviour is distinctively different from the British. Separate one-way analysis of variance (ANOVA) with Duncan's Multiple Range tests were performed on the dependent variables with the categories in each of the "British" and "Asian" groups to see whether significant differences existed amongst the categories in each group. In both groups the analysis showed no significant differences in the means on the drinking behaviour variables.

Attempts were also made to construct groups such as Mennonite with German, and Italian with French based on size, geographical proximity and some cultural similarity. However the ANOVA with Duncan's Multiple Range tests indicated significant differences in their means on the alcohol behaviour measures, which supports existing literature suggesting that Italian and Mennonite drinking behaviours are more moderate than the average. The German and French along with the British groups were fairly large and so it was decided to consider each of those groups on their own. Another cultural group that was fairly large, but for which there wasn't a specific description of drinking were the Ukrainians who were included as a separate group in the analyses.

Since Jewish was indicated on the survey as both a culture and a religion, it required a decision as to how that group should be treated in the analysis. There is considerable literature describing Jewish drinking behaviour with as many studies which use it as a culture as you find studies using it as a religion. For this study first a correlation was made to determine whether all those who indicated Jewish as a culture also indicated Jewish as a religion. It was found that not all those who indicated their culture as Jewish also indicated their religion as Jewish. It was assumed from this that most Jewish people would first see themselves as a cultural group and then as a religious group. For that reason it was decided that Jewish should be treated as an ethnic category.

Upon further examination of the sample, it was decided that there was no basis on which the remainder of the ethnic categories (most of which were composed of fewer than ten subjects) should be grouped together except as an "Other" category. Also in response to criticisms in the literature (Cheung, 1990) of studies that form large composite groups (such as Eastern European) composed of very different cultures, the "Other" category was used in the description of the entire sample only and was not included in any analyses. This resulted in the creation of a mother's culture sample and a father's culture sample each consisting of ten ethnic groups; (i) British, (ii) Ukrainian, (iii) French, (iv) German, (v) Irish, (vi) Mennonite, (vii) Asian, (viii) Jewish, (viv) Italian, (x) Aboriginal.

Next frequency distributions were computed for each of the socio-demographic variables to describe the total sample, and then frequency distributions for each of the socio-demographic variables were run on each of the two subsamples (mother's culture and father's culture samples) to describe the samples used in this study.

Univariate relationships between each of ethnicity (mother's and father's), religion, socio-economic status, and family history of alcoholism, and each of the dependent variables were examined through One-way Analysis of Variance (ANOVA). Duncan's Multiple Range test was also used to determine whether the means of the style of drinking behaviour measures varied significantly within any of the demographic variables. This procedure tested the research hypotheses # 1 through #3.

A multivariate procedure, Multiple Classification Analysis (MCA) (Andrews, Morgan, Sonquist & Klem, 1967) was used to analyze the simultaneous influences of the independent variables on each of the three styles of drinking behaviour measures. As noted previously, the composition of two of the independent variables in the multivariate

portion of the analysis varied somewhat from what was used in the univariate analysis. In the MCA, the Aboriginal and Italian ethnic categories were dropped from the analysis because their numbers were too small to be used in an MCA analysis. This reduced the number of ethnic categories to eight. A two-category Family History variable was used in the multivariate analysis with Family History (-) or Family History (+) being determined by the SMAST scores of the father or the mother (as described in the Methods section). In accordance with prior research suggesting that age and gender are significant predictors of drinking behaviour, gender was included in the MCA as a categorical variable, while age a continuous variable, was entered as a covariate. This procedure showed the effect of each independent variable on the dependent variable before and after taking into account the effects of all the other independent variables. This analysis tested research hypotheses #4.

CHAPTER 4 - RESULTS

Demographic Characteristic

As previously reported, this study was conducted on data collected from subjects in the Winnipeg Health and Drinking Survey (Murray, Barnes & Patton, 1994). On the total sample of 1,257 subjects in that study, frequency distributions were calculated for each of the independent variables (see Table 1). The focus of this study is on drinking behaviour of people in different ethnic/religious groups. For that reason only those from either largely represented groups and/or groups for which literature exists describing their drinking behaviour, were analyzed. To address concerns in the literature as to the appropriateness of determining the ethnicity of a respondent through the ethnic background of their mother or through the ethnic background of their father, two subsamples have been constructed. The first subsample "Mcult" is based on the reported ethnicity of the respondent's mother and consists of 963 subjects. The second subsample "Fcult" is based on the reported ethnicity of the respondent's father and consists of 959 subjects. All the analyses were run separately for each of the subsamples. A complete description of the process for construction of these subsamples is outlined in the methodology section. Frequency distributions for each group were determined for the independent variables

TABLE 1
Demographic Characteristics of Total Sample

Category	N	%
Gender		
Males	615	48.9
Females	642	51.1
Total	1257	100.0
Mean Age	41.75 Years	
Age Groups		
18-27 Years	243	19.3
28-36 Years	245	19.5
37-45 Years	251	20.0
46-54 Years	235	18.7
55-66 Years	273	21.7
Total	1247	99.2
Marital Status		
Single	246	19.6
Married	872	69.4
Widowed	28	2.2
Divorced/Separated	84	6.7
Remarried	27	2.1
Total	1257	100.0
Education		
Some Grade School	28	2.2
Completed Grade School	43	3.4
Some High School	245	19.5
Completed High School	303	24.1
Some College or Technical Diploma	326	25.9
University Graduate	204	16.2
Some Post Graduate	45	3.6
Complete Post Grad.	63	5.0
Total	1257	100.0

Table 1 cont'd. . . .

Table I (cont'd)

	N	%
Income		
<\$10,000/Yr.	49	3.9
\$10,000-20,000/Yr.	94	7.5
\$20,000-35,000/Yr.	285	22.7
\$35,000-50,000/Yr.	296	23.5
>\$50,000/Yr.	429	34.1
Total	1153	91.7
Religious Preference		
Catholic	367	29.2
Protestant	517	41.1
Jewish	34	2.7
Other	142	11.3
None	194	15.4
Total	1254	99.8
Race		
White	1157	92.0
Black	15	1.2
Asian	50	4.0
Native	19	1.5
Other	16	1.3
Total	1257	100.0
Ethnicity		
British	223	17.7
Ukrainian	137	10.9
French	84	6.7
German	77	6.1
Irish	48	3.8
Mennonite	46	3.7
Asian	37	2.9
Jewish	33	2.6
Italian	19	1.5
Aboriginal	16	1.3
Other	532	42.3
Total	1252	99.6

Note: Not all totals will equal 100% due to missing data.

The following is an outline of the demographic characteristics of these two subsamples a complete summary of which is provided in Table 2.

Gender

The percentage of males and females in each of the subsamples were almost identical. In Mcult there were 478 males (49.6%) and 485 females (50.4%). In the Fcult sample there were 471 (49.1%) males and 488 (50.9%) females.

Age

The mean age of those subjects in the Mcult subsample was 41.98 years and 42.07 years for those in the Fcult subsample. The ages ranged from 18 to 66 years, and were distributed as follows: there were 181 (18.8%) in Mcult and 183 (19.1%) in Fcult who were between 18 and 27 years; 194 (20.1%) in Mcult and 187 (19.5%) in Fcult who were between 28 and 36 years; those who were between 37 and 45 years totaled 186 (19.3%) in Mcult and 183 (19.1%) in Fcult; 180 (18.7%) in Mcult and 177 (18.5%) were between 46 and 54 years; in the 55 to 66 year age group there were 216 (22.4%) in Mcult and 220 (22.9%) in Fcult.

Marital Status

The largest majority of people in both subsamples were those who were married to their original partner with 670 (69.6%) in Mcult group and 668 (69.7%) in Fcult. A small number 21 (2.2%) and 22 (2.3%) were those who had been divorced but were now remarried. Those who were single and had never been married were 192 (19.9%) for Mcult and 190 (19.8%) for Fcult. Widowed individuals totaled 25 (2.6%) for Mcult and 23 (2.4%) for Fcult, and those who were divorced or separated and not remarried were 55 (5.7%) for Mcult and 56 (5.8%) for Fcult.

Educational Status

Educational status was divided into 8 levels. The following describes the distribution of subjects in each of the levels for each of the subsamples: those with some grade school totaled 21 (2.2%) in Mcult and 22 (2.3%) in Fcult; those having complete grade school were 36 (3.7%) in Mcult and 36 (3.8%) in Fcult; those who had some high school education were 199 (20.7%) in Mcult and 183 (19.1%) in Fcult; a total of 226 (23.5%) in Mcult and 226 (23.6%) in Fcult completed high school; some college or a technical diploma was obtained by 245 (25.4%) in Mcult and 249 (26%) in Fcult; 160 (16.6%) in Mcult and 164 (17.1%) in Fcult completed university; some post graduate work was done by 33 (3.4%) in Mcult and 33 (3.4%) in Fcult; those who had completed a post graduate degree totaled 43 (4.5%) in Mcult and 46 (4.8%) in Fcult.

Income

The variable "income" was meant to describe total family income and was divided into five categories. The following is a breakdown of the number of subjects in those categories: in each of Mcult and Fcult samples 32 or 3.3% had a family income of less than \$10,000. per year; those with a family income of between \$10,000. and \$20,000. per year were 76 (7.9%) for Mcult and 74 (7.7%) for Fcult; 224 in Mcult and 224 in Fcult (23.4%) respectively had family incomes ranging between \$20,000. and \$35,000. per year; those with incomes between \$35,000. and \$50,000. were 232 (24.1%) in Mcult and 233 (24.3%) in Fcult; 324 (33.5%) of Mcult and 318 (33.2%) of Fcult had family incomes exceeding \$50,000. per year.

Religious Preference

An option to select from five religious groups was provided to the subjects and the following describes the breakdown of subjects in each of the subsamples. Approximately 28% of each subsample indicated Catholic as their religious preference with 276 in Mcult and 272 in Fcult. The largest religious group was Protestant with 412 (42.8%) of the Mcult sample and 418 (43.6%) of the Fcult sample. The Jewish religious group consisted of 34 (3.5%) of Mcult sample and 33 (3.4%) of Fcult sample. In the "Other" category there were 103 (10.7%) of Mcult and 99 (10.3%) of Fcult. Those who indicated they did not have a religious preference were 138 (14.3%) of the Mcult group and 137 (14.3%) of the Fcult group.

Race

These subsamples were predominately white with 899 in Mcult and 897 in Fcult which represented 93% of the sample. Only 1 individual (.1%) in Mcult and 3 individuals in Fcult were black. A total of 39 in Mcult and 39 in Fcult (4%) indicated their race as Asian. In Mcult 18 (1.9%) and in Fcult 15 (1.6%) listed their race as Aboriginal. A total of .6% or 6 in Mcult and .5% or 5 in Fcult indicated they belonged to a racial group other than those listed above.

