

Adult Children of Alcoholics

by

Lana R. Feinstein

A thesis
presented to the University of Manitoba
in fulfillment of the
thesis requirement for the degree of
Masters of Science
in
Department of Family Studies

Winnipeg, Manitoba

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LANA R. FEINSTEIN

A thesis submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
of the degree of

MASTER OF SCIENCE

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ABSTRACT

An investigation of adult children of alcoholics was conducted using a randomly selected Winnipeg sample from the general population. Alcohol related behavior, a broad range of personality characteristics, and the sociodemographic status of sons and daughters of alcoholic parents were compared with sons and daughters of nonalcoholic parents. Adult children of alcoholics were found to score higher on all alcohol measures including alcohol consumption, alcohol related problems, and rate of alcoholism. Results also showed adult children of alcoholics scored higher on Psychoticism, Neuroticism, Trait Anxiety, and the MacAndrew Scale, and lower on Self-Esteem and Ego-Strength compared to adult children of nonalcoholics. Group differences were not evident in income and education, but did exist in marital status. The odds of having a broken marriage was greater for sons with maternal or paternal alcoholism compared to sons without maternal or paternal alcoholism and was greater for daughters with maternal alcoholism compared to daughters without maternal alcoholism. This thesis suggests numerous multidimensional deleterious effects are associated with parental alcoholism, and stresses the need for future research which examines the independent and conjoint causal effects of genes and the environment.

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In closing, thank you to everyone who participated in the evolution of this thesis. If its completion contributes to the health and well being of tomorrow's parents and their children, the cause will have justified our effort.

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INTRODUCTION

Alcohol abuse is one of Canada's most serious public health problems (Health & Welfare Canada, 1989). According to Butcher, it is among "...the most prevalent and costly problem facing western civilization today, depleting social and human resources and causing incalculable human suffering" (1988, p.171). Studies on alcohol associate excessive use with : multiple medical, psychiatric and social problems. "Alcoholism, especially when it is well established, affects virtually every aspect of the alcoholic's life" (Taylor & Helzer,1983, p.54). The impact of alcoholism on Canadian lives is evident by the great personal costs paid not only by those who abuse alcohol, but by their children, whose lives are touched in very significant ways.

Having an alcoholic parent has long-term consequences that reach well into adult life (Beardslee & Vaillant, 1986). The impairment suffered by individuals raised in alcoholic homes is evident in many dimensions of their lives. Alcohol consumption patterns, personality characteristics, and sociodemographic status are three areas influenced by parental alcoholism (Ackerman, 1987; Black, Bucky & Wilder-Padilla, 1986; Johnson & Bennett,

1989; Russell et al., 1990). Consistency is found in the research supporting the notion that adult children of alcoholics exhibit many similar maladaptive behaviors. However, to date, research in this area is insufficient (El-Guebaly & Offord, 1977; Jacob & Leonard, 1986; Johnson & Bennett; Robertson, 1983; Russell, et al., 1985; Steinglass & Robertson, 1983). The effect of an alcoholic parent, as an etiological agent, in the formation of dysfunctional attributes in his or her offspring, needs to be validated through systematic empirical investigation.

Johnson and Bennett(1989) state there are four general categories of methodological problems in research on children of alcoholics. The first includes problems in the identification of parental alcoholism. The use of sound psychometric assessment procedures is rare (Jacob & Leonard,1986). Definitions of alcoholism vary across studies, making it difficult to compare data and draw conclusions. The second category of problems involves sampling difficulties. Clinical groups are frequently selected, restricting the application of the resulting data. More rigorous attention needs to be given in the selection of control groups when using clinical samples (Steinglass & Robertson, 1983). General population samples, including different age groups and nontreatment subjects, are uncommon (El-Guebaly & Offord, 1977). The third category, of Johnson and Bennett (1989), involves problems with research designs.

Few studies are longitudinal; thus, the data may be reflecting a temporary condition and not providing information on change and development. The fourth area focuses on the lack of attention paid by investigators to the multidimensional nature of people. Examining a single characteristic oversimplifies the issue. In addition to these four categories, Steinglass and Robertson (1983) state literature on children of alcoholics is mostly atheoretical and thus is "unguided empiricism" (p.300). Scavnicky-Mylant(1984) conclude, much of the information about children of alcoholics is not based on rigorous research techniques, but is obtained through personal observations, interviews, and case studies. They claim nonempirical research designs focus more on process than outcome.

Hence, the effect of having an alcoholic parent upon adult children is a field of research that currently suffers from many methodological weaknesses. This, in conjunction with the devastating consequences of parental alcoholism, suggested by the literature available, lead to the conclusion : future empirical investigation, into the long-term consequences suffered by children of alcoholics, should be a research priority. The purpose of this project is to address the need for methodologically sound research on the characteristics of adult children of alcoholics and add to the body of literature that exists in this field. The investigation covers a broad area focusing on the following questions :

1. How many people are affected by having had a parent who is/was an alcoholic?
2. Is the alcohol consumption behavior and related alcohol problems different in adult children of alcoholics than in adults without alcoholic parents ?
3. Are the personalities of adult children of alcoholics different from the personalities of adult children of nonalcoholics?
4. Do sociodemographic differences exist between people who have had an alcoholic parent and those who have not?
5. Does the amount of exposure during childhood, to a parent, influence the correlation between their alcohol related behavior in adulthood with their parent's alcohol related behavior?

Prevalence of Adult Children of Alcoholics

The number of people affected by having an alcoholic parent is difficult to accurately determine. Health and Welfare Canada (1989) claim it is extremely difficult to measure the true extent of alcohol abuse ; thus, prevalence estimates for children of alcoholics in Canada are exceedingly rare. El-Guebaly, Walker, Ross and Currie (1990) conducted the first systematic prevalence survey in Canada on a general population. Their results were based on a Winnipeg survey and the perceptions of adult children on

parental drinking. They found 22.6% of their sample had a parent with a drinking problem. From this group, almost 85% said their father was the parent with the alcohol problem. An overall estimate for the number of children of alcoholic parents in the United States was calculated by Russell, Henderson and Blume (1985); they found that 28,600,000 Americans are the children of problem drinkers, one out of every eight Americans. According to Russell et al. (1985), these numbers suggest, "it is therefore a matter of great interest and importance to our society to learn more about how parental alcoholism influences children" (p.2).

Alcohol use of Adult Children of Alcoholics

The pattern of alcohol dependency in the offspring of alcoholics has been a line of research given a great deal of attention and has generated very consistent findings, notably : excessive alcohol use is found to be more prevalent in children of alcoholics than in nonalcoholics (Barnes & Welte, 1990; Black, Bucky & Wilder-Padilla, 1986; Cotton, 1979; Hesselbrock, Hesselbrock & Stabenau, 1985; McKenna & Pickens, 1981; Pandina & Johnson, 1990). Johnson and Bennett (1989), in their review of the research, found alcoholics are often the children of alcoholics. Studies of families repeatedly produced results showing higher rates of alcoholism in children of alcoholics, regardless of the measurement criteria used (Russell et al., 1985).

In 1979, Cotton summarized statistics on families of 6251 alcoholics and 4083 nonalcoholics. She concluded that alcoholics, more frequently than nonalcoholics, have a mother, father, or other relative who is an alcoholic, irrespective of the nature of the population of nonalcoholics. Cotton stated, "studies over the last four decades have shown that on the average, almost one third of any sample of alcoholics will have had at least one parent who was an alcoholic" (p.111). Of the 39 studies reviewed, roughly two-thirds reported that 25% of the alcoholics had alcoholic fathers. Another trend was that 5% of the alcoholics reported maternal alcoholism. Women, however, were more likely than men to come from alcoholic families.

Cotton (1979) noted many methodological weaknesses in the literature she reviewed. A major criticism is the accuracy of the subject's descriptions of parental alcoholism. She claims there is a lack of clear definitions of alcoholism and an absence of reliable measures. Another weakness, in the literature she assessed, is the composition of the samples. Random selections of samples from general populations are rare, while the use of treatment groups, young subjects, and exclusively male subjects, are common.

The literature on the alcohol use of adult children of alcoholics is primarily based on five types of samples: treatment samples, university samples, general population samples, sibling samples and adoption samples. The

strengths and weaknesses of investigations, defined by the first three of these categories, will be discussed in this section to highlight the empirical support linking parent's alcohol use with their offsprings. Other studies addressing how this link is established will then be reviewed.

Treatment Studies

A treatment study, assessing parental alcoholism in a sample of 1929 patients from an alcoholic treatment center, was conducted by McKenna and Pickens (1981). They looked at the sex of the parent, the sex of the child, as well as the effect of having one versus two parents who were alcoholic. Chronic alcoholism was measured by Jellinek(1945) symptomatology. Their results showed women were twice as likely as men to report alcoholism in both parents. Maternal alcoholism was reported by women 1.8 times more than men and paternal alcoholism was reported 1.3 times more than men. These results suggest female alcoholics are more likely than male alcoholics to have a family history of alcoholism. Alternatively, these findings suggest there are sex differences in reporting of parental alcoholism. Having two alcoholic parents also produced significant findings: children with both parents who were alcoholic became first intoxicated at an earlier age. The measure used to determine parental alcoholism was not clearly identified by the authors.

A study by Hesselbrock, Hesselbrock and Stabenau (1985), using subjects from three inpatient alcoholism treatment facilities, was conducted to determine the influence of family history on alcoholism. All subjects had to meet the DSM III criteria for alcoholism to be accepted into the study. The sample was composed of 169 men. Family history for alcoholism was determined by self-reports. Subjects were divided into two groups: unilineal and bilineal pedigrees for alcoholism. Bilineal alcoholism was defined as having a parent or a sibling of a parent affected with alcoholism on both sides. Subjects symptomatology was recorded based on a self-report questionnaire from Hesselbrock et al. (1983). A bilineal pedigree for alcoholism was associated with more physical symptoms from prolonged alcohol use than a unilineal pedigree.

A 1989 study, conducted by Harwood and Leonard, attempted to determine the impact of family history of alcoholism on the drinking patterns of men. A sample of 123 men, from a New York drinking driving program, volunteered to participate in a survey on their drinking behavior. Those subjects who had an immediate family member (mother, father, sibling, grandparent) classified as a heavy drinker or alcoholic, were considered as having a positive family history of alcoholism. Instruments used to measure drinking included: a quantity frequency index; a family history of alcoholism measure, in which subjects rated each parent; a

Preoccupation with Alcohol Scale, looking at cognitive behavioral style (Leonard et al., 1988) ; the Alcohol Dependence Scale (ADS) (Skinner & Horn, 1984) ; the Perceived Ability to Control Consumption Scale; the Serious Alcohol Incidents Questionnaire (Polich & Orvis, 1979). A positive family history of alcoholism was not related to the quantity or frequency of consumption or alcohol-related incidents in offspring ; however, it was related to alcohol dependence and perceived ability to control consumption.

A treatment based study identifying parental alcoholism and the influence of gender was conducted by Svanum and McAdoo (1991). People included in the sample were 639 inpatients in treatment for alcoholism who were diagnosed with DSM III criteria. Subjects were tested with the following instruments: the Minnesota Multiphasic Personality Inventory (MMPI), the ADS (Hathaway & Mckinley, 1951), the Shipley Institute of Living Scale (Shipley, 1940), the Alcohol Use Inventory (Wanberg et al., 1977), and the Alcohol Problems Questionnaire (APQ) (Skinner & Allen, 1982). These tests were administered within the first two weeks of treatment. Family history of alcoholism was identified by patients. Twenty percent of the female subjects and 17% of the male subjects reported having had a parent in treatment for alcoholism. In 81% of the cases the father was the parent who received treatment. Results confirmed men and women in treatment for alcoholism, who

have a history of parental alcoholism, exhibit more severe symptoms. Analysis also revealed parental alcoholism was linked to an earlier onset of alcoholism (which is a critical factor regarding alcohol severity) and the reporting of more personal and social benefits from drinking.

Studies based on samples from treatment populations generally show a relationship between parental alcoholism and alcoholism in their offspring. Although research on this population is useful in understanding potential influences on alcoholics, findings can only be generalized to those who have sought clinical help. Given that the majority of alcoholics do not receive treatment, results based on such samples need to be interpreted critically (Svanum & McAdoo, 1990).

University Studies

Although the majority of research does indicate a link between excessive alcohol use in parents and excessive alcohol use in their offspring, exceptions to this pattern are found in this body of literature. Engs (1990) found similar alcohol consumption levels between university students classified as having a family background positive for alcohol abuse and those negative for alcohol abuse. Engs (1990) designed an instrument called the CODE (Eng & Anderson, 1988) that indirectly identifies alcohol abuse in

a subject's family history and determines "co-dependency" scores. The questionnaire is composed of 11 items with a scale determining the degree of agreement. Subjects were also given the Student Alcohol Questionnaire, used to investigate drinking patterns in college students. A sample of 981 students, from a range of universities in the United States, participated in the study. The results showed no association between drinking patterns and family background of drinking, for males or females. A weakness of this investigation is that it was based on a university sample: a group more likely to be highly functioning and less likely to have serious alcohol problems. The findings may be influenced by the privileged status of university students and similarities in their upbringing (Engs, 1990).

Similar results were obtained in an investigation conducted by Alterman, Searles and Hall (1989). Research subjects were 83 males, 17 to 22 years old, enrolled in a private university in the United States. A brief questionnaire was administered to identify alcoholic family members. If subjects had reported a relative had one out of six potential problems associated with alcoholism, they were classified as part of the "at risk group". There were 27 subjects in the high risk group: 26 who had an alcoholic father and one had an alcoholic mother. There were 26 subjects in the medium risk group: 23 had an alcoholic second-degree relative and three had an alcoholic sibling.

In the no risk group, there were 30 subjects, having no alcoholic relatives. Subjects were administered, the Michigan Alcoholism Screening Test (MAST-10), and the MacAndrew Alcoholism Scale (MAC), to determine their alcohol use. No differences were found between risk groups. The authors suggest their findings may be a result of their sample being restricted to university students. The young ages of their subjects and small sample size are other weaknesses of this study.

General Population Studies

Sampling procedures which identify adult children of alcoholics in general communities are infrequently used, for subjects are more easily recruited through facilities such as treatment centers and universities. However, general population studies are necessary to gain an accurate understanding of broader populations of adult children of alcoholics (Tweed & Ryff, 1991).

A study testing a sample from the general population, was initiated by Johnson, Leonard and Jacob (1989). Families were recruited from newspaper advertisements as part of a larger study on family interaction. Their sample was composed of 33 alcoholic fathers, 35 depressed fathers, and 37 control fathers, all from intact families. The oldest child, between 10 and 18 years of age, participated in laboratory interactions and completed several questionnaires

on drinking. The MAST was used to assess parental alcoholism. No differences were found between groups of adolescents in their drinking style. Several design limitations exist in this study, thereby limiting its generalizeability to other groups. The age of the subjects was below the legal drinking age. Self-reports by children were on an illegal activity, and as a result, may be inaccurate. The sample size was very small. Further, all families selected for the study were intact, not in treatment, and had no psychiatric diagnosis. Subjects, it can be argued, were from a highly select group.

Blacky, Bucky and Wilder-Padilla (1986) investigated the impact of having an alcoholic parent on alcoholism by using a general population sample. Subjects were solicited through two alcohol related magazines and a family magazine. They were 28 years of age and older. A total of 409 subjects had an alcoholic parent and 179 subjects had nonalcoholic parents. Participants were sent a questionnaire on their perceptions of their family history, alcohol use, problems, communication skills and history of abuse. Of those who had an alcoholic parent, 33% were alcoholic, 26% had a paternal alcoholic grandfather, 34% had an alcoholic brother, and 22% had an alcoholic sister. It is important to point out that information from this study was obtained strictly from the mail ; no personal contact was made with subjects. In addition, recruited subjects

likely had some personal or professional interest in alcoholism to have been reading the magazines in which the recruitment advertisement was placed.

A current report, that relates parental and offspring alcohol consumption behavior, was conducted by Pandina & Johnson (1990). A total of 1,270 subjects randomly selected from a general population were given self-report questionnaires at 12, 15, and 18 years of age. Subjects and their parents were interviewed in their homes. Respondents were asked if family members were alcoholic and then categorized into a positive or negative family history of alcoholism. Subjects were questioned about personal alcohol or drug problems, and if they received treatment. Their consumption and frequency of alcohol use were measured. Males and females who had a positive family history of alcoholism were both found to be at high risk for alcohol and drug problems, in spite of their young ages.

Another recent investigation, conducted by Barnes and Welte (1990), used a large New York survey, and examined the long term consequences of parental drinking on children in combination with family structure. A total of 6,364 subjects, age 18 to 92, were interviewed regarding their alcohol use behavior and family structure. Respondents were questioned about their parents drinking practices during their childhood, and categories for drinking on a range from abstinent to heavy drinker. From this sample, 12% of the

individuals indicated one or both of their biological parents were heavy drinkers. A logit model was used to measure the main effect of father's drinking, mother's drinking, fathers presence in the home, and subjects gender. Barnes and Welte (1990) found each variable was significant in the model, while controlling for other variables. Parental drinking was positively related to heavier drinking in respondents. This finding was consistent for younger as well as older adults. Subjects who had a heavy drinking mother, and whose father was not present, had an added risk of heavy drinking. Contrary to other results, (Cotton, 1979; McKenna & Pickens, 1981) no significant findings were evident regarding the subject's sex. Both male and female drinking were predicted by parental drinking.

The treatment studies, university studies, and general population studies reviewed offer insight and direction into the field of alcoholism and the impact of parents. The majority of the articles discussed suggest a relationship between generations exists, with respect to alcohol use behavior. However, conclusions made by these studies are often based on methods that are limited, or on samples that may not reflect general populations. A need exists for additional general population research in this field.

Genetic and Environmental Pathways to Alcoholism

Traditionally, two paradigms have been used to describe the common pathway of alcoholism from one generation to the next (Steinglass, Bennett, Wolin & Reiss, 1987). First, a genetic perspective favors the notion that a predisposition towards alcoholism exists that is passed on to a person via genes (Goodwin et al., 1974; Goodwin et al., 1977). Second, an environmental or cultural perspective, emphasizes the influence of social, familial and behavioral factors impacting on the development of alcoholism in children of alcoholics (Johnson & Bennett, 1989). A current framework, recognized by researchers as having heuristic value, is a combination of these two traditional approaches, involving an interaction between genetics and environment, providing a multifactoral explanation (Cloninger, Bohman & Sigvardsson, 1981; Peele, 1986).

Genetic Influence.

A great deal of investigation has been directed toward the inheritance of alcoholism and a genetic basis. Much of this work shows similar patterns of alcohol consumption between alcoholics, or problem drinkers, and their children. A variety of designs have been used to test this pattern and search for a genetic explanation, including: family, twin, adoption, and half-sibling research (Johnson & Bennett, 1985; Russell et al. 1985; Schuckit, 1987). According to

Schuckit (1987),..."biological and genetic factors are important in a vulnerability toward alcoholism. Taken together with family, twins, and adoption studies, the results can be used to highlight the importance of biological influences and to emphasize the probability that alcoholism is not just a moral weakness" (p.307). The adoption study is thought to be the best method for examining a complex disorder such as alcoholism (Russell et al., 1985). Peele (1986) indicates that Scandinavian adoption studies finding reliable genetic transmission of alcoholism in males, have been the impetus for genetic research.

Goodwin, Schulsinger, Hermansen, Guze & Winokur (1973), investigated male adoptees to determine if individuals raised apart from their biological parents were at greater risk for developing alcoholism if one of their biological parents was identified as an alcoholic. Their sample was selected from Copenhagen adoption records, that had specified whether a parent had been hospitalized for alcoholism. Subjects had been separated from their biological parents before six weeks of age. Fathers comprised 85% of the alcoholic parents. Two control groups were originally selected, one of which had a parent hospitalized for a psychiatric condition. These two control groups were later combined. Subjects were interviewed by psychiatrists regarding their drinking practices and other

related experiences. Drinking categories were established based on the World Health Organization International Classification of Diseases. A total of 133 subjects participated. Findings showed the clinical group had almost four times the alcoholism rate compared to the control group. Goodwin et al. (1973) concluded these findings supported the role of genetics in the development of alcohol problems. The sample was comprised solely of males and father alcoholics, thus caution needs to be exercised in linking these results to females and the role of maternal alcoholism.

Goodwin, Schulsinger, Moller, Hermansen, Winokur & Guze (1974) further investigated the role of genetics in alcoholism by interviewing the brothers of the sample collected in Goodwin et al. (1973). Their total sample was comprised of 113 subjects, 50 controls and 35 siblings of adopted alcoholics. In some instances more than one sibling from a family was interviewed. Testing was conducted for two to four hours by a psychiatrist and followed an extensive schedule of questions. The main result of this study was that alcoholism rates were not significantly different between adopted out sons and their nonadopted biological brothers. Hence, exposure to alcoholism had no effect on the development of alcoholism, suggesting genes and not the environment promote alcohol abuse.

Goodwin, Schulsinger, Knopet et al.(1977) interviewed 49 daughters of alcoholics and 47 controls, all of whom had been adopted in the first few weeks of life by nonrelatives. These subjects were selected from the same pool as the subjects in Goodwin et al. (1973). The average age of the subjects was 35 years. Similar to previous research, participants were interviewed by psychiatrists for two to four hours about drinking practices and other life experiences. Their results showed daughters of alcoholics were not significantly different from daughters of nonalcoholics in drinking. Alcoholism was infrequent in both groups. Goodwin et al. (1977) explained the failure to find more frequent cases of alcoholism in the clinical group may be due to genetics not influencing alcoholism in women, or cultural influences suppressing inherited susceptibility. Alternatively, it is suggested that the young age of the women interviewed affected the results, for women are seen to develop alcoholism later in life than men. The small size of the sample prohibits conclusive remarks on female alcoholism and inheritability based on this investigation.

Goodwin's et al. (1973, 1974, 1977) studies were based on samples in which 85% of the alcoholics biological parents were fathers. According to Russell et al.(1985) there data demonstrate genetic transmission of alcoholism only from father to son. The effect of parental gender differences on alcoholism is not examined in this work.

Another adoption study, based on a United States sample of adoptees, was done by Cadoret and Gath (1978). A total of 84 adoptive parents and 45 adoptees comprised their sample. Adoption records provided familial alcoholism information and other data. Parents, usually the mother, completed a 150 item questionnaire, and adoptees were given structured interviews by a psychiatrist. Feighner et al. (1972) criteria were used for alcoholism. A positive correlation was found between adoptees with a biological history of alcoholism and their alcohol use. A lack of environmental influence was evident, for alcoholism was not prevalent in the adoptive families of those adoptees who became alcoholic. A problem with this study is that alcoholism information on the biological parent came from adoption agency records ; some of the information was vague (Cadoret & Gath, 1978). Russell et al. (1985) indicate incomplete records makes the diagnosis of alcoholism dubious.

In his review of the literature on the role of genetics in alcoholism, Searles (1988) suggests that the adoption method is the most powerful research design for comparing genetic versus environmental influences. There have been few such studies, due to the time and expense involved. Searles (1988) concludes his critique of the genetic research by stating that environmental factors have been underemphasized and future research should recognize the

significance of individuals, the environment, and their interaction with genetics.

Environmental Influences.