Ethnicity

Each of the subjects in the Winnipeg Health and Drinking survey were asked to list separately the ethnic groups to which their mother and father belonged. The following ten ethnic groups were selected for analysis based on their size in the sample and/or whether there was existing research describing the drinking behaviour of that ethnic group. These groups comprise the two subsamples (Mcult and Fcult) on which all

analyses have been performed. In Mcult the British group totaled 322 (33.4%) and 328 (34.2%) in Fcult. For the Ukrainian group there were 167 (17.3) in Mcult and 143 (14.9%) in Fcult. The French were just over 11% of both Mcult and Fcult with 110 in each. In Mcult there were 106 (11%) Germans and in Fcult they made up 13.3% of the sample for a total of 128. Irish comprised 8% of both Mcult and Fcult groups with 77 and 78 subjects respectively. There were 58 (6%) who were Mennonite in Mcult and 56 (5.8%) in Fcult. Asians totaled 41 (4.3%) in each of the Mcult and Fcult samples. The Jewish group consisted of 40 (4.2%) in Mcult and Fcult. The number of Italians were listed as 21 (2.2%) and 23 (2.4) respectively in Mcult and Fcult. In Mcult the Aboriginal group was 21 (2.2%) and in Fcult it made up 1.3% of the sample at 12 people.

TABLE 2
Demographic Characteristics of Subsample Subjects

Category	Mother's Culture		Father's Culture	
	N	%	N	%
Gender				
Males	478	49.6	471	49.1
Females	485	50.4	488	50.9
Total	963	100.0	959	100.0
Mean Age	41.98 Years		42.07 Years	
Age Groups				
18-27 Years	181	18.8	183	19.1
28-36 Years	194	20.1	187	19.5
37-45 Years	186	19.3	183	19.1
46-54 Years	180	18.7	177	18.5
55-66 Years	216	22.4	220	22.9
Total	957	99.3	950	99.1
Marital Status				
Single	192	19.9	190	19.8
Married	670	69.6	668	69.7
Widowed	25	2.6	23	2.4
Divorced/Separated	55	5.7	56	5.8
Remarried	21	2.2	22	2.3
Total	963	100.0	959	100.0
Education				
Some Gr. Sch.	21	2.2	22	2.3
Completed Gr Sch.	36	3.7	36	3.8
Some High School	199	20.7	183	19.1
Completed High Sch.	226	23.5	226	23.6
Some College or Technical Diploma	245	25.4	249	26.0
University Graduate	160	16.6	164	17.1
Some Post Graduate	33	3.4	33	3.4
Complete Post Grad.	43	4.5	46	4.8
Total	963	100.0	959	100.0

Table 1 cont'd. . . .

Table 2 (cont'd)

Category	Mother's Culture		Father's Culture	
	N	%	N	%
Income				
<\$10,000/Yr.	32	3.3	32	3.3
\$10,000-20,000/Yr.	76	7.9	74	7.7
\$20,000-35,000/Yr.	224	23.3	224	23.4
\$35,000-50,000/Yr.	232	24.1	233	24.3
>\$50,000/Yr.	324	33.6	318	33.2
Total	888	92.2	881	91.9
Religious Preference				
Catholic	276	28.7	272	28.4
Protestant	412	42.8	418	43.6
Jewish	34	3.5	33	3.4
Other	103	10.7	99	10.3
None	138	14.3	137	14.3
Total	963	100.0	959	100.0
Race				
White	899	93.4	897	93.5
Black	1	.1	3	.3
Asian	39	4.0	39	4.1
Aboriginal	18	1.9	15	1.6
Other	6	.6	5	.5
Total	963	100.0	959	100.0
Ethnicity				
British	322	33.4	328	34.2
Ukrainian	167	17.3	143	14.9
French	110	11.4	110	11.5
German	106	11.0	128	13.3
Irish	77	8.0	78	8.1
Mennonite	58	6.0	56	5.8
Asian	41	4.3	41	4.3
Jewish	40	4.2	40	4.2
Italian	21	2.2	23	2.4
Aboriginal	21	2.2	12	1.3
Total	963	100.0	959	100.0

Note: Not all totals will equal 100% due to missing data.

Results of Univariate Analysis

A univariate analysis was used to determine whether significant differences existed in drinking behaviour among the subjects based on their family history of drinking behaviour, and their membership in a specific ethnic, religious, or socio-economic group. Separate analyses were performed on each of the Mother's culture and the Father's culture samples. Relationships between each of the independent variables; ethnicity, religion, social class and family history of drinking behaviour, and each of the dependent variables; sum of alcohol abuse and dependency symptoms, number of problems associated with alcohol consumption, and number of ounces of alcohol consumed per day, were examined through use of Oneway ANOVA with the Duncan's Multiple Range test. The following are results of those analyses.

Ethnicity as the Independent Variable (Table 3)

Dependent Variable (DV) - Alcohol Abuse/Dependency Symptoms

This analysis demonstrated significant differences in the mean score ($p < .0001$) on alcohol abuse or dependency symptoms among the different ethnic groups. In both the Mother's culture sample and the Father's culture sample the scores of the Asian, Mennonite, Jewish and Italian groups were significantly lower than the other groups. In both samples the Aboriginal groups were found to have significantly higher scores than all other ethnic groups. In the Mother's culture sample the Irish ethnic group was significantly lower than the Ukrainian, French and British groups respectively, while in the Father's culture sample, Irish and French were found to be significantly higher than the Ukrainian and British groups.

DV - Problems resulting from Alcohol

Significant differences were also found in the mean scores ($p < .0001$) on the dependent variable number of problems resulting from alcohol, among the different ethnic groups. Once again on both Mother and Father's culture, the Aboriginal groups were found to have significantly higher scores than any of the other groups. Also significantly higher than all other groups except the Aboriginal were French and Irish. The Jewish, Italian and Mennonite groups had the lowest number of problems on both Mother and Father's culture but their scores were not significantly different difference from the remainder of the ethnic groups.

DV - Oz. of Ethanol/Day

There were significant differences ($p < .01$) in scores on the dependent variable number of ounces of alcohol consumed per day. The lowest scores in both mother and father's culture samples were found for the Jewish, Asian and Mennonite groups. Overall in both samples the Aboriginal group was significantly higher than any of the other groups. In the Mother's culture sample the Irish group was also shown to score significantly higher than all groups except other than the Aboriginal.

TABLE 3

Mean Scores for Independent Variable - Ethnicity
On Each of Drinking Behaviour Measures

Alcohol Abuse/Dependency Symptoms

Mother's Culture	<u>1.43</u>	<u>1.70</u>	<u>1.88</u>	<u>2.14</u>	<u>2.31</u>	<u>2.62</u>	<u>2.79</u>	<u>2.81</u>	<u>2.85</u>	<u>5.00</u> ***
	Asian	Mennonite	Jewish	Italian	German	Irish	Ukrainian	French	British	Aboriginal
Father's Culture	<u>1.44</u>	<u>1.71</u>	<u>2.03</u>	<u>2.22</u>	<u>2.57</u>	<u>2.66</u>	<u>2.68</u>	<u>3.06</u>	<u>3.10</u>	<u>5.33</u> ***
	Asian	Mennonite	Jewish	Italian	Ukrainian	German	British	Irish	French	Aboriginal

Problems resulting from Alcohol

Mother's Culture	<u>.15</u>	<u>.24</u>	<u>.55</u>	<u>.65</u>	<u>.76</u>	<u>.77</u>	<u>.86</u>	<u>1.01</u>	<u>1.10</u>	<u>3.48</u> ***
	Jewish	Italian	Mennonite	German	Asian	British	Ukrainian	French	Irish	Aboriginal
Father's Culture	<u>.30</u>	<u>.30</u>	<u>.55</u>	<u>.76</u>	<u>.77</u>	<u>.79</u>	<u>.87</u>	<u>.92</u>	<u>1.06</u>	<u>4.91</u> ***
	Jewish	Italian	Mennonite	Asian	German	British	Ukrainian	French	Irish	Aboriginal

Table 3 (con't)
Mean Scores for Independent Variable - Ethnicity
On Each of Drinking Behaviour Measures

Oz. of Ethanol/Day

Mother's Culture	<u>.22</u>	<u>.30</u>	<u>.45</u>	<u>.47</u>	<u>.50</u>	<u>.51</u>	<u>.53</u>	<u>.59</u>	<u>.81</u>	<u>2.10</u> ***
	Jewish	Asian	Mennonite	Ukrainian	German	French	Italian	British	Irish	Aboriginal
Father's Culture	<u>.29</u>	<u>.30</u>	<u>.46</u>	<u>.46</u>	<u>.54</u>	<u>.54</u>	<u>.58</u>	<u>.61</u>	<u>.69</u>	<u>2.04</u> **
	Jewish	Asian	Mennonite	Ukrainian	Italian	German	British	French	Irish	Aboriginal

Note: 1) * = $p < .05$ ** = $p < .01$ *** = $p < .001$

2) Lines under means indicate groups which do not differ significantly from one another using Duncan's Multiple Range Test ($p < .05$)

Religion as the Independent Variable (Table 4)**DV - Alcohol Abuse/Dependency Symptoms**

On the independent variable religion, there were significant differences ($p < .0001$) among the religious groups in the mean scores on alcohol abuse and dependency symptoms. In the Mother's culture sample, the Other and Protestant groups had significantly lower scores than Catholic and None with the None group significantly higher than any of the other groups. In the Father's culture sample those in the None group were also significantly higher than the other groups but there were no significant differences among the Other, Protestant and Catholic groups.

DV - Problems resulting from Alcohol

The mean scores for the dependent variable Problems resulting from Alcohol were similar in both the Mother's culture and Father's culture samples. In each, the None groups were found to have significantly higher ($p < .0001$) mean scores than the Other, Protestant and Catholic groups.

DV - Oz of Ethanol/Day

In both the Mother's culture and Father's culture samples there were no significant ($p < .05$, Duncan's Multiple Range Test) differences found among any of the religious groups on number of ounces of alcohol consumed per day.

TABLE 4
Mean Scores for Independent Variable - Religion
On Each of Drinking Behaviour Measures

Alcohol Abuse/Dependency Symptoms

Mother's Culture	<u>2.20</u>	<u>2.40</u>	<u>2.73</u>	<u>3.50</u>	***
	Other	Protestant	Catholic	None	
Father's Culture	<u>2.25</u>	<u>2.41</u>	<u>2.67</u>	<u>3.50</u>	***
	Other	Protestant	Catholic	None	

Problems Resulting from Alcohol

Mother's Culture	<u>.53</u>	<u>.71</u>	<u>.88</u>	<u>1.45</u>	***
	Other	Protestant	Catholic	None	
Father's Culture	<u>.55</u>	<u>.70</u>	<u>.87</u>	<u>1.43</u>	***
	Other	Protestant	Catholic	None	

Table 4 (con't)
Mean Scores for Independent Variable - Religion
On Each of Drinking Behaviour Measures

Oz. of Ethanol/Day

Mother's Culture	<u>No two groups are significantly different at the .05 level</u>			
	Other	Protestant	Catholic	None
Father's Culture	<u>No two groups are significantly different at the .05 level</u>			
	Other	Protestant	Catholic	None

Note: 1) * = $p < .05$ ** = $p < .01$ *** = $p < .001$

2) Lines under means indicate groups which do not differ significantly from one another using Duncan's Multiple Range Test ($p .05$)

Social Class as the Independent Variable (Table 5)**DV - Alcohol Abuse/Dependency Symptoms**

In the analysis of social class and number of alcohol abuse or dependency symptoms, in the Mother's culture sample the Upper SES group were found to be significantly lower ($p < .05$) on their mean scores than the Middle and Lower SES groups. On the Father's culture sample, no significant ($p < .05$) differences were found among the SES groups.