A void in the literature exists in the study of environmental influences on familial alcoholism. Adoption studies, eliminating genetic influences, have not been conducted to date. Studies using nonadoption designs attempt to demonstrate an environmental rationale to explain the link between alcoholism in parents and in their offspring. (Barnes & Welte, 1990; Beardslee & Vaillant, 1986; Cutter and Fisher, 1980). These studies have not, however, eliminated genetic influences. Beardslee and Vaillant (1986) did a 40 year longitudinal study of working class families, examining outcomes in adulthood, related to the degree of exposure to parental alcoholism. The subjects came from a 1950 study on juvenile delinquents. Men selected were from the nondelinquents control group used in this study. Of the 456 subjects, 176 were judged as having some exposure to alcoholism in childhood. These 176 were rated, based on the initial interview information, using the Exposure in Childhood to Alcoholism in the Environment Scale. Exposure was measured by a rating scale of zero to four. Interviews were held at 25, 32, and 47 years of age. Other alcohol measures used included: Alcohol Abuse in Relatives Scale, Alcohol Dependence (DSM-111), Problem Drinking Scale. Results indicated that the level of

exposure to alcoholism in childhood was related to DSM-111 alcohol dependence in adulthood and problem drinking.

The role of learning and its relationship to alcoholism was investigated by Cutter and Fisher (1980). They used a university sample of males and females totaling 128 students. The Quantity Frequency Index (Straus & Bacon, 1953) was administered to determine parental drinking. Other measures were taken of parental drinking attitudes, family relations and reasons for subjects use of alcohol. Mulford and Miller's (1960) Definitions of Alcohol Scale was used to measure subjects alcohol use. Three variables were predictors of alcohol use: mother's drunkenness, father's attitudes, and closeness to mother and father. Families with a weak social controls over drinking, a model of abnormal drinking, and parental conflict were suggestive of social and emotional reasons for drinking. This study, although not eliminating the contribution of heredity, suggests learning and the environment play a part in the familial transmission of alcohol (Reed, 1980).

Another study looking at learning, through imitation, was conducted by Harburg et al.(1990). A longitudinal design was used, comparing self-reports of parents with reports made 17 years later by their sons and daughters. The sample was selected randomly from a small rural town and was made up of 387 cases of father-offspring pairs and 390 cases of mother-offspring pairs. Offspring, during the 7 year

follow-up, were between 19 and 72 years of age. Measures of alcohol use for parents were based on 13 items adapted from Cahalan, Cisin and Crossley (1969). Measures of alcohol use for offspring were based on a format by Jessor Graves, Hanson and Jessor (1968). Their findings suggested offspring imitation is strongest for parents who abstain, particularly fathers. High-volume parental drinking is not imitated ; rather, children had low-volume drinking in such cases. A fall-off effect, or moderating of drinking was seen with high-volume drinking parents. A problem in this investigation is that volume measures do not address binge drinking. The authors recommend a more precise instrument be used to accurately test alcohol consumption imitation in children of alcoholics.

Genetic and Environmental Influences.

Cloninger (1981) indicates that genetic or environmental factors do not independently account for the greater prevalence of alcoholism in family members. He states, "susceptibility to alcoholism is neither entirely genetic, nor entirely environmental, nor simply the sum of separate genetic and environmental contributions. Rather, specific combinations of predisposing genetic factors and environmental stressors appear to interact before alcoholism develops in most persons" (p.861). The specific nature of the genetic-environmental interaction is unclear, and for the most part, remains a mystery.

Cloninger (1981) attempted to untangle the nature-nurture controversy, by subdividing adoptees into their congenital backgrounds and their postnatal environments, and through "crossfostering analysis" examined each combination of genotype and environment. Using the extensive social and medical records on adoptees from Stockholm, an analysis was done on 862 adopted men born between 1930 through 1949. A total of 151 adoptees were divided into four groups ranging from mild abusers to severe abusers. A significant correlation was found between biological parents and their adopted sons. Cloninger (1981) hypothesized that environmental factors influence the severity of abuse, if a genetic predisposition to mild or severe abuse exists. He found, appropriate amounts of postnatal provocation impacted upon the subject's mild and severe abuse. Two types of alcohol abuse were identified by Cloninger et al.(1981), both having different genetic and environmental causes. Type 1 alcoholism (milieu-limited), is associated with "recurrent alcohol abuse without criminality in the biological parents" (p.866). Biological fathers and mothers both contribute to Type 1 alcohol abuse. Type 2 alcoholism (male-limited) is heritable from father to sons. Environmental influences do not affect the risk of developing Type 2 alcoholism. Cloninger et al.(1981) recommend further research into alcohol abuse should recognize subgroups of alcoholics and the heterogeneity in this population.

Searles (1988) indicates rigorous environmental studies on the pathogenesis of alcohol abuse are uncommon. In examining Cloninger et al.(1981), Searles(1988) concludes that many methodological weaknesses are evident. Some criticisms include: the division of alcoholism categories were arbitrary, a nonadoption control group was not used, a limited set of environmental influences were tested. Searles (1988) claims "...environmental pressures, particularly ones that have not been identified, are substantially more important in determining alcohol abuse than are genetic factors. The limitations of the Swedish studies should preclude premature closure on the genetic and environmental causes of alcoholism. In addition, the discovery of two predictable types of alcoholism should be considered, at best, preliminary and at worst, unfounded" (p.161). A need for more methodologically rigorous research in this area is emphasized by Searles, to assist with the early identification of possible alcoholics, and reduction of the deleterious consequences.

Genetic and environmental influences on drinking behavior were examined by Gabrielli and Plomin (1985), using United States twins, nontwin siblings, and adoptee pairs. The 346 subjects they interviewed had a median age of almost 29 years. The main purpose of this study was to examine the genetic and environmental contribution to ordinary drinking behavior. The Colorado Alcohol Behavior questionnaire was

developed to measure the frequency and rate of consumption, tolerance to alcohol, location for drinking, and reasons for drinking. The researchers concluded that a similar family environment does not impact upon drinking behavior. Shared family influences were less important than nonshared influences. Siblings reared in similar environments were as different from one another as individuals raised in different families. Genetic factors showed little influence in making siblings similar in drinking behavior, particularly for heavy drinkers. Gabrielli and Plomin (1985) indicated that while genetic influences probably exist they promote dissimilarity between siblings. These findings are contradictory to much of the research on intergenerational transmission of alcoholism ; however, drinking behavior, and not alcohol dependency, was measured in this study.

Cadoret, Troughton and O'Gorman (1987) state, adoption studies do not adequately reflect the importance of environmental factors. Extreme environments are often eliminated during adoption placement, hence, the range of environmental condition is limited. They conducted a study that included information on subjects biological background and adopted environment. Cadoret et al. (1987) interviewed 133 male adoptees by telephone. Subjects had been identified through adoption records as having a biological parent with alcohol related problems. DSM-III criteria were

used to diagnose adult adoptee alcohol status. Information on the adoptive family was obtained from the adoptee and adoption records. The mean age of the adoptees was approximately 25 years. Their findings showed alcohol related problems in biological families increased the chance of alcohol abuse in the adoptees. A positive correlation was found between alcohol related problems in the adoptive family and alcohol abuse in the adoptee when controlling for the biological background of alcohol related problems. Therefore, the presence of an alcoholic problem in the adoptee family significantly increased the probability of alcohol abuse in the adoptee. These results point to both environmental and genetic contributions in the development of alcoholism.

In reviewing the literature on the alcohol use of adult children of alcoholics, support is in favor of an intergenerational relationship. Some studies have provided evidence for the notion that this relationship is based on a genetic propensity ; however no conclusive information is found promoting an exclusively environmental or learning rationale. Overall, the specific roles genetics and the environment play are unclear, based on the current information available. Further, the literature has numerous methodological weaknesses, making the data on the offspring of alcoholics incomplete and inconclusive. A brief summary of these weaknesses includes:

1. Few studies use random samples from general populations. Samples are frequently from university groups and adoptees.
2. The selection of young subjects is common, restricting the application of the findings to children and young adults.
3. A focus on male subjects and the father-son relationship exists, limiting the application of the results with regards to mothers, daughters, and cross-sex influences.
4. A lack of reliable measures of alcoholism is evident in many reports.
5. A lack of a theoretical framework to guide and interpret research exists.

This research project has attempted to overcome many of the weaknesses that exist in the literature on adult children of alcoholics. The strengths of this study include:

1. A large sample randomly selected from a general population was used.
2. Parental alcoholism was defined and measured with a reliable instrument.
3. Adult children of alcoholics were compared with adult children of nonalcoholics on a broad range of alcohol related behaviors.

4. Subjects ranged in age from 18 to 65 years.
5. Males and females with maternal and/or paternal alcoholism were assessed.
6. Potential environmental influences associated with alcohol related behavior was measured based on the subject's amount of exposure to their mother and father during childhood.
7. Results were interpreted through two opposing theoretical frameworks.

Personality

The impact of having an alcoholic parent on a person's personality is an area of research only beginning to be pursued by investigators. Research, thus far, conducted in this field is not comprehensive; rather, it is piecemeal, providing an incomplete picture of the personality of adult children of alcoholics. Investigations using multi-dimensional personality assessments are rare and often laden with methodological flaws. However, unlike the literature on the offspring of alcoholics, the body of research on personality and alcoholism is more extensive. A brief review of the personality characteristics associated with alcoholism will be provided, for personality similarities are found between generations.

Personality and Alcoholism

The notions that personalities are relatively stable across the lifespan and that certain traits or characteristics are linked to problem drinking have been presented by Barnes and Patton (In Press). Their interpretation of the data suggests particular dimensions of personality are linked to alcoholism. These dimensions include : Neuroticism, Self-Esteem, Ego Strength, Trait Anxiety, Psychoticism, Stimulus Augmenter-Reducer and Field Dependency. Butcher (1988) and McKenna and Pickens (1983) claim that evidence fairly conclusively points to their being no single "alcoholic personality"; hence, a range of characteristics needs to be examined in alcohol-personality investigations. Some general patterns emerge from the literature on alcoholics and personality, based on the dimensions identified by Barnes and Patton (1990).

Neuroticism.

Neuroticism, as defined by Eysenck (1975), refers to "emotionality". A person scoring high on the Eysenck Personality Inventory can be said to be anxious, worried, moody, and depressed (Eysenck, 1975). Eysenck indicates Neuroticism is also associated with psychosomatic disorders, being overly emotional, irrational, having a hard time adjusting, rigidity, and a need for control. Barnes and Patton (In Press) state that Neuroticism refers to :

suspiciousness, shyness, feelings of tension and anxiety, depression, weak self-concept, and low self-esteem. Eysenck labeled Neuroticism not as psychiatric neurosis, but as a general personality trait that moves from stable emotional adjustment to maladjustment (Loehlin, 1989). In the alcoholic populations, high Neuroticism and characteristics associated with Neuroticism are evident (Barnes, 1979, 1980, 1983; Barnes and Patton, In Press; Russell et al., 1985; Schuckit, 1983; Sutker & Allain, 1988; Tarter, 1988; Weissman & Myers, 1980).

Self-Esteem.

Self-Esteem, according to Rosenberg (1965), refers to "self-acceptance" and is influenced by a person's self-concept. A low self-esteem is associated with a negative attitude toward oneself, feeling of anxiety, feelings of isolation, an unstable self-image, nervousness, psychosomatic symptoms, insomnia, loss of appetite, headaches (Rosenberg, 1965). Low self-esteem and self-concept are evident in individuals identified as alcoholic (Barnes, 1979, 1983; Barnes & Patton, In Press; Russell, et al. 1985; McCord, 1972).

Ego-Strength.

Ego-Strength is associated with a variety of characteristics relating to a person's "physical functioning, seclusiveness, attitude toward religion, moral

posture, personal adequacy, ability to cope, phobias, and anxieties" (Graham, 1987, p.164). Based on the MMPI, a measure of high Ego-Strength implies a person is unlikely to have serious emotional problems. Low Ego-Strength individuals are likely to be seriously maladjusted psychologically. Graham (1987) explains that a low score on the Ego-Strength Scale indicates a person can be described by having a weak self-concept, feeling helpless, confused, frequent physical complaints, frequently fatigue, phobic, fearful, withdrawn, unadaptive, inhibited, mild mannered, rigid, exaggerated problems, poor work history. A low Ego-Strength is associated with a neurotic personality. Among psychiatric patients, Graham (1987) claims low scores are associated with psychotic patients. Research on alcoholism, measuring characteristics associated with Ego-Strength, supports the idea that alcoholics are lower on Ego-Strength than nonalcoholics (Barnes, 1979, 1980, 1983; Barnes & Patton, In Press; Russell et al. 1985).

Anxiety.

High anxiety is linked to a neurotic personality, a weak ego, and a low self-esteem. The component of anxiety that is part of a relatively stable characteristic of personality is termed Trait Anxiety. Spielberger, Gorsuch, and Lushene (1970) indicate this measure, as determined by the State-Trait Anxiety Inventory (STAI), refers to individual differences in anxiety proneness to situations perceived as

threatening. Anxiety is also related to alcoholism (Barnes, 1980, 1983; Barnes & Patton, In Press; Russell et al., 1985).

Psychoticism.

The personality characteristics that can be classified under a broad heading of psychoticism are described by Eysenck (1985) by the term "toughmindedness". Eysenck's use of the word "Psychoticism" refers to "an underlying personality trait present in varying degrees in all persons; if present in marked degree, it predisposes a person to the development of psychiatric abnormalities" (1985, p.6). Eysenck (1985) states only few people with high Psychoticism scores will likely become psychotic. A person scoring high on Eysenck's Psychoticism Scale can be said to be anti-social, aggressive, cold, egocentric, impersonal, impulsive, troublesome, sensation seeking, insensitive. Based on longitudinal evidence, Barnes and Patton (In Press) claim this dimension is very stable throughout the life span. A substantial amount of work has been done in this area of Psychoticism and anti-social personality, linking this dimension to alcoholism (Barnes, 1980, 1983; Barnes & Patton, In Press; Beardslee & Vaillant, 1986; Hesselbrock et al., 1985; Nathan, 1988; Russell et al., 1985; Tarter, 1988).

Stimulus Augmenter-Reducer.

Stimulus augmenting-reducing can be compared to the introvert-extravert dimension described by Eysenck, Eysenck and Barrett (1985). Petrie (1967) characterizes stimulus-reducers as extraverts and augmenters as introverts. Extraverts are high on characteristics such as sociability, activity, assertiveness, sensation seeking; introverts are low on these traits. Barnes (1985) states, "A person's style of stimulus intensity modulation seems to be a pervasive personality characteristic that affects a person's lifestyle, adjustment, and general outlook on life" (p.176).

The two major classifications of alcoholics that have been described by Cloninger (Type 1 alcoholic and Type 2 alcoholic) fall at opposite extremes in the extraversion-introversion dimension (1987). Type 1 alcoholics are stimulus augmenters (introverts) and Type 2 are reducers (extraverts). Type 1 alcoholics are sensitive to pain, report pain reduction under the influence of alcohol, and have high scores on guilt and hypochondriasis. On these measures, Type 2 alcoholics report the opposite results. Type 2 are also high on novelty seeking, low on reward dependence, and low on harm avoidance (Cloninger, 1987).

People high on extraversion and neuroticism, according to MacAndrew (1979), are Type 2 alcoholics. MacAndrew (1979), found up to 85% of alcoholics could be identified by the MAC. Of these subjects, Type 2 alcoholics appear to be the ones identified, rather than Type 1. Sociopathic behavior

was noted in the alcoholics identified by the MAC, as well as early on-set drinkers, consistent with type 2 alcoholism.

The Vando R-A Scale, also measuring stimulus augmenting-reducing, discriminates between people on pain tolerance. Barnes and Patton (In Press) state differences in pain tolerance between alcoholic subjects and nonalcoholic subjects diminish with age, as measured by the Vando Scale.

Field Dependence.

Field Dependence refers to perceptual judgements and the tendency to focus on internal or external cues. The rationale for testing Field Dependence to assess personal functioning is based on cognitive-style theory. The emphasis of cognitive-style theory is "broad dimensions of personal functioning may be picked up in the individual's cognitive activities ... the result is a more integrated, holistic view of personality" (Witkin, Ottman, Raskin & Karp, 1971, p.3). A field dependent mode of perception is when the surrounding field and parts of the field are determined to be fused (Witkin et al.,1971). A field-independent mode of perceiving parts occurs when the organization of the surrounding field and the parts of the field are experienced as discrete (Witkin,et al.,1971). According to Witkin et al.(1977), consistent tendencies are evident in individuals, whereby a person's perceptions are usually field-independent or field-dependent.

Numerous studies have related field-dependence to alcoholism (Barnes, 1980, 1983; Barnes and Patton, In Press; Hennecke, 1984). Barnes (1980) said, "field-dependent persons may be more inclined to look to their environment for solutions for their problems. Alcohol initially provide a convenient solution to their dilemma" (p.896). A measure used to test field-dependence is the Embedded Figures Test (EFT), which involves a subject locating a simple figure within a larger more complex figure that is designed to obscure the simple shape (Witkin et al.,1971). Details of the EFT are provided in the Methods section of this paper.

Personality and Adult Children of Alcoholics

The literature on the personalities of adult children of alcoholics is limited. Research in this field focuses primarily on children and university students with paternal alcoholism, and not adults with maternal or paternal alcoholism. Comparisons between studies are difficult to conduct due to the many characteristics that comprise personality, and the variations in classification and definition. Empirical investigations into the personality characteristics of children of alcoholics not only use different measurement instruments, but few instruments are reliable or valid (Jacob & Leonard, 1986)). Further, much of the information on children of alcoholics comes from clinical reports (Jacob & Leonard, 1986) and descriptive

studies (Ackerman, 1987). El-Guebaly and Offord (1977) took a critical look at the literature on psychosocial and other childhood problems that are correlated with having an alcoholic parent, they found substantial variation in the research. Their recommendations include:

1. A need for more controlled studies, specifically regarding age, sex, education, socioeconomic class, and extent of family disorganization.
2. Clear definitions of alcoholism and problem drinking.
3. Greater attention given to daughters of alcoholics.

In spite of the limitations evident in the body of work on the offspring of alcoholics, some consistent conclusions have been made by investigators. Many of the personality characteristics linked to alcoholism are prevalent. Adult children of alcoholics appear to have personalities similar to their parents.

Neuroticism, Self-Esteem, Ego Strength, Trait Anxiety.

Numerous characteristics within the dimension Neuroticism, Self-Esteem, Ego Strength, and Trait Anxiety are related and overlap. On this basis, these dimensions will be discussed conjointly as the relevant literature is addressed.

A historic qualitative study on the children of alcoholics was conducted by Cork (1979), at the Addiction

Research Foundation in Ontario. Cork interviewed 115 children, ages 10 to 16, who were selected from client treatment files. Each child was individually interviewed and personality and behavioral characteristics were assessed by a trained clinician. Cork (1979) concluded, "it seems strikingly evident that all the children were affected traumatically to some degree by virtue of being the children of alcoholic parents" (p.73). Underlying personality disturbances were found in all children studied. Cork (1979) stated these children were affected by disharmony, rejection, and inconsistencies. Feelings of low self-confidence, anxiety, confusion, and depression were among those expressed by her subjects. Cork's (1979) research was of a descriptive nature and provided a good foundation for future study in this field. Some limitations are, however, evident in this work. Cork (1979) did not analyze subjects according to gender or compare maternal versus paternal alcoholism. Reliable psychometric tests were not used to assess the functioning of the subjects studied. Further, as subjects were a maximum of 16 years old, personality profiles on adult children of alcoholics can only be cautiously predicted. Finally, Cork's (1979) conclusions were based on research not designed to control for genetics. In spite of these shortcomings, the offspring of this group of alcoholics in treatment, had characteristics associated with Neuroticism, low Self-Esteem, low Ego-Strength, and high Trait Anxiety.

Ackerman (1987a) conducted a descriptive study designed to assess personality characteristics of adult children of alcoholics. A self-administered questionnaire was given to roughly 1,000 adults from 38 states in the United States as part of a general population survey. Approximately half of these subjects had an alcoholic parent. Subjects were asked to rate their agreeableness to a variety of statements measuring a range of feelings and behaviors related to personality. When comparing those subjects who were children of an alcoholic and those who were not, differences were evident between the groups. Ackerman (1987a) claimed behavioral and personality characteristics separated adult children of alcoholics from adults in the general population. Those characteristics found in his study on the offspring of alcoholics included depression, difficulty dealing with stress, difficulty putting their own needs first, excessive rigidity, and low self-esteem.

Ackerman (1983) states that a child's socialization process is distorted when exposed to the inconsistencies and unpredictability of an alcoholic parent. The result is the development of coping mechanisms that prove to be dysfunctional in adulthood. Differences between adult children of alcoholics, according to Ackerman (1987b), are related to: 1) differences in parental alcoholism, 2) the gender of the parent and the child, 3) how the child perceives the situation, 4) how the child handles stress.

The term "co-dependent" has been used by Ackerman (1983, 1987b) and others (Cermak, 1989) to describe adult children of alcoholics who possess many of the traits identified in his research. Cermak (1989) states co-dependence exists when "two people give each other power over their self-esteem" (p.18). A person described as being co-dependent has many tendencies associated with Neuroticism and a low Ego-Strength.

A study examining adult children of alcoholics, finding characteristics similar to those described by Ackerman (1987a), was done by Cutter and Cutter (1987). An investigator, acting as a participant-observer, attended a series of 12 Al-Anon sessions. A coding system was developed, and the Al-Anon participants' responses were recorded for each hour-and-a-half meeting. Of the 40-55 members involved, data were recorded on 12 people. Participants reported problems with depression, fear, problems coping, anxiety, and panic. Some weaknesses are apparent in this report. This study focuses on a select group and, thus, does not conclusively reflect problems or personalities in the general population. The studied Al-Anon group had an open membership ; therefore the sample was free to vary from one session to the next. Further, data were only collected on those individuals who volunteered to speak during a meeting. An important omission from the research was no direct or indirect measure of parental alcoholism was completed.

Many empirical studies, testing personality and parental alcohol abuse, have relied on university students to comprise their subject sample. An example of such a study focusing on coping behaviors, depression, and self-esteem of adult children of alcoholics was conducted by Clair and Genest (1987). A retrospective design was used to test 30 offspring of alcoholic fathers and nonalcoholic mothers, with 40 offspring of nonalcoholic parents. Subjects were primarily university students, between 18 and 23 years of age. Demographic characteristics between the two groups were the same. A Depression-Prone Rating Scale was used to measure negative emotional moods; the Tennessee Self-Concept Scale was used to measure self-esteem and adjustment. Results indicated adult children of alcoholics had high levels of depression-proneness and low levels of self-esteem. A multiple regression analysis demonstrated 50% of the variance in depression-proneness and 40% of the variance in self-esteem could be accounted for by a combination of family environment, social support, and coping variables. Hence, although maladaptive personality characteristics are evident in adult children of alcoholics, some of the differences found within this group may be tied to the nature of their family environment, the emotional support they received, and their way of coping with their situation when they were younger. It should be noted, the majority of subjects in this investigation were female; these findings may not reflect the status of males. In

addition, alcoholism in parents was not measured with a reliable instrument, but was simply confirmed by each respondent.

The relationships between parental alcoholism, offspring personality, and offspring gender are assessed by Berkowitz and Perkin (1988). A total of 860 students, between 18 and 20 years of age, were given one of two alcohol survey questionnaires. Each contained four personality scales, including: the Self-Identification Form (Borgatta, 1968), the Interpersonal-Orientation Form (Borgatta & Bohrnstedt, 1968), a other-directiveness scale, and the Self-Monitoring Scale (Snyder, 1974). Findings indicate male and female children of alcoholics are very similar to their peers, for on six of eight measures, no differences were found. A noted difference was that females offspring of alcoholics were more depressed and having greater self-depreciation and lower self-esteem than their peers without alcoholic parents. This finding was not consistent for males. The authors suggest males and females may thus react uniquely to parental alcoholism. Self-depreciation in women children of alcoholics is explained by a greater familial identification and sensitivity to the destructive nature of alcoholism.