DV - Problems resulting from Alcohol

The mean scores for number of Problems resulting from Alcohol were the same for both the Mother's culture sample and the Father's culture sample with significantly ($p < .001$) more problems for those in the Lower SES group.

DV - Oz. of Ethanol/Day

There were no significant ($p < .05$.) differences between the Lower, Middle and Upper SES groups in the amount of alcohol consumed per day.

TABLE 5

Mean Scores for Independent Variable - Social Class
On Each of Drinking Behaviour Measures

Alcohol Abuse/Dependency Symptoms

Mother's Culture	<u>2.23</u>	<u>2.66</u>	<u>2.76</u> *
	Upper SES	Middle SES	Lower SES
Father's Culture	<u>2.20</u>	<u>2.64</u>	<u>2.80</u> *
	Upper SES	Middle SES	Lower SES

Problems Resulting from Alcohol

Mother's Culture	<u>.55</u>	<u>.76</u>	<u>1.20</u> ***
	Upper SES	Middle SES	Lower SES
Father's Culture	<u>.55</u>	<u>.74</u>	<u>1.20</u> ***
	Upper SES	Middle SES	Lower SES

Table 5 (con't)

Mean Scores for Independent Variable - Social Class
On Each of Drinking Behaviour Measures

Oz. of Ethanol/Day

Mother's Culture	<u>No two groups are significantly different at the .05 level</u>		
	Upper SES	Middle SES	Lower SES
Father's Culture	<u>No two groups are significantly different at the .05 level</u>		
	Upper SES	Middle SES	Lower SES

Note: 1) * = $p < .05$ ** = $p < .01$ *** = $p < .001$
2) Lines under means indicate groups which do not differ significantly from one another using Duncan's Multiple Range Test ($p .05$)

Family History as the Independent Variable (Table 6)**DV - Alcohol Abuse/Dependency Symptoms**

In analysis of the independent variable Family History of Alcohol and Alcohol Abuse or Dependency Symptoms, it was noted that in both the Mother's culture and Father's culture samples there were significant differences ($p < .0001$) in the mean scores. In Mother's culture those with a negative Family History(-) had significantly fewer symptoms than those with either a Positive Family History(+) of at least one parent with problems with alcohol, or a Positive Family History(++) of a parent and grandparent who experienced problems with alcohol. In the Father's culture sample, all Family History groups were found to be significantly different from one another with Family History (-) having the lowest score and Family History (++) the highest.

DV - Problems resulting from Alcohol

There were significant differences in the mean scores for the Mother's culture sample ($p < .0001$) and the Father's culture sample ($p < .0001$) and the number of problems resulting from alcohol. Both samples showed significantly fewer problems for the Negative Family History (-) groups. The Family History (+) and Family History (++) were not significantly different from one another, but for the Mother's culture sample the highest number of problems was shown for the Family History (++) while for the Father's culture sample the group with the highest number of problems was the Family History (+).

DV - Oz. of Ethanol/Day

There were significant differences in both the Mother's culture sample ($p < .05$) and the Father's culture sample ($p < .002$) in the amount of alcohol consumed per day.

Those with a Negative Family History (-) drank significantly less than those with Family History (+) and Family History (++).

TABLE 6

Mean Scores for Independent Variable - Family History
On Each of Drinking Behaviour Measures

Alcohol Abuse/Dependency Symptoms

Mother's Culture	<u>2.46</u>	<u>3.73</u>	<u>4.26</u> ***
	Family History (-)	Family History (+)	Family History (++)
Father's Culture	<u>2.47</u>	<u>3.44</u>	<u>4.63</u> ***
	Family History (-)	Family History (+)	Family History (++)

Problems Resulting from Alcohol

Mother's Culture	<u>.75</u>	<u>1.30</u>	<u>1.82</u> ***
	Family History (-)	Family History (+)	Family History (++)
Father's Culture	<u>.75</u>	<u>1.40</u>	<u>1.63</u> ***
	Family History (-)	Family History (++)	Family History (+)

Table 6 (con't)

Mean Scores for Independent Variable - Family History
On Each of Drinking Behaviour Measures

Oz. Ethanol/Day

Mother's Culture	<u>.51</u>	<u>.70</u>	<u>1.10</u> *
	Family History (-)	Family History (++)	Family History (+)
Father's Culture	<u>.53</u>	<u>.79</u>	<u>.90</u> **
	Family History (-)	Family History (++)	Family History (+)

Note: 1) * = $p < .05$ ** = $p < .01$ *** = $p < .001$

2) Lines under means indicate groups which do not differ significantly from one another using Duncan's Multiple Range Test ($p .05$)

Testing of Univariate Research Hypotheses

Research Hypothesis 1: There will be significant differences in drinking behaviour amongst subjects based on their membership in a specific ethnic and/or religious group.

A one-way ANOVA with Duncan's Multiple Range test revealed that there were significant ($p < .05$) differences in the number of alcohol abuse or dependency symptoms, the number of problems associated with alcohol and the number of ounces of alcohol consumed per day amongst subjects based on their membership in a specific ethnic group. One-way ANOVA with Duncan's Multiple Range test also showed significant differences in drinking behaviour except in the number of ounces of alcohol consumed, for subjects based on their membership in a specific religious group. Research Hypothesis 1 was supported for all Dependent Variables (DV)

Research Hypothesis 1a: If the ethnic and/or religious groups has a more tolerant or ambivalent attitude toward the use of alcohol, drinking behaviour will be more immoderate resulting in higher alcohol consumption, and/or a greater number of problems associated with drinking, and/or abuse or dependency symptoms.

Ethnic groups that were identified in the literature as having a more tolerant or ambivalent attitude toward drinking were the Irish, Aboriginal and French. In the one-way ANOVA, it was shown that on all drinking behaviour measures for both mother's culture and father's culture samples, the Aboriginal groups had significantly ($p < .05$) higher rates of alcohol consumption, abuse, and problems than any other group. The Irish in the mother's culture sample were not significantly higher than most other groups, but in the father's culture sample both the Irish and French were shown to be significantly ($p < .05$) higher than all but the Aboriginal group. Analysis showed as well that in both mother's and father's culture samples apart from the Aboriginal groups, the

Irish and French experienced significantly more problems associated with alcohol than all other groups. Ethnicity was not as strong a predictor of amount of alcohol consumed but aside from the Aboriginal groups who showed the highest rate of consumption, did show the Irish in the mother's culture sample as consuming more than all other groups.

Research Hypothesis 2 was supported for ethnicity on all DV's.

A more tolerant or ambivalent attitude toward alcohol was shown in the literature to exist among Catholics and those who did not indicate a religious affiliation. In the one-way ANOVA it was shown that for both mother's and father's culture samples those without a religious affiliation were significantly higher in number of problems resulting from alcohol. For the number of abuse or dependency symptoms in the mother's culture sample the None group is significantly higher than all other followed by the Catholic group which is higher than Protestant and Other. In the father's culture sample only the None group is significantly different from the others with the highest score. It was found that the number of ounces of alcohol consumed per day is not well predicted by membership in a specific religious group. Research Hypothesis 1a is supported for religion on DV's - alcohol abuse symptoms and problems resulting from Alcohol. Research Hypothesis 1a is not supported for DV - amount of alcohol consumed.

Research Hypothesis 1b: If the ethnic and/or religious group has prohibitions or a more limited and defined acceptance of alcohol, a more moderate style of drinking will occur with lower alcohol consumption, and/or fewer problems associated with drinking, and/or no abuse or dependency symptoms.

The ethnic groups shown to have prohibitions or a more limited and defined acceptance of alcohol are the Jewish, Asian, Italian and Mennonite groups. In the one-way ANOVA for number of alcohol abuse or dependency symptoms, all four groups are found to be significantly ($p < .05$) lower than the other groups in both the mother's and father's culture samples. For problems resulting from alcohol in the

mother's culture sample, those found to be significantly lower than all others in number of problems were the Jewish, Italian, Mennonite, German and Asian groups in that order. On the father's culture sample the groups with the lowest number of problems were again the Jewish, Italian, Mennonite, Asian and German, but they were only significantly lower than the French, Irish and Aboriginal, not significantly lower than the other groups in the sample. The groups with the lowest amount of alcohol consumed on both father's and mother's culture were Jewish, Asian and Mennonite and they were significantly lower than Aboriginal on the father's culture sample and Aboriginal and Irish and the Mother's culture sample.

Research Hypothesis 1b is supported for ethnicity on all DV's.

The religious group expected to have more moderate drinking behaviour due to more prohibitions against alcohol were the Protestant group. In both father's and mother's culture samples on alcohol abuse and dependency, and problems resulting from alcohol, the religious group with the lowest score was Other, followed closely by Protestant. There were no significant differences in amount of alcohol consumed among the different religious groups. Research Hypothesis 1b for religion is not supported.

Research Hypothesis 2: There will be significant differences in drinking behaviour amongst subjects based on their membership in a specific socio-economic group.

On the one-way ANOVA, there were significant differences ($p < .03$) in the mother's culture sample, but not in the father's culture sample for the number of alcohol abuse or dependency symptoms. On the dependent variables number of problems resulting from alcohol both the father's and mother's culture samples showed significant differences at the $p < .001$ level. The number of ounces of alcohol consumed was not predictable by membership in a specific socio-economic group. Research Hypothesis 2 was supported for DV - number of abuse or dependency symptoms and number of

problems resulting from alcohol. Research Hypothesis 2 is not supported for DV - amount of alcohol consumed.

Research Hypothesis 2a: Those with membership in the lower socio-economic groups will exhibit a more immoderate style of drinking resulting in higher alcohol consumption, and/or a greater number of problems associated with drinking, and/or abuse or dependency symptoms.

On the one-way ANOVA, those in the lower SES group had significantly ($p < .001$) more problems than either the middle or upper SES groups. On the number of alcohol abuse symptoms the lower SES group had the highest number of symptoms but not significantly more than the middle SES group. There were no significant differences among socio-economic groups in the amount of alcohol consumed. Research Hypothesis 2a is supported for DV - number of problems resulting from alcohol. Research Hypothesis 2a is not supported for number of alcohol abuse symptoms or for the amount of alcohol consumed.

Research Hypothesis 3: There will be significant differences in drinking behaviour amongst subjects based on their family history of drinking behaviour.

One-way ANOVA indicated that there were significant differences in the number of alcohol abuse symptoms ($p < .0001$), number of problems resulting from alcohol ($p < .0001$) and the amount of alcohol consumed ($p < .05$) amongst the subject based on their family history of drinking behaviour. Research Hypothesis 3 is supported for all DV's.

Research Hypothesis 3a: Those with a positive family history of problems with alcohol will exhibit a more immoderate style of drinking resulting in higher alcohol consumption, and/or greater number of problems associated with drinking, and/or abuse or dependency symptoms.

Those with a positive family history of problems with alcohol exhibited a more immoderate style of drinking resulting in higher alcohol consumption, more problems associated with drinking and a greater number of alcohol abuse symptoms.

Research Hypothesis 3a is confirmed for all DV's.

Results of Multivariate Analysis

The Multiple Classification Analysis (MCA) technique was used to determine to what extent those independent variables that were found to be significant predictors in the univariate analyses, were able to independently contribute to predicting the drinking behaviour in each of the dependent variables. A separate analysis was conducted for each of the Mother's culture sample and the Father's culture sample on each of the dependent variables including, number of alcohol abuse or dependency symptoms, number of problems associated with alcohol, and number of ounces of alcohol consumed per day. The following independent variables were used in each of the analyses. 1) Ethnicity consisting of 8 categories (Italian and Aboriginal having been dropped from the analysis due to too small a sample), 2) religion consisting of 4 categories (Jewish being used as an ethnic category necessitated that the religious category Jewish be included in "Other", 3) social class consisting of the three categories used in the univariate analyses, 4) family history of drinking behaviour which reported mother's history of drinking behaviour in the Mother's culture sample and father's history of drinking behaviour in the Father's culture sample, 5) gender (male and female). and 6) Age as a continuous variable was entered as a covariate. The following are the results of the MCA:

DV Alcohol Abuse Symptoms (Table 7, 8, 9,10)

In the univariate analyses independent variables ethnicity, religion, social class and family history were shown with significant F-ratios for both the Mother's culture sample and the Father's culture sample. In the ANOVA Table for MCA (Table 7) on the Mother's culture sample, M_{cult} , Religion and Social Class continue to be strong predictors of alcohol abuse and dependency, as are gender and age. However family history as reported in Mother's drinking, is not shown to be a significant predictor of the respondent's style of drinking. On the Father's culture sample of ANOVA Table for the MCA (Table 9) similar results are found, with the significance of F_{cult} , Religion, Gender, and the covariate Age as predictors of the respondent's number of alcohol abuse and dependency symptoms. However, in this sample Social Class is not found to be a good predictor of drinking behaviour, while family history as reported in Father's drinking, is highly significant as a predictor.

In the MCA table for the Mother's culture sample (Table 8), the variable gender is followed by M_{cult} as strong predictors of the number of alcohol abuse symptoms even after the scores are adjusted for the effects of the other independents and for the covariate age. The variable social class, while not as strong a predictor sustains its effect through the adjustment for independents and covariates, while the power of religion as a predictor is diminished once the effect of the other independents and the covariate are taken into account. Overall the analysis is able to account for 23.5% of the variance in the number of alcohol abuse and dependency scores.

The MCA results (Table 10) for the Father's culture sample are similar to those found in the Mother's culture sample with gender and then F_{cult} being the strongest predictors of the dependent variable and maintaining that strength after adjustments for the independents and covariate. What is dissimilar in this sample however is the strength of the family history variable as measured by Father's drinking. Despite a decrease in power after adjustments for the other independents and the covariate, age, it follows

gender and fcult as a predictor. The total amount of variance in the dependent variable on the Father's culture sample explained by the independent predictors is 25.4%.

TABLE 7
ANOVA Table for Multiple Classification Analysis
with Alcohol Abuse Symptoms as Dependent Variable
Mother's Culture Sample & Mother's History of Drinking

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	629.99	14	45.00	13.11***
Mcult	149.36	7	21.34	6.22***
Religion	124.47	3	41.49	12.10***
Mother Drinking	9.07	1	9.07	2.64
Social Class	26.45	2	13.23	3.86*
Gender	320.64	1	320.64	93.47***
Covariates	290.99	1	290.99	84.83***
Age	290.99	1	290.99	84.83***
Explained	920.99	15	61.40	17.90***
Residual	2998.05	874	3.43	
Total	3919.04	889	4.41	

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

TABLE 8
Multiple Classification Analysis Table
with Alcohol Abuse Symptoms as Dependent Variable
Mother's Culture Sample & Mother's History of Drinking

Variables & Category		N	Unadjusted		Adjust for		Adjusted for	
			Means	Eta	Means	Beta	Independents & Covariates Means	Beta
Mother's Culture								
1.	British	308	2.82		2.90		2.93	
2.	Ukrainian	162	2.74		2.70		2.63	
3.	French	107	2.77		2.69		2.67	
4.	German	105	2.32		2.29		2.28	
5.	Irish	70	2.51		2.47		2.44	
6.	Mennonite	57	1.70		1.76		1.74	
7.	Asian	41	1.44		1.38		1.25	
8.	Jewish	40	1.87		1.83		2.13	
				.20		.20		.21
Respondent's Religion								
1.	Catholic	243	2.67		2.68		2.68	
2.	Protestant	389	2.31		2.25		2.38	
3.	Other	131	2.19		2.55		2.44	
4.	None	127	3.37		3.15		2.87	
				.18		.15		.09
Mother Problem Drinking								
1.	Negative History	864	2.52		2.52		2.53	
2.	Positive History	26	3.23		3.19		2.82	
				.06		.05		.02
Social Class								
1.	Low SES	220	2.58		2.60		2.80	
2.	Middle SES	545	2.62		2.64		2.53	
3.	Upper SES	125	2.12		2.00		2.06	
				.08		.10		.11
Gender								
1.	Males	439	3.17		3.16		3.20	
2.	Females	451	1.93		1.94		1.90	
				.29		.29		.31
Multiple R ²						.161		.235
Multiple R						.401		.485

TABLE 9
ANOVA Table for Multiple Classification Analysis
with Alcohol Abuse Symptoms as Dependent Variable
Father's Culture Sample & Father's History of Drinking

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	764.38	14	54.60	15.35***
FCult	131.64	7	18.81	5.29***
Religion	166.81	3	55.60	15.63***
Father Drinking	128.88	1	128.88	36.24***
Social Class	14.42	2	7.21	2.03
Gender	322.63	1	322.63	90.71***
Covariates	265.10	1	265.10	74.53***
Age	265.10	1	265.10	74.53***
Explained	1029.47	15	68.63	19.30***
Residual	3026.87	851	3.56	
Total	4056.35	866	4.68	

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

TABLE 10
Multiple Classification Analysis Table
with Alcohol Abuse Symptoms as Dependent Variable
Father's Culture Sample & Father's History of Drinking

Variables & Category		N	Unadjusted		Adjust for		Adjusted for	
			Means	Eta	Means	Beta	Independents & Covariates Means	Beta
Father's Culture								
1.	British	310	2.71		2.78		2.83	
2.	Ukrainian	138	2.55		2.49		2.43	
3.	French	101	3.05		2.72		2.73	
4.	German	120	2.68		2.71		2.67	
5.	Irish	67	2.88		2.95		2.82	
6.	Mennonite	54	1.73		1.89		1.88	
7.	Asian	39	1.49		1.48		1.34	
8.	Jewish	38	2.06		2.22		2.47	
				.18		.16		.17
Respondent's Religion								
1.	Catholic	228	2.79		2.83		2.83	
2.	Protestant	387	2.28		2.27		2.38	
3.	Other	127	2.23		2.51		2.40	
4.	None	125	3.53		3.23		3.00	
				.21		.16		.12
Father Problem Drinking								
1.	Negative History	791	2.73		2.47		2.49	
2.	Positive History	76	4.08		3.81		3.58	
				.21		.18		.14
Social Class								
1.	Low SES	209	2.52		2.70		2.89	
2.	Middle SES	534	2.54		2.52		2.57	
3.	Upper SES	124	2.25		2.10		2.16	
				.07		.09		.10
Gender								
1.	Males	439	3.25		3.22		3.26	
2.	Females	451	1.95		1.98		1.94	
				.30		.29		.31
Multiple R2						.188		.254
Multiple R						.434		.504

DV - Problems resulting from Alcohol (Tables 11, 12, 13, 14)

As was found in the univariate analysis of alcohol abuse/dependency symptoms the independent variables ethnicity, religion, social class and family history of alcohol all showed significance on their F-ratios in both the Mother's and the Father's culture samples, for problems resulting from Alcohol. In the ANOVA Table for MCA of both the Mother's culture sample and the Father's culture sample, (Tables 11 & 13) the variables religion, social class and gender were found to be significant along with the covariate age. In both analyses, ethnicity and family history (mother/father's drinking) were not found to be significant.

In the MCA results of both samples (Table 12 & 14) the power of religion as a predictor decreases when adjusted for the effect of the other independents and for the covariate, while gender and social class, despite the effects remain the strongest predictors of the number of problems from alcohol. The total amount of variance in scores on problems resulting from alcohol explained by the independent variables in this analysis is 10.7% on mother's culture sample and 12.4% on father's culture sample.

TABLE 11
ANOVA Table for Multiple Classification Analysis
with Problems from Alcohol as Dependent Variable
Mother's Culture Sample & Mother's History of Drinking

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	167.69	14	11.98	5.47***
Mcult	28.54	7	4.08	1.86
Religion	52.43	3	17.48	7.99***
Mother Drinking	.65	1	.65	.30
Social Class	19.38	2	9.69	4.43*
Gender	66.68	1	66.68	30.49***
Covariates	62.44	1	62.44	28.55***
Age	62.44	1	62.45	28.55***
Explained	230.10	15	15.34	7.02***
Residual	1911.29	874	2.19	
Total	2141.39	889	2.41	

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

TABLE 12
Multiple Classification Analysis Table
with Problems from Alcohol as Dependent Variable
Mother's Culture Sample & Mother's History of Drinking

Variables & Category		N	Unadjusted		Adjust for		Adjusted for	
			Means	Eta	Means	Beta	Independents & Covariates Means	Beta
Mother's Culture								
1.	British	308	.77		.80		.82	
2.	Ukrainian	162	.83		.78		.75	
3.	French	107	.96		.91		.90	
4.	German	105	.66		.66		.66	
5.	Irish	70	1.05		1.04		1.03	
6.	Mennonite	57	.57		.56		.55	
7.	Asian	41	.76		.76		.70	
8.	Jewish	40	.15		.22		.36	
				.12		.10		.09
Respondent's Religion								
1.	Catholic	243	.89		.71		.83	
2.	Protestant	389	.61		.61		.67	
3.	Other	131	.49		.68		.63	
4.	None	127	1.31		1.24		1.10	
				.17		.14		.10
Mother Problem Drinking								
1.	Negative History	864	.76		.77		.77	
2.	Positive History	26	1.00		.90		.73	
				.03		.01		.00
Social Class								
1.	Low SES	220	1.01		1.02		1.10	
2.	Middle SES	545	.73		.74		.69	
3.	Upper SES	125	.51		.47		.50	
				.10		.11		.13
Gender								
1.	Males	439	1.06		1.05		1.07	
2.	Females	451	.49		.50		.48	
				.18		.18		.19
Multiple R2						.078		.107
Multiple R						.280		.328

TABLE 13
ANOVA Table for Multiple Classification Analysis
with Problems from Alcohol as Dependent Variable
Father's Culture Sample & Father's History of Drinking

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	200.44	14	14.32	6.22***
Fcult	18.08	7	2.58	1.12
Religion	76.70	3	25.57	11.11***
Father Drinking	8.65	1	8.65	3.76
Social Class	20.35	2	10.17	4.42*
Gender	76.88	1	76.88	33.31***
Covariates	75.62	1	75.62	32.85***
Age	75.62	1	75.62	32.85***
Explained	276.07	15	18.41	7.99***
Residual	1959.01	851	2.30	
Total	2235.08	866	2.58	