Knowles and Schroeder (1990) studied personality characteristics of sons of alcohol abusers, also using a university sample from the United States. A total of 800

subjects completed a questionnaire on personal history and the 556-item MMPI, over a two hour testing session. Positive family alcohol abuse was determined by problems identified consistent with the DSM III criteria. The control group was comprised of 601 subjects, without parental alcoholism. Analysis was based on three validity scales, ten clinical scales, the MAC, and the Wiggins Content Scale of the MMPI. Results indicated "elevation on the neurotic triad scale 1, 2, and 3" (Knowles & Schroeder, 1990, p.145). Differences between groups were also found in the areas of interpersonal relationships, general somatic complaints, depression, and religious fundamentalism.

A university sample of 177 males and 318 females was tested by Churchill, Broida and Nicholson (1990). This investigation used students from an introductory psychology class. The group was administered the Rotter (1966) Internal/External Locus of Control Scale, the Jackson Personality Inventory self-esteem rating scale, and the CAST. Subjects had a mean age of 20. The CAST scores did not correlate with age or personality variables for male or female subjects. Hence, students with an alcoholic parent did not vary from those without an alcoholic parent on self-esteem or locus of control measures.

As pointed out, one needs to be circumspect when interpreting data derived from university samples. This population is not representative of a general population in

a number of ways. Churchill et al.(1990) stresses university students are a select group, and may be least affected by parental alcoholism. Findings based on university groups, however, still provide insight into many of the personality characteristics of the offspring of alcoholics, demonstrating neurotic tendencies, low ego-strength, anxiety, and low self-esteem.

General population studies, investigating personality characteristics associated with neuroticism, have infrequently been conducted and those done appear to have biased samples. Blacky, Bucky and Wilder-Padilla (1986) investigated interpersonal differences of adults raised in alcoholic homes compared with those raised in nonalcoholic homes. This study was previously reviewed. Their questionnaire confirmed that adult children of alcoholics were more frequently depressed, confused, had feelings of lack of control, had difficulty with problem solving, had work-related problems, and had difficulty with dependency. As pointed out earlier, although both males and females were recruited for this study, gender differences were not measured; the differences between maternal and parental alcoholism was also not determined. Further, the sample was likely biased, due to the sampling technique employed.

El-Guebaly, Walker, Ross and Currie (1990) state that little empirical data exists on the prevalence and the nature of the psychosocial consequences found in adult

children of alcoholics. Based on this gap in the literature, they surveyed a nonclinical Winnipeg sample to assess psychosocial functioning of adult children of problem drinkers. The majority of their subjects were interviewed over the phone; only 20% were interviewed in person. Several measures were used, including : the Bradburn Affect Balance Scale (Bradburn, 1969), measuring psychological well-being; an alcohol and drug use measure, CAGE; a self-report of help-seeking behavior. Interviews were 10 to 45 minutes in length. The results showed adult children of problem drinkers sought help more frequently for stress and anxiety problems than adults without problem drinking parents. It should be noted that alcoholism in parents was not measured, but problem drinking was determined via a yes or no response from the subjects. The investigators of this study recommend future research assess alcohol problems in greater detail and suggest longer interviews with each participant, to better determine emotional problems.

Children of alcoholic parents were selected from a large general population survey in Puerto Rico, and assessed in a two part study on maladjustment (Rubio-Stipec et al., 1991). The initial study used the DSM 111 to classify alcoholics. Based on the initial parents sample a total of 777 children age 4 through 16 years were recruited and administered the Child Behavior Checklist (CBC). Self-reports, parent reports, and teacher reports were completed. From this

sample, 386 children participated in a second-stage clinical assessment in which the Diagnostic Interview Schedule for Children was used with the Children's Global Assessment Scale (Shaffer et al, 1983). In the initial study 52 parents were determined to be alcoholic, based on a DSM III diagnosis. Other parental disorders and family environment were measured with the Coddington Life-Event Scale (Coddington, 1970). Results found that children of alcoholic parents had scored significantly higher on somatic complaints and schizoid and depression factors than the comparison group. Scores on the CBC were also higher. Overall, parental alcoholism and family environment increased the maladjustment of the children, this was found particularly when youth were the informants. Although, this study is useful in identifying personality characteristics of children of alcoholics, Rubio-Stripec et al.(1991) note, "it remains to be seen whether the level of maladaptation subsides or turns into other psychiatric conditions later in life" (p.87).

A study assessing the long term personality consequences of having a parent with alcoholism was done by Tweed and Ryff (1991). A group of subjects with parental alcoholism was matched on sociodemographic characteristics with a group of subjects without parental alcoholism. The alcoholic group did, however, more frequently come from divorced homes. Subjects were divided by age and gender. Young

adults (18 to 24) (N=147) were in one group and middle-aged adults (25 to 45) (N=92) were in another. The total sample had 175 women and 64 men. The CAST was used to determine parental alcoholism. Young subjects were recruited through a school class survey. There were 67 with an alcoholic parent and 80 without. Older subjects were recruited through Al-Anon and community groups. There were 47 with and 45 without an alcoholic parent. Measures of emotional distress were the Zung Self-Rating Depression (Zung, 1965) and the JPI anxiety scale. Psychological well-being measures included the Affect Balance Scale, the Purposed in life Test (Crumbaugh & Maholick, 1969) and the Self-Esteem Scale. Personality measures were the Achievement Orientation Play and Dominance form (Jackson, 1974) and the Locus of Control Scale. Differences were found between adult children of alcoholics in depression and anxiety when compared to their same age counterparts. These were the only significant differences found between all groups. Samples selected for this study may not represent the general population, due to the nature of the populations from which they were drawn.

Psychoticism.

Research on Psychoticism, as defined by Eysenck (1985), has not been extensively conducted in the area of adult children of alcoholics. The majority of work done in this field has focused on antisocial behavior, using children,

clinical groups, and university samples. Studies of children tend to show them as anti-social and often aggressive in social situations (Pihl, Peterson & Finn, 1990). In their review of the literature, Pihl et al. (1990) claim that sons of male alcoholics frequently break rules and often get into trouble with others; they are characterized by conduct disorder and antisocial personality.

A study on children, based on a clinical sample from a child psychiatric clinic, was conducted by Chafetz, Blane and Hill (1971). Records with an intake summary were reviewed and classified according to parental drinking. The clinical group were comprised of 100 children whose parents were alcoholic; the control group had 100 children whose parents were not alcoholic. Each group had 60 boys and 40 girls from age 2 to 19. All complaints of the subjects listed in their records were categorized into: aggression, school problems, bodily states, mental state, elimination functions, sex, sleep, food disorders. Children of alcoholics were found to be similar to the control group in most areas. Aggression was higher in the clinical group, but not at a significant level.

A child's psychosocial adjustment, when having an alcoholic parent, was looked at by Werner (1985), in a longitudinal investigation. The influence of quality of care on long-term functioning was tested. The 49 subjects

studied were from Hawaii, born in 1955, and had a parent identified as having a serious alcohol problem when the subjects were between one and ten years old. Subjects were assessed at 1, 2, 10 and 18 years of age. Assessment of the home environment, including socioeconomic status, educational stimulation, and emotional support was completed. The tools used varied with the age of the child. From age 2 through to age 10, intelligence, maturity, and mental health tests were administered. In grade 12 the subjects were administered the California Psychological Inventory (Gough, 1966) and the Norwicki Strickland Locus of Control Scale.

The results showed that by age 10 more than twice the number of the children of alcoholics were in need of long-term mental health care, compared to the control group. By age 18, 30% of the subjects who had parental alcoholism had been involved in a delinquent act and 25% had a serious mental health problem. More than 70% of the group who developed psychosocial problems were male. Most of the youth who had an alcoholic mother had developed serious psychosocial problems. Affectionate temperaments were noted during the first year of life in those offspring who did not develop problems by age 18. This occurred twice as often for this group versus the problem group. The authors suggest personality characteristics may be present during the first years of life and influence adjustment to parental alcoholism.

Social competence and behavior problems in children of alcoholics were also investigated by Jacob and Leonard (1986). Subjects assessed were from another, larger, study on alcoholism. Data from 134 families were analyzed, including 43 alcoholic fathers, 46 controls, and 45 depressed fathers. Information was obtained from 296 children, out of which 100 had an alcoholic father, 91 had a depressed father, 105 were part of the control group. The Achenbach Child Behavior Checklist was completed by mothers and fathers. The Conners Teaching Rating Scale and the Myklebust Pupil Rating Scale was completed by the children's English teachers. The conclusions of this evaluation were: sons of both alcoholics and depressives had higher ratings on Behavior Problems and lower scores on Social Competence than did the sons from the control group. Older sons of the alcoholic group rated high on a delinquency subscale. Younger daughters rated highest on Social Withdrawal, Schizoid-Obsessive, Hyperactive, and Aggressive measures. The authors caution, these children studied would not be considered clinically impaired. The results from the teachers ratings found no differences between sons or daughters from any of the groups compared. A poor return rate can explain this happening. Jacob and Leonard (1986) claimed it is important to consider that their sample was comprised of pre or early adolescents, and recommend adult studies to see if more notable psychosocial and psychiatric difficulties emerge with time.

University studies have been used to measure characteristics related to Psychoticism. Such a project was conducted on male students by Searles and Hall (1989). Findings did not support the relationship between parental alcoholism and psychoticism. Tests administered included the Childhood Problem Behaviors Checklist, the adolescent antisocial behavior section of the National Institute of Mental Health Diagnostic Interview Schedule, the Sensation Seeking Scale, and the MacAndrew Alcoholism Scale. Their data failed to show differences between students who had alcoholic parents and students who did not. Searles and Hall (1989) point out the sample of students were middle class, and antisocial behavior related to alcoholism may be more prevalent in a low socioeconomic status group.

Characteristics that comprise Psychoticism have been studied in adult children of alcoholics, who are alcoholic themselves (Beardslee & Vaillant, 1986; McKenna & Pickens, 1983; Pihl et al., 1990). Pihl et al. (1990) found that alcoholics with alcoholic parents are often antisocial or impulsive. McKenna and Pickens (1983) studied the number of alcoholic parents and the interaction of gender, in conjunction with the personality of the alcoholic offspring. Shortly after admission to a treatment facility subjects were categorized according to reports on parental drinking and administered the MMPI. Aggression and sociopathy were higher with two alcoholic parents than with one. Main

effects for the sex of the parent and the sex of the subject were not found to be associated with antisocial behavior or aggression.

Beardslee and Vaillant (1986), in their longitudinal study previously reviewed, measured sociopathy using 19 criteria from Robins (1966) diagnostic scale. Subjects were first interviewed in junior high school, then at ages 25, 32, and 47. Findings showed 7% of the men from the non-exposed group and 18% of the exposed group were diagnosed as sociopaths. However, when alcoholic offspring were eliminated from their analysis, no differences were found between adults exposed to parental alcoholism and the control group. Overall adult functioning and social competence was also measured in this study, using a 25 point scale testing enjoyment of human relations. No differences between groups were noted. The researchers suggest there is considerable resiliency in the function of adult children of alcoholics who do not develop alcoholism.

Psychoticism, or antisocial behavior, in adult children of alcoholics can not be confirmed based on the information available. Although evidence points to the offspring of alcoholics being high on Psychoticism, findings are inconsistent, measures of personality characteristics vary between studies, and most results are based on children or young adults selected from university populations. Clearly, further investigation into the Psychoticism dimension of personality in adult children of alcoholics is required.

Stimulus Augmenter-Reducer.