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

TABLE 14
Multiple Classification Analysis Table
with Problems from Alcohol as Dependent Variable
Father's Culture Sample & Father's History of Drinking

Variables & Category		N	Unadjusted		Adjust for		Adjusted for	
			Means	Eta	Means	Beta	Independents & Covariates	Means
Father's Culture								
1.	British	310	.79		.85		.88	
2.	Ukrainian	138	.77		.73		.79	
3.	French	101	.93		.76		.77	
4.	German	120	.80		.81		.78	
5.	Irish	67	1.06		1.12		1.05	
6.	Mennonite	54	.57		.61		.61	
7.	Asian	39	.74		.74		.66	
8.	Jewish	38	.32		.47		.60	
				.09		.08		.07
Respondent's Religion								
1.	Catholic	228	.90		.91		.91	
2.	Protestant	387	.61		.59		.65	
3.	Other	127	.55		.70		.64	
4.	None	125	1.46		1.35		1.22	
				.19		.16		.13
Father Problem Drinking								
1.	Negative History	791	.76		.77		.78	
2.	Positive History	76	1.25		1.09		.63	
				.09		.06		.03
Social Class								
1.	Low SES	209	1.06		1.09		1.19	
2.	Middle SES	534	.75		.76		.71	
3.	Upper SES	124	.57		.50		.53	
				.10		.12		.14
Gender								
1.	Males	425	1.12		1.11		1.13	
2.	Females	442	.49		.50		.48	
				.20		.19		.20
Multiple R ²						.090		.124
Multiple R						.299		.351

DV - Oz. Ethanol/Day (Table 15, 16, 17, 18)

The univariate analysis demonstrated that only on the independent variables ethnicity and family history of alcohol did the F-ratios show any significant differences in the mean number of ounces of alcohol consumed per day. However the ANOVA Table for MCA for the Mother's culture sample (Table 15) showed only gender and religion along with age as being significant predictors of the dependent variable. Family history as represented by mother's drinking was not found to be a significant predictor. In the Father's culture sample the Analysis of Variance Table for the MCA (Table 17) only gender and age showed any power to predict the number of ounces of alcohol consumed.

In the MCA results for the Mother's culture sample (Table 16) the influence of the religion variable was decreased after the adjustment for both the other independent variables and for the covariate. A total of 7.5% of the variance in the number of ounces of alcohol consumed is accounted for by these variables. The results of the MCA for the Father's culture sample (Table 18) showed only significant predictive ability for the gender variable and taken all together, these variables explain 6.4% of the variance in the scores on the dependent variable.

TABLE 15
ANOVA Table for Multiple Classification Analysis
with Oz. Ethanol/Day as Dependent Variable
Mother's Culture Sample & Mother's History of Drinking

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	70.27	14	5.02	5.54***
Mcult	14.64	7	2.09	1.89
Religion	9.23	3	3.08	2.78*
Mother Drinking	1.14	1	1.14	1.03
Social Class	2.00	2	1.00	.90
Gender	43.27	1	43.27	39.12***
Covariates	8.05	1	8.05	7.28**
Age	8.05	1	8.05	7.28**
Explained	78.32	15	5.22	4.72***
Residual	966.59	874	1.11	
Total	1044.91	889	1.18	

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

TABLE 16
Multiple Classification Analysis Table
with Oz. Ethanol/Day as Dependent Variable
Mother's Culture Sample & Mother's History of Drinking

Variables & Category		N	Unadjusted		Adjust for		Adjusted for	
			Means	Eta	Means	Beta	Independents & Covariates	Means
Mother's Culture								
1.	British	308	.60		.61		.61	
2.	Ukrainian	162	.48		.49		.48	
3.	French	107	.48		.47		.47	
4.	German	105	.50		.48		.48	
5.	Irish	70	.82		.82		.81	
6.	Mennonite	57	.46		.27		.46	
7.	Asian	41	.30		.28		.26	
8.	Jewish	40	.22		.19		.24	
				.12		.12		.12
Respondent's Religion								
1.	Catholic	243	.51		.55		.55	
2.	Protestant	389	.51		.47		.49	
3.	Other	131	.41		.52		.50	
4.	None	127	.29		.69		.64	
				.09		.07		.05
Mother Problem Drinking								
1.	Negative History	864	.53		.54		.52	
2.	Positive History	26	.30		.36		.30	
				.02		.03		.04
Social Class								
1.	Low SES	220	.48		.49		.52	
2.	Middle SES	545	.57		.57		.56	
3.	Upper SES	125	.47		.42		.43	
				.04		.05		.04
Gender								
1.	Males	439	.77		.76		.76	
2.	Females	451	.30		.31		.30	
				.22		.21		.21
Multiple R2						.067	.075	
Multiple R						.259	.274	

TABLE 17
ANOVA Table for Multiple Classification Analysis
with Oz. Ethanol/Day as Dependent Variable
Father's Culture Sample & Father's History of Drinking

Source of Variation	Sum of Squares	DF	Mean Square	F
Main Effects	86.50	14	4.75	3.38***
Fcult	9.80	7	1.40	1.00
Religion	9.89	3	3.30	2.34
Father Drinking	1.18	1	1.18	.84
Social Class	1.76	2	.88	.63
Gender	43.86	1	43.86	31.17***
Covariates	15.08	1	15.08	10.72**
Age	15.08	1	15.08	10.72**
Explained	81.58	15	5.44	3.87***
Residual	1197.45	851	1.41	
Total	1279.02	866	1.48	

Note: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

TABLE 18
Multiple Classification Analysis Table
with Oz. Ethanol/Day as Dependent Variable
Father's Culture Sample & Father's History of Drinking

Variables & Category		N	Unadjusted		Adjust for		Adjusted for	
			Means	Eta	Means	Beta	Independents & Covariates	Means
Father's Culture								
1.	British	310	.59		.58		.59	
2.	Ukrainian	138	.47		.50		.49	
3.	French	101	.63		.66		.66	
4.	German	120	.50		.48		.47	
5.	Irish	67	.74		.77		.74	
6.	Mennonite	54	.48		.42		.42	
7.	Asian	39	.30		.36		.33	
8.	Jewish	38	.29		.20		.26	
				.09		.10		.10
Respondent's Religion								
1.	Catholic	228	.48		.46		.46	
2.	Protestant	387	.51		.50		.53	
3.	Other	127	.53		.41		.44	
4.	None	125	.77		.68		.63	
				.08		.07		.05
Father Problem Drinking								
1.	Negative History	791	.52		.53		.54	
2.	Positive History	76	.72		.65		.59	
				.05		.03		.01
Social Class								
1.	Low SES	209	.61		.63		.68	
2.	Middle SES	534	.53		.54		.52	
3.	Upper SES	124	.48		.40		.41	
				.04		.06		.07
Gender								
1.	Males	425	.78		.77		.78	
2.	Females	442	.31		.32		.31	
				.22		.21		.21
Multiple R2						.052	.064	
Multiple R						.228	.253	

Testing of Multivariate Research Hypothesis

Research Hypothesis 4: The multivariate analyses will confirm that the hypothesized effect of ethnicity, religion, social class and family history is in fact due to the effect of each of the variables and not to any correlation between them.

The MCA procedure demonstrated that as a predictor of drinking behaviours those variables that were found to be significant predictors in the univariate analyses remained significant predictors in the multivariate analyses. This would indicate that the effect of ethnicity, religion, social class and family history, even though there is some correlation between them, is independent of one another to a significant degree. Research Hypothesis 4 is supported.

Summary of the Results

Ethnicity, religion, social class and family history as the independent variables were examined to determine whether they were in fact significant predictors of the three measures of drinking behaviour. First, ethnic groups were chosen for analysis based on pre-determined criteria that once followed resulted in a father's culture sample and a mother's culture sample, each of which consisted of ten "pure" cultural groups. Frequencies were then performed first on the entire WHADS sample and then on the samples used in this study to describe the socio-cultural characteristics of each.

Next one-way analyses of variance with Duncan's multiple range tests were done to determine whether there were significant differences in mean scores on the dependent variables among each of the independent variables. The analyses showed that there were significant differences ($p < .001$) in ethnicity and family history on all the dependent variables and in religion and social class ($p < .01$) for all the drinking behaviour variables except amount of alcohol consumed. Therefore all of the independent variables were considered to be significant predictors of drinking behaviour.

The last analyses were multivariate and utilized Multiple Classification Analysis. This procedure was used to determine whether the effects of the independent variables which were significant predictors in the univariate analysis, would continue to be significant predictors when other correlated variables were added to the analysis. In these analyses it was shown that those variables that were found to be significant predictors in the univariate analysis continued to be significant predictors in the multivariate analyses. In the case of the dependent variable alcohol abuse or dependency symptoms, the independent variables and gender along with age accounted for 23.5% of the variance in the mother's culture sample scores and over 25.4% of the variance in the father's culture sample scores. While these were the strongest results, the only dependent variable for which these predictors were not particularly powerful was in their ability to predict the amount of alcohol consumed per day.

CHAPTER 5 - DISCUSSION

The purpose of this study was to determine whether family history of alcohol behaviour and the socio-cultural variables of ethnicity, religion and social class, were in fact, significant predictors of the drinking measures in a general population sample. Of additional interest was whether in a multivariate analysis the apparent inter-relatedness of these variables would diminish their independent predictive ability, or together provide a more powerful means by which to predict an individual's drinking behaviour. In the univariate analyses it was demonstrated that individually ethnicity, religion, social class and family history are significant predictors of most of the drinking behaviours which were investigated in this study. The multivariate analyses suggest support for a socio-psychological model in which drinking behaviour is significantly influenced by the additive and inter-related nature of socio-cultural and family variables.

Univariate analysis

Ethnicity as a Predictor

The findings of this study support what has been found in previous studies of drinking behaviour and culture, that Asians, Mennonites, Jews and Italians have the lowest rates of abuse symptoms and problems associated with alcohol (Ahlstrom-Laakso, 1976; Cahalan & Cisin, 1969; Currie et al, 1981; Kitano et al, 1985). It is also not unexpected, given previous research, that the highest rates on all measures were found in the Aboriginal sample. While the small number surveyed in this sample suggest caution must be advised in interpreting these results, the significantly higher scores on all measures allow at least limited confidence in concluding that abusive drinking behaviour exists in this urban Aboriginal population. Similarly, the size of the Italian sample demands that it also be viewed with caution. However it replicates findings in other research showing regular consumption of alcohol (typically wine with meals) but few signs of abuse or problems related to drinking. Somewhat unexpected were the differences found in

drinking behaviour in the Irish groups of the mother's and father's culture samples. In the father's sample the Irish were exceeded only by the Aboriginal group in number of abuse or dependency symptoms which lends credence to the stereotype of the Irish men as "hard drinking". While in the mother's culture sample, the Irish group was exceeded by the Ukrainian, French and British groups. Had this been a trend across the three measures of drinking behaviour it may have been seen as due to the less powerful effects of Irish culture when transmitted through women (mother) who generally drink less than men. It was not consistent across measures however, as the Irish (and French) followed the Aboriginal groups in both samples with significantly more problems associated with alcohol than those in the remaining groups in the samples. A possible confounding influence may be that only 24% of the Irish sample were Catholic. Existing research (Bales, 1962) makes reference to the Irish-Catholic group as being the most affected by immoderate drinking practices.