Some research on children of alcoholics indicates a high prevalence of hyperactivity and behavior associated with stimulus reduction. Pihl et al. (1990) stated sons of male alcoholics are often characterized by a combination of hyperactivity and aggression. Tarter and Edwards (1988) found a high rate of hyperactivity in the male offspring of alcoholics, particularly if alcoholism developed during adulthood in the offspring. Results, however, are not conclusive in this area. Tarter, Hegedus and Gavalier (1985) were unable to find differences between the sons of alcoholics and nonalcoholics, when examining a cohort of delinquents. In this study, antisocial behavior was controlled; therefore, the authors determined hyperactivity may be linked to a conduct disorder. This is consistent with the work of Searles and Hall (1989), who found university students with alcoholic parents, who were not classified as antisocial, were not significantly higher on sensation seeking than students without alcoholic parents.

A university study looking at stimulus augmenting-reducing in adult children of alcoholics was conducted by Tunna (1988). A total of 636 students were administered a questionnaire including a measure of parental alcohol abuse and the Vando Scale measuring augmenting-reducing. Results showed no relationship between this personality characteristic and maternal or paternal alcoholism.

Based on Petrie's (1960) model of pain sensitivity and the reduction-augmentation continuum, Hennecke (1984), designed a study to investigate the relationship between paternal alcoholism and perception. Boys and girls with alcoholic fathers were recruited through Alcoholics Anonymous and Alanon groups; children of nonalcoholic fathers were recruited through informal networks. A total of 60 children were tested with the Kinesthetic Figural After-Effect Test (Petrie, 1960), which measures tactile-kinesthetic perception changes after stimulation. In the alcoholic group 58% were augmenters, 31% male and 27% female. There were no reducers within either group. This finding supports the investigator's hypothesis, children of alcoholics are augmenters, which was based on Petrie's theory that alcoholics are stimulus augmenters. These results need to be considered in combination with the fact that the alcohol sample was from a treatment group and not from a general population.

Based on Cloninger (1987), there are more alcoholics in the general population who are reducers. If the line of reasoning followed is that adult children of alcoholics are similar to their parents in personality, it can be predicted that in the general population adult children of alcoholics will more frequently be reducers. Due to the inconsistencies in the research related to this topic further study is required.

Field Dependence.

A field dependent mode of perception has been linked to alcoholics by numerous investigators, according to Hennecke (1984). However, field dependence has not been fully assessed in the offspring of alcoholics, particularly in adulthood. The impact of alcohol on a person's perceptual style has not been determined. Barnes and Patton (In Press) indicate two perspectives exist: a) field dependence is a predisposing factor to alcoholism; and b) field dependence is a consequence of extensive alcohol abuse.

Recent studies examining field dependence in children have not found the offspring of alcoholics to be more field dependent than the offspring of nonalcoholics. Hennecke (1984) administered the EFT to a sample of children in a study described earlier. He found no relationship between paternal alcoholism and field dependency. Sex differences and age differences, within the sample tested, did not influence perceptual style. Sex differences have been noted (Phares, 1988) indicating boys are more field independent than girls. No differences in the perceptual style on embedded figures tests were found by Alterman et al. (1988), in their investigation of children of alcoholics who were university students. It would be premature to draw conclusions on adult children of alcoholics and field dependency, based on the limited amount of research presented. However, thus far, a link to field dependence has not been made.

Most of the weaknesses previously identified in the research on the alcohol use of adult children of alcoholics are evident in the research on their personality. Samples used are usually not representative of general populations, children are mainly studied, and the research is primarily atheoretical. Of particular importance to the personality area is the lack of broad, comprehensive investigations. This research project includes comprehensive tests of personality that can provide information on many personality dimensions of an adult child of an alcoholics.

Sociodemographic Characteristics

As previously noted, the majority of research on the offspring of alcoholics has been on children, thus the long-term sociodemographic picture of adult children of alcoholics has not been fully determined. The impact of having an alcoholic mother or father on a persons educational accomplishments, employment status, income level and marital status, are areas of research needing further investigation. Being reared in a dysfunctional family, tied with being at risk for alcohol abuse and personality maladjustments, raises concern about potential difficulties adult children of alcoholics may have with sociodemographic attainments. Russell et al. (1985) stated, " Abnormal behavior patterns learned as children often persist into adulthood and impair the functioning of children of

alcoholics in their interpersonal relationships, both in the family and on the job" (p.62).

Marital Status

The lack of success adult children of alcoholics have in their marital relationships has been given considerable attention. Children of alcoholics often have a problem referred to as social disengagement (Ackerman, 1987a). The ability to develop and maintain primary relationships is hampered by their childhood experiences; thus, relationships are often superficial and limited in intensity. Social disengagement is tied to the emergence of negative emotions such as tension, anxiety, despair, and powerlessness (Ackerman, (1987a). Ackerman (1987b) considers emotional isolation and denial of healthy relationships to be the greatest problems encountered by nonalcoholic family members. Ackerman (1987b) states marriage is seriously hampered by problems with intimacy, for feeling and information are not shared with one's spouse. Intimacy, according to Kristsberg (1988), requires the ability to resolve conflict, trust, and communication. The adult child of an alcoholic is weak in all of these areas. Kritisberg (1988) explains, relationships are either brief and movement from one person to another is rapid, or a person clings onto another no matter how destructive the relationship becomes.

Intimacy problems have been found in empirical studies on children of alcoholics (Black et al., 1986; Cork, 1969; Cutter, 1987). Black et al. (1986) investigated marital status in a retrospective study of adults with an alcoholic parent. A 30% greater rate of divorce was found in the offspring of alcoholics than the offspring of nonalcoholics. Goodwin et al. (1973b) concluded adult children of alcoholics who were adoptees had a divorce rate three times greater than the control group. In a general population survey, El-Guebaly et al. (1990) found that out of those respondents who were between 35 and 44 years old and were divorced, separated, or remarried, 46% had a parent with a drinking problem. Parker and Harford (1988) found that sons and daughters of parents who were alcohol abusers were at risk for divorce or separation.

Employment and Education

Some studies indicate no effect of parental alcoholism on the employment and educational status of adult children of alcoholics ; however, the sum of the evidence is inconclusive. Goodwin et al. (1973), in their adoption study, found no academic educational effect in adults, due to parental alcoholism. El-Guebaly et al. (1990) reported no differences between adults in a parental problem drinking group and a nonproblem group with respect to education. Unemployment was equal for adult subjects exposed and not

exposed to alcoholism as children, reported by Beardslee and Vaillant (1986).

Research on children in this area and their academic and cognitive skills paints a less favorable picture. Speculation on the academic and employment success of adult children of alcoholics can be based on the research of children and their performance. Tarter and Edwards (1988) noted cognitive and behavioral impairments in children of alcoholics. Pihl et al. (1990) highlighted several weaknesses in cognitive abilities including linguistics, problem solving, intelligence, memory, visual-spatial, perceptual-motor, and attention span. Although findings are not conclusive, evidence does indicate academic achievement is poorer for children of alcoholics than nonalcoholics. Weak academic skills, coupled with less than optimum communication and interpersonal relationship skills, may translate into an adult child of an alcoholic being at an employment disadvantage. Russell et al. (1985) states, "a positive family history of alcoholism is also more likely to be associated with low socioeconomic status, implying fewer financial and educational resources and social supports for the growing child" (p.48). The perpetuation of a low socioeconomic status across generations seems likely; however, empirical verification is required.

The necessity for research that accurately reflects the long-term consequence of having an alcoholic parent, has

been stressed throughout this paper. This study, in addition to examining the alcohol behavior and personality characteristics of this population, assessed some of the tangible concrete lifestyle effects experienced by people in the general community, who have had or have alcoholic parents. Evidence of this nature is fundamental to future progress in this field.

Theory

The information on adult children of alcoholics, as provided by research, suggests many long-term negative consequences. A broad analysis of adults of alcoholic parents shows alcohol consumption patterns, personality, marital status, education, and income are related to parental alcohol abuse. These associations can be interpreted through two perspectives, one with a genetic basis and the other with an environmental, or learning, rationale.

Social Learning Theory

Alcohol consumption patterns, according to Bandura (1969), are acquired through modeling and reinforcement. Patterns of drinking and conditions for drinking are adopted from observing significant others, such as family members. Bandura (1969) states, "in familial situations where alcohol is consumed extensively in a large variety of circumstances

and is a preferred response to monotony or stress, a similar type of drinking pattern is likely to be transmitted to growing offspring" (p.535). Social learning theory assumes that parents influence the onset and maintenance of drinking behaviors. People learn to use alcohol by observing their parents and emulating their alcohol use behavior, attitudes, and values. Once alcohol use is initiated and incorporated into their lives, it is found to be rewarding in social situations, or as a stress reducer (Bandura, 1969). Eventually this behavior is generalized to other conditions. Alcohol abuse continues even under adverse circumstances, for it is seen as coping mechanism. In addition, withdrawal effects may wish to be avoided (Abrams & Niaura, 1978).

It follows from Social Learning Theory that the amount of exposure a person has to a parent during childhood, will effect the similarity of their alcohol use with that parent later in life. Thus, a child with more exposure to an alcoholic parent would more likely display alcoholic behavior than a child with less exposure. This notion was tested in this investigation. Social Learning Theory and the role of environmental influences was assessed by comparing the alcohol related behavior of mothers and fathers with their sons and daughters, based on the amount of parental exposure during childhood.

Behavioral Genetics Theory

Behavioral Geneticists say that temperament is inherited. Emotionality, sociability, and activity level are three main characteristics that they claim are evident in infancy and are consistent throughout the lifecycle (Buss & Plomin, 1984). Alcoholics differ from non-alcoholics on these characteristics. They tend to be higher on emotionality, sociability, and activity level than non-alcoholics (Barnes & Patton, In Press). Thus, adult children of alcoholics should possess characteristics of their parents that are associated with alcohol abuse. It is expected that they are high on Neuroticism (emotionality), Extraversion (sociability and activity level), and Psychoticism (activity level). This would place them at greater risk for abuse whether they are raised by their alcoholic parents or not.

The paradigms put forth by Social Learning Theory and Behavioral Genetics Theory are addressed in this research study. Although genetic influences are not isolated, the impact of environmental exposure was considered within the context of this investigation.

HYPOTHESES

From the foregoing discussion, the following hypotheses are advanced.

Alcohol Related Behavior

1. Adult children of alcoholics will have a higher rate of alcohol consumption than adults with nonalcoholic parents.
 - a) Sons of alcoholic fathers will have a higher rate of alcohol consumption than sons of nonalcoholic fathers.
 - b) Sons of alcoholic mothers will have a higher rate of alcohol consumption than sons of nonalcoholic mothers.
 - c) Daughters of alcoholic fathers will have a higher rate of alcohol consumption than daughters of nonalcoholic fathers.
 - d) Daughters of alcoholic mothers will have a higher rate of alcohol consumption than daughters of nonalcoholic mothers.
2. Adult children of alcoholics will have a higher rate of alcohol dependence than adults of nonalcoholic parents.

- a) Sons of alcoholic fathers will have a higher rate of alcohol dependence than sons of nonalcoholic fathers.
 - b) Sons of alcoholic mothers will have a higher rate of alcohol dependence than sons of nonalcoholic mothers.
 - c) Daughters of alcoholic fathers will have a higher rate of alcohol dependence than daughters of nonalcoholic fathers.
 - d) Daughters of alcoholic mothers will have a higher rate of alcohol dependence than daughters of nonalcoholic mothers.
3. Adult children of alcoholics will have more alcohol related problems than adults of nonalcoholic parents.
- a) Sons of alcoholic fathers will have more alcohol related problems than than sons of nonalcoholic fathers.
 - b) Sons of alcoholic mothers will have more alcohol related problems than than sons of nonalcoholic mothers.
 - c) Daughters of alcoholic fathers will have more alcohol related problems than than daughters of nonalcoholic fathers.
 - d) Daughters of alcoholic mothers will have more alcohol related problems than daughters of nonalcoholic mothers.

4. The relationship between the alcohol consumption behavior of children and the problem drinking scores reported for their parents will be greater for children with more exposure to their parents during childhood, compared to those with less exposure.
 - a) The relationship between the alcohol consumption behavior of sons and the problem drinking scores reported for their fathers will be greater for sons with more exposure to their fathers during childhood, compared to those with less exposure.
 - b) The relationship between the alcohol consumption behavior of sons and the problem drinking scores reported for their mothers will be greater for sons with more exposure to their mothers during childhood, compared to those with less exposure.
 - c) The relationship between the alcohol consumption behavior of daughters and the problem drinking scores reported for their fathers will be greater for daughters with more exposure to their fathers during childhood, compared to those with less exposure.
 - d) The relationship between the alcohol consumption behavior of daughters and the problem drinking scores reported for their mothers will be greater for daughters with more exposure to their mothers during childhood, compared to those with less exposure.

5. The relationship between alcohol dependence in children and the problem drinking scores reported for their parents will be greater for children with more exposure to their parents during childhood, compared to those with less exposure.
- a) The relationship between alcohol dependence in sons and the problem drinking scores reported for their fathers will be greater for sons with more exposure to their fathers during childhood, compared to those with less exposure.
 - b) The relationship between alcohol dependence in sons and the problem drinking scores reported for their mothers will be greater for sons with more exposure to their mothers during childhood, compared to those with less exposure.
 - c) The relationship between alcohol dependence in daughters and the problem drinking scores reported for their fathers will be greater for daughters with more exposure to their fathers during childhood, compared to those with less exposure.
 - d) The relationship between alcohol dependence in daughters and the problem drinking scores reported for their mothers will be greater for daughters with more exposure to their mothers during childhood, compared to those with less exposure.

6. The relationship between the alcohol related problems of children and the problem drinking scores reported for their parents will be greater for children with more exposure to their parents during childhood, compared to those with less exposure.
 - a) The relationship between the alcohol related problems of sons and the problem drinking scores reported for their fathers will be greater for sons with more exposure to their fathers during childhood, compared to those with less exposure.
 - b) The relationship between the alcohol related problems of sons and the problem drinking scores reported for their mothers will be greater for sons with more exposure to their mothers during childhood, compared to those with less exposure.
 - c) The relationship between the alcohol related problems of daughters and the problem drinking scores reported for their fathers will be greater for daughters with more exposure to their fathers during childhood, compared to those with less exposure.
 - d) The relationship between the alcohol related problems of daughters and the problem drinking scores reported for their mothers will be greater for daughters with more exposure to their mothers during childhood, compared to those with less exposure.

Personality Characteristics

1. Adult children of alcoholics will score higher on Neuroticism than adult children of nonalcoholic parents.
2. Adult children of alcoholics will have a lower Self-Esteem than adult children of nonalcoholic parents.
3. Adult children of alcoholics will have a lower Ego-Strength than adult children of nonalcoholic parents.
4. Adult children of alcoholics will have a higher score on Psychoticism than adult children of nonalcoholic parents.
5. Adult children of alcoholics will have a higher rate of extraversion than adult children of nonalcoholic parents.
6. Adult children of alcoholics will have a higher rate of Trait Anxiety than adult children of nonalcoholic parents.
7. Adult children of alcoholics will have a higher rate of reducers and a lower rate of augmenters than adult children of nonalcoholic parents.
8. No differences will be found in Field Dependence scores between adult children of alcoholics and adult children of nonalcoholic parents.
9. Adult children of alcoholics will score higher on the MacAndrew Scale than adult children of nonalcoholic parents.

Sociodemographic Characteristics

1. Adult children of alcoholics will have a lower income than adult children of nonalcoholic parents.
2. Adult children of alcoholics will have less education than adult children of nonalcoholic parents.
3. Adult children of alcoholics will be less likely to be married and will be more frequently divorced, separated, and remarried, than adult children of nonalcoholic parents.

METHODOLOGY

The data analyzed in this project were obtained from a previous study, the Winnipeg Health and Drinking Survey (Barnes and Murray, 1989). Thus, the methodology used was based on the initial project and procedures of the primary study.

Sample Selection and Description

The sample used for this analysis was obtained from the Manitoba Health Services Commission. A random list of names was provided, producing a sample of men and women between 18 and 65 years of age, who were residents of Winnipeg and not institutionalized. A total of 1,257 subjects formed the sample group, out of which 615 were male and 642 were female. Initially, 2,761 names formed the basis of the data collection, however, 722 people refused to participate, 446 people were not able to be contacted, and 336 people were ineligible.

Procedure for Data Collection

Each person interviewed was introduced to the study through a letter which was received approximately one week prior to the initial contact from an interviewer. This letter provided people with an opportunity to call the project office regarding any concerns before they agreed to be interviewed. Data were obtained via trained interviewers who arranged to meet with participants based on their preferred time and location. An interview schedule and a self-administered questionnaire were completed during an approximately 90 minute interview. A maximum of five attempts were made to schedule interviews with each subject in the original data sample. Participants completed a consent form explaining the nature of the interview and their rights as subjects (see Appendix A).

Variables and Measures

The independent variables in this study were maternal and paternal alcoholism. Parental alcoholism was measured by the Mothers-Short Michigan Alcoholism Screening Test (M-SMAST) and the Fathers-Short Michigan Alcoholism Screening Test (F-SMAST), which include a series of 13 items asking subjects about their mother's and father's alcohol use, and medical, interpersonal, and legal problems (Ross, Gavin & Skinner, 1990). These items are included in Appendix B, q.28a - q.30o. The SMAST is considered a useful tool for

screening normal populations for problem drinking (Harburg et al., 1988). This instrument is derived from the MAST, a longer, 25 item test. Saunders and Schuckit (1981) found the F-SMAST and the M-SMAST accurately identify parental alcoholism. The reliability of the SMAST is considered almost equal to the MAST (Selzer, Vinokur & Rooijen). Pokorney, Byron, Miller & Kaplan (1972) found a .95 to .99 correlation between the two measures.

The dependent variables in this investigation measured respondent's alcohol use, personality, and sociodemographic characteristics. Alcohol variables included alcohol consumption level, rate of alcoholism, and alcohol related behavior. The alcohol consumption of subjects was measured according to their average daily consumption. The variable Ethanol was calculated from: reported frequency of wine times the usual number of glasses per 30 days times .64, the frequency of beer intake times the usual number of glasses per 30 days times .6, the frequency of liquor times the usual number of glasses per 30 days times .6. The total amount of drinks per 30 days is divided by 30 to obtain an average daily consumption of Ethanol intake. This was multiplied by a constant (.6 or .64) to account for the variation of alcohol in different types of drinks. Items measuring average daily alcohol consumption are in Appendix B, q.13a, q.13b, q.14a, q.14b, q.15a, q.15b.

Rate of alcoholism was determined by DSM III-R Diagnoses (American Psychiatric Association, 1987). Alcoholism as defined by DSM III-R criteria is a disorder with cognitive, behavioral, and physiological symptoms. DSM III criteria vary from DSM III-R; the dependence syndrome does not require physiological tolerance and withdrawal in DSM III-R. There are nine characteristics associated with alcohol dependency, three of which are required for a DSM III-R diagnosis of alcoholism. These symptoms must be present for one month or occur repeatedly over time. A substance abuse diagnosis is made for people who do not meet the dependency criteria but have a maladaptive pattern of alcohol use. This involves continued alcohol use with social, occupational, psychological or physical problems, or use in physically hazardous situations.

A DSM III-R diagnosis for alcohol dependence/abuse was measured by the Diagnostic Interview Schedule (DIS). The DIS uses many items to identify each characteristic associated with alcohol dependency and abuse. Scores are determined based on an array of questions for each problem area. These questions are in Appendix B, q.18 - q.21. The DIS was developed for use in epidemiological studies in the general population (Helzer et al., 1985). The DIS is a highly structured examination that assists lay people in making DSM III-R diagnosis consistent with psychiatrists. Helzer et al. (1985) compared the level of agreement between

diagnoses made by lay interviewers using the DIS (in a general population) with diagnoses made by clinical psychiatrists. Overall agreement was 92%. Helzer et al.(1985) did a one year follow-up study and found the predictive power of DIS diagnoses and psychiatrists diagnoses were equal. Overall agreement was 92%.

Weller (1985) compared the DIS and the Psychiatric Diagnostic Interview Schedule (PDI). The PDI was developed to establish psychiatric diagnoses in clinical settings. The overall diagnostic agreement rate was 72%. Erdman et al. (1987) found, when comparing lay peoples diagnoses of psychiatric patients based on the DIS with psychiatric clinical diagnoses, the correlation for alcohol abuse/dependence was .13 (current diagnosis) and .25 (life time diagnosis). The authors suggest the DIS is more suitable for large-scale epidemiologic research.

Alcohol related problems were measured according to items included in a previous Manitoba study by Murray (1978). These items are based on drinking problem scales developed by Cahalan and Room (1974). Characteristics included are: symptoms from alcohol use, problems controlling drinking, spouse complaints, work related problems, problems with the police due to drinking, health problems, and accidents due to drinking. Items identifying these problems are in Appendix B, q.18a, 18c to 18g (symptoms), q.18b, 18h, 18i, 19f (control), q.20j, 20m (spouse), q. 19e, 20b (job), q. 19c, 20b (police), q. 19a (health), q. 19b (accidents).

Personality variables included were: Neuroticism, Self-Esteem, Extraversion, characteristics associated with alcoholism by the MacAndrew Scale, Ego-Strength, Trait Anxiety, Psychoticism, Augmenting-Reducing, Field Dependence. Measurements on these variables will be obtained from:

1. The Eysenck Personality Questionnaire (EPQ-R), including the Neuroticism (N), Psychoticism (P) and Extraversion (E) scales. The EPQ-R is widely used for personality testing. These items are found in Appendix C, section A. The test-retest reliability of these psychological tests are mostly in the .80 to .90 region (Eysenck, 1975). The internal consistency reliability for the EPQ is .74 on the P scale and .84 for the N scale, based on a "normal" male sample (Eysenck, 1975). The EPQ-R is a revised version of the original EPQ, with improvements to the Psychoticism Scale (Eysenck, Eysenck & Barrett, 1985). The reliability on the P scale is .78 for males and .76 for females. Some items in the P scale have been adapted from the MMPI (Eysenck, 1975). Eysenck (1975) argues the P scale can be validated through the testing of criterion groups. The theory of the scale suggests certain groups would score higher on the P scale than normals. Evidence confirming this, is found in research on : psychotic

patients, schizophrenic patients, criminals, and sex differences in aggressiveness (Graham, 1987). Reliability on the E scale for males is .90 and for females is .85; reliability on the N scale for males is .88 and for females is .85 (Eysenck, Eysenck & Barrett, 1985).

2. The Rosenberg (1965) Self-Esteem Scale was used to measure the self-esteem of subjects. This scale includes items that measure a range of characteristics that comprise self-esteem. It is considered to have suitable reliability and validity (Rosenberg, 1965). The items included in this scale are in Appendix C, section E.
3. The Baron Ego-Strength Scale (Es) was used from the MMPI, to measure Ego-Strength and personality characteristics associated with alcoholism. The Es scale was developed by Barron (1953) to determine improvement in patients in psychotherapy. It contains 68 items which predict personality characteristics associated with successful treatment. Items on the Es scale relate to physical functioning, personal adequacy, ability to cope, seclusiveness, religious attitude, moral position, phobias, and anxieties (Graham, 1987). The Es scale looks at overall psychological functioning. Scores on the Es scale are positively correlated with intelligence, education, and masculine role identification (Tamkin

& Klett, 1975; Holmes, 1967). The odd-even reliability of the Es scale is .76, and the test-retest reliability is .72, after three months (Baron, 1953). Some attempts to validate the Es scale have been inconsistent, however, Graham (1987) states, these reports are not true replications of Baron's work, for they do not measure personality change after psychotherapy.