Ethnicity does not appear to be as good a predictor of alcohol consumption as it is a predictor of the other measures in this study. Once again the Aboriginal groups in both samples were the highest. But interestingly, the only other group within the two samples that had significantly different rates of consumption was the Irish group in the mother's culture sample who drank significantly more per day than the other groups.

One of the strengths of this study in relation to other studies of culture and drinking, is the use of both mother's and father's culture which provides an opportunity to determine whether differences exist in the way each is able to predict respondent's drinking behaviour. It appears that any differences between the two samples for each ethnic group are minor, with the already noted exception of the Irish. The reasons for this difference are not clear and suggest the need for more research to determine whether the results shown here are an anomaly or as suggested by Room (1968) as a result of significantly different drinking behaviour in Irish women.

Another strength of this study is that the sample was obtained from a general population survey and that aside from the Asian category which includes Chinese, Japanese and Korean, and

the British category which includes Scottish, all cultural groups are exclusive rather than a composite of cultures based only on their geographical proximity. In support of the construction of the Asian and British composite categories, first an ANOVA with Duncan's multiple range test was run for the two potential composite groups to ensure that there were no significant differences in the means of the various cultures within each group. Not until that was determined were they included in the analysis.

Religion as a Predictor

Previous research (Ablon, 1986; Larsen & Abu-laban, 1968; Stivers, 1983;) investigating religion and drinking found the lowest rates of abuse, consumption and problems were first in those who were Jewish, and second in those who were Protestant. The highest rates on drinking behaviour measures were reported for Catholics and those with no religious affiliation. In the WHAD survey, respondents were provided a choice of the following as their religious affiliation 1) Catholic, 2) Protestant, 3) Jewish, 4) Other and 5) None. However because this is also a study of ethnicity as a predictor of drinking, and since Jewish was indicated more often as an individual's cultural group than as their religious group, it was decided to assign the Jewish religious category to the "Other" in religious groups.

Results of this analysis were consistent with previous research (Stivers, 1983) in that the None category was found to have the highest rates on the measures of drinking behaviour and Catholics to have the second highest. The effect of religion on drinking measures is not as clear for the Other and Protestant categories however. It seems reasonable to assume that the effect of assigning Jewish to the Other category would lower the mean scores on the alcohol measures so that Other as a predictors of drinking behaviour would be significantly lower than all the religious groups. However that was not the case. Even in an additional analysis in which Jewish was run as a separate religious group, despite having the lowest scores on both mother's and father's

culture samples, the means were not found to be significantly different than the Other (the next lowest) or the Protestant groups.

A comparison of religion and ethnicity points to a possible cause for the confusing results for both the Other and the Protestants groups on the measures of drinking behaviour. The Mennonite group (who have been shown to have low rates of immoderate drinking) because of the choices provided on the survey, had to chose either Protestant or Other to describe their religious preference. It is conceivable that some of the individuals in that group would be Protestant, but of the thirty people who made that choice it seems likely that some of them belong to one of the Mennonite religions. Of the twenty that chose Other to describe their religious preference it's possible that many of them belong to one of the Mennonite religions. Given the distinctive attitudes toward drinking held not only by Mennonites, but also by some conservative Protestant groups it is likely that their presence in the Other and Protestant categories distorted the mean scores of the dependent variables.

Despite the fact that there were significant differences found in the number of alcohol abuse symptoms and problems associated with alcohol, a more accurate description of the effect of religion as a predictor, would have been gained had the respondents been allowed to list their religion, rather than pick from a limited number of choices.

Social Class as a Predictor

The expectation from previous research (Park, 1983) was that the lower socio-economic status groups would experience significantly higher scores on the measures of drinking behaviour, than either of the upper or middle SES groups. Those expectations were confirmed for the independent variable number of problems resulting from alcohol, but not for the number of alcohol abuse symptoms or the amount of alcohol consumed per day.

Previous research (Casswell & Gordon, 1984; Trott, Barnes & Dumoff, 1981) demonstrates some support for the theory that people from lower SES groups experience more

problems related to drinking. It is assumed that this may occur due simply to the fact that they have access to fewer resources that might conceal the consequences of their drinking, than do those in the upper SES groups. Situations that might make it more difficult to hide either intoxication or a hangover would be at their place of employment if the individual had a job operating equipment or was closely supervised.

While in this study the lower SES group had the highest scores on each of the measures, only one measure, number of problems, was high enough to be considered significantly different from the other groups. This would seem to indicate that despite the belief that people in the lower social classes more often engage in heavy weekend or "binging" types of behaviour, and that as a result they experience significantly more problems than those in the other groups, the overall amount of alcohol they drink is not significantly more than any other group, and their drinking does not necessarily result in a higher incidence of alcohol dependency or abuse.

Family History as a Predictor

Family history as it was defined in the univariate analyses, allowed an opportunity to not only investigate the drinking behaviour of the respondents parents, but to also get a sense of the transmission of immoderate drinking behaviour throughout the generations of families.

Consistent with previous research (Glenn & Parsons, 1987) is the finding in this study that, a negative (-) family history of immoderate drinking behaviour results in significantly lower scores on all measures of drinking behaviour, than are found for those with either a positive (+) family history of a parent with problems with alcohol, or a positive (++) family history of a parent or parents plus a grandparent who experienced problems with alcohol.

In both mother's culture and father's culture samples there are no significant differences between the (+) and (++) family history on all the variables except for the alcohol abuse or dependency scores in the father's culture sample. However in most cases the family history (++) had somewhat higher mean scores on the dependent variables. However, while not significantly

different some results deviated from that trend and showed higher scores for those with family history (+) as in the father's culture sample for problems resulting from alcohol, and in both mother's and father's culture samples on the number of ounces of alcohol consumed per day. In each case the highest score is shown for family history (+). These results may signify a minor falloff effect as described by Harburg et al, (1990) whereby fear of apparent perpetuation of a problem with alcohol cycle, may result in a decrease in drinking on the part of an individual with a positive (++) family history of problem drinking.

Multivariate Analyses

The purpose of the univariate analyses were to demonstrate that the socio-cultural variables and family history were significant predictors of drinking behaviour. The goal of the multivariate analyses were to determine whether these significant but correlated predictors could together maintain their power as individual predictors, but increase the ability to predict how an individual would use alcohol.

Two of the variables that were the most significant in the univariate analysis, ethnicity and family history were by necessity changed in the multivariate analysis. Two ethnic groups, Aboriginal and Italian were dropped from the analysis because the size of each sample in those categories were too small for use in a multivariate procedure. Given that the Aboriginal group had far and beyond exceeded the scores of any other ethnic groups on the dependent variable, and given that the Italian group while not the lowest, certainly had drinking behavior scores that were more moderate than many, it was not unexpected that there was a decrease in the power of ethnicity to predict drinking behaviour. This certainly did not completely negate the effect of ethnicity as it was still significant in its ability to predict the number of abuse or dependency symptoms. However in both the father's and mother's culture samples on the problems from alcohol dependent variable, ethnicity was shown to have an insignificant effect on the mean scores. Had the Aboriginal and Italian groups been included, ethnicity may have had more of an

effect in predicting the number of problems from drinking. The effect of removing these two groups and in particular the historically under privileged urban Aboriginal group, may also have extended to the Social Class variable resulting in a minor decrease in its power in the multivariate analysis.

Another concern existed with the Family History variable. This variable was found to be an extremely strong predictor in the univariate analysis. On all of the dependent variables those with a negative family history of problem drinking drank significantly less than those with a positive family history of problems drinking. While the goal of the univariate analysis was to determine the value of knowing about the intergenerational transmission of drinking behaviour over several generations, the goal of the multivariate was slightly different. In this analysis we looked for the direct effect of the mother's or father's culture on the mother's or father's drinking behaviour and how that would predict the individual's drinking behaviour. Because in this analysis we focused only on the drinking behaviour of one parent, the number of individuals shown as having a positive family history of problems with alcohol was also greatly reduced. This did not produce the same results as were found using the family history variable that was constructed for the univariate analysis, but from a social learning perspective it did more accurately represent the effect of the ethnic group's influence first on parental and then as a consequence, on respondent's drinking behaviour.

Two additional variables gender and age, each of which have been found to be highly significant predictors of drinking behaviour, were also entered into the multivariate analysis. On each of the dependent measures, these variables maintained their independent ability to predict drinking behaviour. At the same time including them in this analysis provided an opportunity to see whether the strength of their predictive power would greatly reduce the ability of the other independent variables to contribute toward the analysis. Despite strong influence on some of the dependent measures, which accounted for decreased impact of some of the independent variables, they did not take away significantly from other independent variables ability to predict.

This was especially true for ethnicity in the analysis of alcohol abuse and dependency symptoms. There was no reduction in the power of ethnicity to predict the number of symptoms after it was adjusted for the effect of both gender and age along with the other independent variables. As was mentioned earlier this was not the case for ethnicity and the number of problems from alcohol. It would appear that along with the deletion of two ethnic groups with significantly different drinking behaviour, gender and age of the respondent are probably more predictive of any problems that occur as a result of drinking than is membership in a particular ethnic group. Another alcohol measure that seems to be more influenced by age and gender than any other variable is the amount of alcohol consumed per day. In the univariate analyses it was not well predicted by any of the independent variables except ethnicity. However only the Aboriginal group and to a much lesser degree on the mother's culture sample the Irish group, showed any significant differences in the amount of alcohol consumed. Removing the Aboriginal group from the multivariate analysis has negated even that minor predictive ability. It should not be surprising however that the most influential factors related to ounces of alcohol consumed per day are age and gender, as the literature supports findings indicating higher rates of consumption for young men than for any other group. Therefore even though across the life span certain ethnic groups may drink more immoderately than others, the effect of ethnicity is masked by being young and male.

There are definite differences between mother's and father's culture sample on mother/father history of problem drinking for number of alcohol abuse or dependency symptoms. While it is not a significant predictor on the mother's culture sample, on the father's culture sample, father's history of drinking is very significant ($p < .001$) in predicting number of alcohol abuse symptoms. While this might appear to indicate a need to consider the ethnic group of both parents when looking at the socio-cultural factors and drinking behaviour, in fact this was the only multivariate analysis to show a significant difference based on mother's/father's culture.

In summary these analyses showed that family history and socio-cultural variables can independently contribute in a multivariate model to predicting some measures of drinking behaviour. The measures these independent variables can best predict are first the number of alcohol abuse and dependency symptoms, and second the number of problems resulting from alcohol. Socio-cultural variables in this study were less successful at predicting daily consumption of alcohol. Apart from gender and age, the most powerful predictors of drinking behaviour in the multivariate analyses were ethnicity and religion. The least powerful predictors were social class and family history. It is important however to consider the effect that deleting two ethnic categories with distinctive drinking behaviour, as well as changes in the construction of the family history variable may have had on all of the subsequent analyses.

Based on analyses conducted in this study, the following descriptions are of the most likely and the least likely to participate in immoderate drinking: a young either Aboriginal or Irish male, from a lower socio-economic background who has no religious affiliation and has at least one parent who experiences problem drinking would be at risk for problem drinking. An older middle to upper class Jewish woman, who is affiliated with her religion and has no family history of problems with alcohol would be unlikely to experience any signs of problem drinking.

Implications

This study has demonstrated that ours is not a homogeneous society in terms of drinking behaviour. There exists significant variation in drinking between men and women, and young and old. There is also strong support for the premise that drinking behaviour is significantly determined by the enduring norms and traditions of the ethnic, religious and socio-economic groups to which we belong.

The ability in the multivariate analyses of the family history and socio-cultural variables to account for such a significant portion of the variation in scores on some of the dependent

measures, suggests that the methodology, use of a general population sample and the degree of ethnic self-identity have all contributed toward results that can confidently be generalized to other urban populations. Through this study the value of describing all drinking behaviour from abstinence through abuse has been reinforced as an opportunity to not only gain information on those groups who have traditionally had problems associated with their drinking, but also allows an opportunity to describe the drinking behaviours of those groups with normal or moderate drinking.

The magnitude of the difference on the dependent variables between the Aboriginal and all other ethnic groups suggests the need to explore alternative reasons for and sources of the variation. Perhaps we must ask whether Aboriginals in an urban setting experience problems unique in comparison to non-urban Aboriginals and whether this results in more incidences of problematic drinking. It may also be possible that other ethnic groups have a tendency to under report their drinking behaviour while Aboriginals do not attempt to minimize their symptoms of problem drinking?

Due to the method of recruiting subjects through Manitoba Health Services Commission numbers, there is lack of representation of the homeless and transient as well as non-English speaking immigrants. While it would be extremely difficult to include a homeless sample in a longitudinal study, it would be worthwhile to recruit some portion of the study from the homeless population to obtain a sense of the incidence of alcohol abuse in an assumed vulnerable and dysfunctional population.

The highest scores on all the dependent measures of drinking behaviour were shown in groups which prior research suggest have tolerant or ambivalent attitudes toward alcohol consumption. This demonstrates that the effects of cultural-religious norms have endured and with the climate for the maintenance of ethnic identity in this country, they likely will continue to endure. As a result programs which attempt to change drinking behaviour through education may

have to explore other strategies that will address long held drinking behavior rituals and folklore, which may be resistant to and undesirable of change.

Suggestions for Future Research

This research study has provided an excellent description of the drinking behaviour of eight distinct ethnic groups, verifying much of what has been found in previous research. The strengths of this research and therefore the conclusions that can be drawn from it are several. First the use of a general population sample generates confidence that the description of drinking behaviour of each ethnic group is generalizable to what may be found in other urban centers. Second that the maintenance of ethnic identity in the sampled population, and the methodological construction of the ethnic groups have together produced a North American sample which is a credible reflection of the assumed rituals and traditions influencing each of the cultural groups' drinking behaviour. Thirdly, the longitudinal nature of the Winnipeg Health and Drinking Study from which this sample was derived, provides a future opportunity to test on the same sample, research hypotheses that may develop from this study.

Of benefit in future research especially on this sample, would be to ask each of the participants to which religious group they belong. Knowing the specific groups would allow an opportunity to construct categories that take into consideration their view of drinking. As an example, it would be helpful to group together small numbers of "fundamental" Protestants that have strong prohibitions against the use of alcohol. Or it may be the case that there is a large number in one particular religious group such as Mennonite that could be looked at individually. In either way it would allow for a better sense of how drinking behaviour can be predicted from membership in a religious group.

It is extremely interesting to see the drinking behaviour of those in specific ethnic, religious and socio-economic groups. In addition to being able to describe the behaviour it would be very helpful to also know how the individuals vary in terms of their adherence to the traditions and rituals of their cultural group. Questions regarding their participation in ethnic clubs, the consumption of ethnic foods, the observance (whatever form that may take) of important ethnic holidays are just some of the questions that could provide information as to the degree to which that person identifies with their ethnic group.

Methodologically I think the study of drinking behaviour and ethnicity would be complemented by including a qualitative component to the research. While previous research has for the most part focused on alcohol abuse and alcoholism, I believe that the area of socio-cultural influences facilitates a more inclusive inquiry into all types of drinking behaviour. What has driven much of the ethnic research to date are descriptions of attitudes from previous research, some of which have been specifically related to alcohol while others have been garnered from anthropological studies of particular cultural groups which also happen to include their drinking behaviour. I think a more complete and accurate picture of the function that alcohol serves in the various ethnic groups could be gained by eliciting more open-ended responses such as "tell me what a family/community gathering looks like for you", or "describe an occasion or activity where you might drink". It is based on that type of information that a revitalized inquiry into ethnicity, religion, social class and family history will take place.

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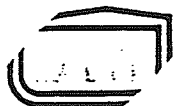
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Appendix A
LETTER OF INTRODUCTION



THE UNIVERSITY OF MANITOBA

WINNIPEG HEALTH AND DRINKING SURVEY
FACULTY OF HUMAN ECOLOGY
Department of Family Studies

Room 313D
Human Ecology Building
Winnipeg, Manitoba
Canada R3T 2N2
(204) 474-9430

Dear

The University of Manitoba, with the support of Health and Welfare Canada, is conducting a study on living patterns and alcohol use by people in Manitoba. Your name has been randomly chosen from all of the residents of the city.

In a few days a caller from the "Winnipeg Health & Drinking Survey" will telephone you, will explain the project in more detail, and will request to interview you. We hope that you will agree to participate. If you decide to participate, your answers are kept confidential, and the results are only reported in statistical form.

Alcohol use is an important factor which affects health in Canada. The federal government has made a large investment in Manitoba for this project, in an effort to get an accurate view of the attitudes and behavior of Manitobans towards drinking. In order to get this accurate view we have to question a broadly representative sample of the population. For the project to be successful it is important that a high percentage of the people we contact agree to participate. It doesn't matter whether you drink or don't drink your participation is important to provide us with the most accurate picture possible. If you have any questions about the research please give us a call.

Sincerely,

David Patton, M.A.
Project Manager
Winnipeg Health & Drinking Survey
Faculty of Human Ecology
474-9430

Gordon Barnes, Ph.D.
Professor
Department of Family Studies
Faculty of Human Ecology
474-8050

Appendix B

INDEPENDENT MEASURES

Part 1: Demographics Information

TO COMPLETE OUR BACKGROUND INFORMATION WE NEED TO ASK YOU SOME
QUESTIONS ABOUT YOURSELF.

[INTERVIEWER: CODE MALE OR FEMALE] M []

F[]

[illegible]

Please describe the following characteristics about yourself.

1. Current Marital Status:

[INTERVIEWER: IF THE RESPONDENT IS MARRIED, ASK IF THEY HAVE BEEN PREVIOUSLY DIVORCED?]

Single []

Married or Equivalent []

Widowed []

Divorced or Separated []

Married, but previously divorced []

2. The following questions are about employment.

First, which of the categories on this card best describes what you are now doing?

[INTERVIEWER: USE RESPONDENT CARD CALLED EMPLOYMENT AND CHECK ONLY ONE: IF RESPONDENT USES MORE THAN ONE WRITE IN

Working full-time []

- | | |
|-------------------------------|-----|
| Working part-time | [] |
| Unemployed & looking for work | [] |
| Full-time student | [] |
| Part-time student | [] |
| Homemaker | [] |
| Retired | [] |
| Other (specify) | [] |

In your most recent job what is/was your title?

Please describe the main duties or responsibilities of this position?

3. Educational Status:

What is the highest grade you attended or degree you received?

- | | |
|--------------------------------|-----|
| Some Grade School | [] |
| Grade School Completed | [] |
| Some High School | [] |
| High School Completed | [] |
| Some College/Technical Diploma | [] |
| University Graduate | [] |
| Some Post-Graduate Work | [] |
| Master's Degree or Doctorate | [] |

4. What is your religious preference?

- | | |
|---------------------------|-----|
| Catholic | [] |
| Protestant (Denomination) | [] |

Jewish []
 Other (specify) _____ []
 None []

5. What was your parent's religion?

	Mother's	Father's
Catholic	[]	[]
Protestant (Denomination)	[]	[]
Jewish	[]	[]
Other (specify)	[]	[]
None	[]	[]

6. When you were growing up, what was the language used most often in your home?

English []
 French []
 Ukrainian []
 German []
 Other (specify) _____ []

7. In what country were you born?

Specify _____

8. To what ethnic or cultural group do you feel you belong? Specify _____

9. What racial category would you consider yourself?

White []
 Black []
 Asian []
 Native []

Other(specify) _____ []

10. When your mother was growing up, what was the language used most often in her family's home?

English []

French []

Ukrainian []

German []

Other(specify) _____ []

11. In what country was your mother born?

Specify _____

12. To which ethnic or cultural group does your mother belong?(Aside from Canadian)

Specify _____

13. When your father was growing up, what was the language used most often in his family's home?

English []

French []

Ukrainian []

German []

Other(specify) _____ []

14. In what country was your father born?

Specify _____

15. To which ethnic or cultural group does your father belong?(Aside from Canadian)

Specify _____

16. What was the size of the place where you lived

the longest before you were 16?

In the country on a farm. ☐

In the country but not on a farm ☐

Town of less than 5,000 people or on a
reserve ☐

City of 5,000 to 24,999 people ☐

City of 25,000 to 99,999 people ☐

City of 100,000 to 499,999 people . . . ☐

City of 500,000 to more people ☐

Can't guess (Give the name of place) . . ☐

17. Please describe the other members of your household besides yourself.

Relationship to yourself:	Age	Gender		Full-time	Employment	
		Male	Female		Part-time	Not Employed
1. _____	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. _____	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. _____	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. _____	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. _____	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. _____	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. _____	—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. _____ — ☐ ☐ ☐ ☐ ☐
9. _____ — ☐ ☐ ☐ ☐ ☐
10. _____ — ☐ ☐ ☐ ☐ ☐

18. So that we can compare this study with the whole population by broad income groups, indicate your income for the past year (that is, total income before taxes, including wages, welfare income, farm income, interest dividends, etc.) of all members of the family presently residing in this household by checking one of these income categories.

- Under \$10,000 ☐
- \$10,000 - \$20,000 ☐
- \$20,000 - \$35,000 ☐
- \$35,000 - \$50,000. ☐
- over \$50,000 ☐
- Don't know ☐

19. About how many years have you lived in your present

home? Number of year _____

Number of months _____

20. [INTERVIEWER: IF THE RESPONDENT HAS LIVED IN THE
PRESENT HOME LESS THAN 5 YEAR, ASK: "How many times
have you moved in the last five years?"]

Number of times _____

QUESTIONS CONCERNING YOUR RELATIVES

THE FOLLOWING QUESTIONS ASK ABOUT YOUR RELATIVES AND THEIR DRINKING HABITS. THE PURPOSE OF THE QUESTIONS IS TO GET AN IDEA OF THE SIZE OF YOUR FAMILY AND THE EXTENT OF POSSIBLE PROBLEMS CREATED BY DRINKING IN YOUR FAMILY.

1. How many biological brothers and sisters do you have?
(biological refers to "full" brothers and sisters with
whom you share both parents) _____
2. As far as you know, how many of these brothers and sister
abuse or have abused alcohol (have or had problems due to
drinking, e.g. legal, health, job loss, separations, etc.) _____
3. How many biological aunts and uncles (i.e. brothers and sisters
of your father and mother, NOT their spouses) do you have? _____
4. As far as you know, how many of these aunts and uncles
abuse or have abused alcohol? (have or had problems due to drinking)
Have had problems _____
Have not had problems _____
Don't know _____
5. How many of your biological grandparents abuse or have
abused alcohol?
Have had problems _____
Have not had problems _____
Don't know _____

The following questions are about your biological mother's
use of alcohol.

- Yes []
No []
Don't know []

1. Did your mother ever drink alcohol?
2. Do you feel your mother has been a normal drinker?
3. Did your father, grandparent, or any other near relative ever complain about your
mother's drinking?
4. Did your mother ever feel guilty about her drinking?

5. Did friends and relatives think your mother was a normal drinker?
6. Was your mother able to stop drinking when she wanted to?
7. Has your mother ever attended a meeting of Alcoholics Anonymous (AA)?
8. Has your mother's drinking ever created problems between her and your father or another near relative?
9. Has your mother ever gotten into trouble at work because of drinking?
10. Has your mother ever neglected her obligations, her family, or her work for 2 or more days in a row because of her drinking?
11. Has your mother ever gone to anyone for help about her drinking?
12. Has your mother ever been in a hospital because of drinking?
13. Has your mother ever been arrested for drunken driving, driving while intoxicated, or drinking under the influence of alcoholic beverages?
14. Has your mother ever been arrested, even for a few hours, because of other drunken behaviour?
15. Do you think your mother is (or was) an alcoholic?

The following questions are about your real (biological) father's use of alcohol.

1. Did your father ever drink alcohol?
2. Do you feel your father has been a normal drinker?
3. Did your father, grandparent, or any other near relative ever complain about your father's drinking?
4. Did your father ever feel guilty about his drinking?
5. Did friends and relatives think your father was a normal drinker?
6. Was your father able to stop drinking when she wanted to?
7. Has your father ever attended a meeting of Alcoholics Anonymous (AA)?

8. Has your father's drinking ever created problems between him and your mother or another near relative?
9. Has your father ever gotten into trouble at work because of drinking?
10. Has your father ever neglected his obligations, his family, or his work for 2 or more days in a row because of his drinking?
11. Has your father ever gone to anyone for help about his drinking?
12. Has your father ever been in a hospital because of drinking?
13. Has your father ever been arrested for drunken driving, driving while intoxicated, or drinking under the influence of alcoholic beverages?
14. Has your father ever been arrested, even for a few hours, because of other drunken behaviour?
15. Do you think your father is (or was) an alcoholic?

Screening for alcohol consumption:

1. Did you yourself drink any alcohol in the last 12 months? (any wine, beer or liquor - even a taste?)

Yes []

No []

IF NO,

2. Was there ever a time when you drank wine, beer, liquor or anything containing alcohol even once?

YES []

NO, I have never drank alcohol []

Appendix C

DEPENDENT MEASURES

Part 1: Alcohol Dependence Data Schedule (ADDS)

The following questions cover a wide range of topics to do with your current drinking patterns. Use the response cards to indicate your answer to the question.

never []

sometimes []

often []

nearly always []

1. Do you find difficulty in getting the thought of drink out of your mind?
2. Is getting drunk more important than your next meal?
3. Do you plan your day around when or where you can drink?
4. Do you drink in the morning, afternoon and evening?
(i.e. during the same day).
5. Do you drink for the effect of alcohol without caring
what the drink is?
6. Do you drink as much as you want irrespective of what
you are doing the next day?
7. Given that many problems might be caused by alcohol, do you still drink too much?
8. Do you know that you won't be able to stop drinking
once you start?
9. Do you try to control your drinking by giving it up
completely for days or weeks at a time?
10. The morning after a heavy drinking session, do you
need your first drink to get yourself going?
11. The morning after a heavy drinking session, do you
wake up with a definite shakiness of your hands?
12. After a heavy drinking session, do you wake up and
retch or vomit?
13. The morning after a heavy drinking session, do you go

out of your way to avoid people?

14. After a heavy drinking session, do you see frightening things that you later realize were imaginary?
15. Do you go drinking and next day find you have forgotten what happened the night before?

Part 2: Diagnostic Interview Schedule (DIS III R)

I am going to ask you more questions about drinking, these questions are related to things that might have happened to you in the past.

never []

sometimes []

often []

nearly always []

1. Have you ever had fits or seizures after stopping or cutting down on drinking?
2. Have you ever taken a drink to deep from having withdrawal symptoms or to make them go away?
3. Have you ever gone on binges or benders where you keep drinking for a couple of days or more without sobering up?
4. When you went on these binges or benders, did you neglect some of your usual responsibilities then?
5. Did you do that several times or go on a binge that lasted a month or more?
6. Did you ever get tolerant to alcohol, that is you needed to drink a lot more in order to get an effect, or found that you could no longer get high on the amount you used to drink?
7. After you have been drinking for a while, did you find that you began to be able to drink a lot more before you would get drunk (before your speech got thick or you were unsteady on your feet)?
8. Did your ability to drink without feeling it last for a month or more?
9. Have there been many days when you drank much more than you expected to when you began, or have you often continued drinking for more days in a row than you

intended to?

10. Have you more than once wanted to stop drinking but couldn't?
11. Some people try to control their drinking by making rules, like not drinking before 5 o'clock or never drinking alone. Have you ever made rules like that for yourself?
12. Did you make these rules because you were having trouble limiting the amount you were drinking?
13. Did you try to follow those rules for a month or longer or make rules for yourself several times?
14. Has there ever been a period when you spent so much time drinking alcohol or getting over its effects that you had little time for anything else?
15. Did the period when you spent a lot of time drinking last a month or longer?
16. Have you ever given up or greatly reduced important activities in order to drink - like sport, work, or associating with friends or relatives?
17. Did you give up or cut down on activities to drink for a month or more, or several times?
18. Has your drinking or being hung over often kept you from working or taking care of your children?
19. Have you often worked or taken care children at a time when you had drunk enough alcohol to make your speech thick or to make you unsteady on your feet?
20. How old were you when you first had any wine, beer, or other alcohol at least once a month (for 6 months or more)?
21. What is the largest number of drinks that you've ever had in one day?
 _____ yrs. ago or _____ months ago
22. When did you last have as much as 20 drinks in 1 day?

_____ yrs. ago

_____ months ago

_____ w/in the month

23. Has there ever been a period of two weeks when every day you were drinking at least 7 drinks that could include beers, glasses of wine, or drinks of any kind?
- Yes []
- No []
24. When did you first have a period of two weeks when you drank at least 7 drinks every day?
- ____ yrs. ago or ____ months ago
25. When did you last have a period of two weeks when you drank at least 7 drinks every day?
- ____ yrs. ago or ____ months ago
26. Has there ever been a couple of months or more when at least one evening a week you drank 7 or more drinks or bottles of beer or glasses of wine?
- Yes []
- No []
27. When was the first time that at least one evening a week you drank 7 or more drinks?
- ____ yrs. ago or ____ months ago
28. When was the last time that at least one evening a week you drank 7 or more drinks?
- ____ yrs. ago or ____ months ago

Part 3: Volume Variability Index (VVI)

The next few questions ask about your use of beer, wine, and liquor over the past year.

1. First of all, how often do you usually have wine?

Three or more times a day []

Two times a day []

Once a day []

Nearly every day []

Three or four times a week []

Once or twice a week []

One to three times a month []

Less than once a month but at
least once a year []

Less than once a year []

I have never had wine []

2. Now think of all the times you had wine recently.

When you drink wine, how many glasses do you usually
have?

One or two glasses []

Three or four glasses []

Five or six glasses []

More than six glasses []

3. About how many times during the past 12 months did you

have eight or more glasses of wine at a sitting?

Nearly every day []

One to three times a week []

- | | | |
|--|----------------------------|-----|
| | One to three times a month | [] |
| | Less than once a month | [] |
| | Never | [] |
4. How often do you usually have beer?
- | | | |
|--|---|-----|
| | Three or more times a day | [] |
| | Two times a day | [] |
| | Once a day | [] |
| | Nearly every day | [] |
| | Three or four times a week | [] |
| | Once or twice a week | [] |
| | One to three times a month | [] |
| | Less than once a month but at least once a year | [] |
| | Less than once a year | [] |
| | I have never had beer | [] |
5. Now think of all the times you had beer recently.
- When you drink beer, how many glasses do you usually have?
- | | | |
|--|-----------------------|-----|
| | One or two glasses | [] |
| | Three or four glasses | [] |
| | Five or six glasses | [] |
| | More than six glasses | [] |
6. About how many times during the past 12 months did you have eight or more glasses of beer at a sitting?
- | | | |
|--|---------------------------|-----|
| | Nearly every day | [] |
| | One to three times a week | [] |

- | | | |
|--|----------------------------|-----|
| | One to three times a month | [] |
| | Less than once a month | [] |
| | Never | [] |
7. How often do you usually have drinks containing liquor
(such as Martinis, Manhattans, or straight drinks)?
- | | | |
|--|--|-----|
| | Three or more times a day | [] |
| | Two times a day | [] |
| | Once a day | [] |
| | Nearly every day | [] |
| | Three or four times a week | [] |
| | Once or twice a week | [] |
| | One to three times a month | [] |
| | Less than once a month but at
least once a year | [] |
| | Less than once a year | [] |
| | I have never had liquor | [] |
8. Now think of all the times you had liquor recently.
When you drink wine, how many drinks do you usually
have?
- | | | |
|--|----------------------|-----|
| | One or two drinks | [] |
| | Three or four drinks | [] |
| | Five or six drinks | [] |
| | More than six drinks | [] |
9. About how many times during the past 12 months did you
have eight or more drinks of liquor at a sitting?

- | | |
|----------------------------|-----|
| Nearly every day | [] |
| One to three times a week | [] |
| One to three times a month | [] |
| Less than once a month | [] |
| Never | [] |

Part 4: Problems Associated with Drinking

Next are some questions about experiences you may have had because of your drinking. If you have ever had the experience that is mentioned in the question, please indicate the most recent time you had it. If you never had the experience, just indicate the "never happened" answer.

- | | |
|--|-----|
| Yes, during the last 6 months | [] |
| Yes, more than 6 months ago, but w/in the year | [] |
| Yes, but it was 1 to 3 years ago | [] |
| Yes, but it was more than 3 years ago | [] |
| No, it never happened to me | [] |
-
1. Did a doctor ever tell you that drinking was having a bad effect on your health?
 2. Did drinking ever cause you to have an accident or injury of some kind either at work, at home, on the street or some place else?
 3. Have you ever been arrested for drunk driving?
 4. Have you ever gotten into any other kind of trouble with the law because of anything connected with your drinking (aside from drunk driving arrests)?
 5. Have you ever lost a job because of drinking?
 6. Have you ever thought that you really ought to stop drinking or cut down, and then found that you couldn't?