4. The MacAndrew Scale, developed by MacAndrew (1965), was used to measure personality characteristics associated with alcoholism. It was initially used to distinguish between psychiatric patients who were alcoholic and those who were not. The scale has 49 items identifying characteristics associated with alcoholism. A high score indicates an alcohol or drug problem, thus the MAC requires corroborating information. According to Schwartz and Graham (1979), the primary dimensions measured by the MAC are cognitive impairment, school maladjustment, interpersonal competence, morality, risk taking, extraversion and exhibitionism. The test-retest reliability for the MAC was .82 for male college students and .75 for female college students (Moreland, 1985). The Baron Ego-Strength Scale and the MAC are include in Appendix C, section B.
5. The Trait-Anxiety Scale (A-Trait), from the State-Trait Anxiety Inventory (STAI), was used to measure

anxiety. The A-Trait scale consists of 20 statements measuring how respondents generally feel, as opposed to how they feel at a particular moment. The A-Trait scale takes between six to twelve minutes to complete depending on a persons level of ability. According to Spielberger et al.(1970), it has acceptable reliability and validity. The test-retest reliability for college students is .84 after one hour, .86 after 20 days, and .73 after 104 days (Spielberger et al., 1970). The STAI A-Trait scale correlates well with other anxiety measures : Taylor (1953) Manifest Anxiety Scale and the Zuckerman (1960) Affect Adjective Checklist (Spielberger et al., 1970). This scale is in Appendix C, section D.

6. The Vando (1969) Reducer-Augmenter Scale was used to measure stimulus augmenting-reducing. This is a written test of central nervous system arousability. It has a high correlation with pain tolerance measures and was developed as an alternative to Petrie's (1967) more involved test (Barnes, 1976, 1985). The split-half reliability reported by Vando (1969) was .89 and the test-retest reliability was .74. The Vando Augmenter Reducer Scale is in Appendix C, section C.
7. The Group Embedded Figures Test (GEFT) was used to test Field Dependency. The test is a modified version of the Embedded Figures Test (EFT),

originally developed to test competence of perceptual disembedding. The GEFT requires subjects to locate a simple form in a more complex pattern. It involves a timed, 20 minute, test session. The reliability and validity of the GEFT is considered acceptable (Witkin et al., 1971).

Sociodemographic variables including income, education, and marital status, were measured through a series of standard demographic questions. These items are included in Appendix B, page 27, q.1,3, page 30 q.16.

Data Set

The Winnipeg Health and Drinking Survey Data (1990) was used for this investigation, for it provides information on a large number of subjects randomly selected from a general population. Measures for both maternal and paternal problem drinking were included in this survey, and male and female adult subjects ranging from 18-65 years of age were interviewed regarding their alcohol use behavior, personality, and sociodemographic status.

A weakness of the data set is that parental alcohol problems were indirectly reported via their children. Reports from children on their parent's negative behavior may not be objective. Another weakness is that parental exposure was not thoroughly assessed in this survey.

Exposure to parental alcoholism was measured by a question addressing whether subjects lived with their mother and father until they were 16 years of age (see Appendix B, q.33 ,34.). The assumption is thus required that those subjects who did not live with an alcoholic parent had less exposure to this parent than those subjects who did live with an alcoholic parent. As parent's personality and sociodemographic status were not measured in the initial study, the effect of exposure to an alcoholic parent can not be examined with respect to these variables.

A weakness of the sampling procedure is that institutionalized people were omitted. People suffering from alcohol related problems or personality disorders may be in inpatient treatment programs. This group of potential subjects was eliminated. It is important to report these data were derived from an urban sample and may vary from a rural sample. Despite these shortcomings, this data base provides the opportunity to test many of the consequences experienced by adult children of alcoholics in a general population, that have been identified in clinical studies.

Data Analyses

The percentage of adults in Canada who have a parent with a drinking problem is thought to be close to 23% (El-Guebaly et al., 1990). Of this population, 85% identify their father as the parent with the problem. In the United

States, one out of every eight people have a parent with a drinking problem (Russell et al., 1985). This study determined the prevalence of adult children of alcoholics based on the scores of the M-MAST and the F-MAST of the subjects who participated in the Winnipeg Health and Drinking Survey (1990). Prevalence rates were measured for maternal and paternal alcoholism, for male and female adult children. A respondent with a score that was greater than 2 on the M-MAST was classified as having an alcoholic mother. A respondent with a score that was greater than 2 on the F-MAST was classified as having an alcoholic father.

Alcohol related behavior of adult children of alcoholics was separately measure by conducting a 2 X 2 MANOVA for males and females. The independent variables were maternal alcoholism status and paternal alcoholism status. The dependent variables are alcohol consumption level, DSM III-R alcoholism, and alcohol related problems.

Personality characteristics of adult children of alcoholics were measure by conducting a one-way MANOVA. The independent variable was parental alcohol status. The dependent variables included: neuroticism, psychoticism, extraversion, ego-strength, alcohol associated personality characteristics (MAC), trait anxiety, augmenting-reducing, and field dependence. Income and education were also analyzed by a one-way MANOVA. Marital status, however, was nominally measured and thus was not suitable for MANOVA. A

logit regression was used to determine whether parental alcohol status predicts marital status.

The effect of exposure to parental alcoholism on a subject's alcohol related behavior was measured by correlating the subjects' alcohol scores (DSM III-R, consumption, and alcohol related problems) with their mother's and father's MAST scores. Correlations were done by gender for subjects who had more versus less exposure to their mothers and fathers during childhood (as determined q. 33 and q. 34 Appendix B). A comparison between these correlations was done. Z scores were computed to test whether there was significant differences between correlations (Hays, 1988). In the data Winnipeg Health and Drinking Survey a total of 1047 subjects lived with both their biological mothers and fathers until they were 16 years of age, 139 subjects lived with just one biological parent, and 70 subjects lived with neither biological parent.

RESULTS

Reliability of Scales

Reliability tests were performed on the following measures: 1) the Eysenck Personality Questionnaire (Psychoticism, Neuroticism, Extraversion scales), 2) the Minnesota Multiphasic Personality Inventory (Barron Ego Strength, MAC Scale), 3) the Rosenberg Self-Esteem Scale, 4) the Spielberger Trait Anxiety Scale, 5) the Vando Augmenter Reducer Scale, and 6) the Group Embedded Figures Test. Reliability measures were not conducted on alcohol measures (Female Michigan Alcohol Screening Test, Male Michigan Alcohol Screening Test, alcohol consumption, alcohol related problems and the Diagnostic Interview Schedule), for they are an indices of alcohol related behavior.

Cronbach's Alpha coefficient was used to measure scale reliability. Internal consistency was determined based on the amount of shared variance explained by the items within each scale. Reliability coefficients are summarized in Table 1. According to Kerlinger (1973) a reliability coefficient of .60 is moderately reliable.

TABLE 1
Characteristics and Reliabilities Coefficients

| Scale | Range | Mean | Standard Deviation | Alpha |
|---------------|-------|------|--------------------|-------|
| PSYCHOTICISM | 0-17 | 4.0 | 2.8 | .61 |
| NEUROTICISM | 0-24 | 10.3 | 5.4 | .87 |
| EXTRAVERSION | 0-23 | 13.9 | 4.9 | .83 |
| EGO STRENGTH | 22-60 | 44.7 | 6.0 | .69 |
| MAC | 8-36 | 21.1 | 4.0 | .61 |
| SELF-ESTEEM | 10-40 | 33.0 | 4.5 | .87 |
| TRAIT ANXIETY | 20-69 | 35.4 | 8.5 | .90 |
| VANDO | 0-31 | 7.9 | 5.4 | .88 |

Demographic Characteristics

As indicated, this investigation was conducted on subjects recruited for the Winnipeg Health and Drinking Survey (Barnes & Murray, 1989). Data analysed in this research were from 1,257 participants. A demographic profile of this sample is outlined below and a summary of this information is provided in Table 2.

Age

The mean age of the male subjects in the sample was 42.41 years. Male respondents ranged in age from 18 to 66 years. The age distribution for the males was as follows: 218 (35.4%) of the male subjects were 18-35 years, 188 (30.6%) were 36-49 years, 209 (34.0%) were over 50 years old. The mean age of the female subjects in the sample was 41.1 years, with a range in age from 18 to 66 years. The age distribution for the females was as follows: 256 (39.9%) were 18-35 years, 189 (29.4%) were 39-49 years, 197 (30.7%) were over 65 years old.

Marital Status

The marital status of the male sample is described as follows: 131 (21%) were single, 429 (69.8%) were married, 6 (1.0%) were widowed, 31 (5.0%) were divorced or separated, 18 (2.9%) were remarried. The marital status of the female sample was: 115 (17.9%) single, 443 (69.0%) married, 22 (3.4%) widowed, 53 (8.3%) divorced or separated, 9 (1.4%) remarried.

Educational Status

Male subjects fell into the following educational categories: 11 (1.8%) some grade school, 22 (3.65%) grade school completed, 117 (19.0%) some high school, 135 (22.05%)

high school completed, 163 (26.5%) some college or technical diploma, 98 (15.9%) university graduate, 22 (3.6%) some post graduate, 47 (7.6%) post graduate. The educational attainments of the female respondents are represented by the following classifications: 17 (2.6%) some grade school, 21 (3.3%) grade school completed, 128 (19.8%) some high school, 163 (25.4%) some college or technical diploma, 106 (16.5%) university graduate, 23 (2.5%) some post graduate, 16 (2.5%) post graduate completed.

Current Employment Status

Employment status was divided into eight classes. Of the male subjects 461 (75.0%) were working full-time, 22 (3.6%) were working part-time, 27 (4.4%) were unemployed and looking for work, 35 (5.7%) were full-time students, 3 (0.5%) were part-time students, 51 (8.3%) were retired, 16 (2.6%) were classified as "other" (not fitting into any of the listed options). Of the female participants 270 (42.1%) were working full-time, 123 (20.6%) were working part-time, 32 (5.0%) were unemployed and looking for work, 31 (4.8%) were full-time students, 4 (0.6%) were part-time students, 120 (18.7%) were homemakers. 41 (6.4%) were retired, 12 (1.9%) were classified as "other".

Income

Income was measured according to total gross family income and classified by broad income ranges. The male subjects' annual family income is outlined as follows: 21 (3.45%) earned less than \$10,000; 32 (5.2%) earned between \$10,000 to \$20,000; 129 (21.0%) earned between \$20,000 to \$35,000; 156 (25.4%) earned between \$35,000 to \$50,000; 249 (40.5%) earned over \$50,000. A total of 28 male subjects failed to provide income information. The female subjects' annual family income was reported as: 28 (4.4%) earned less than \$10,000; 62 (9.7%) earned between \$10,000 to \$20,000; 156 (24.3%) earned between \$20,000 to \$35,000; 140 (21.8%) earned between \$35 to \$50,000; 180 (28.0%) earned over \$50,000. A total of 76 female subjects did not provide income information.

Religious Preference

The majority of the subjects were either Catholic or Protestant for both male and female samples. Of the male group 159 (25.9%) were Catholic and 239 (38.9%) Protestant. Of the female group 208 (32.45%) were Catholic and 278 (43.3%) were Protestant. In the male sample 15 (2.4%) were Jewish, 74 (12%) were classified as other, 126 (20.5%) stated they had no religious preference. Of the females 19 (3.0%) were Jewish, 68 (10.6%) were classified as other, 68 (10.6%) had no religious preference.

Race

A majority of the sample investigated was from a white racial group. In the male group 569 (92.5%) were white and in the female group 588 (91.6%) were white. The remaining subjects fell into the following classifications, by sex: 10 (1.6%) were Black males, 5 (0.8%) were Black females, 23 (3.7%) were Asian males, 27 (4.2%) were Asian females, 7 (1.1%) were Natives males, 12 (1.2%) were Native females, 6 (1.0%) of the males and 10 (1.6%) of the females were categorized as "other" (not represented by any of the listed racial options).

TABLE 2

Demographic Characteristics of Subjects

| Category | Males | | Females | |
|--------------------------------------|-------------|-------|------------|-------|
| | N | % | N | % |
| Mean Age | 42.41 Years | | 41.1 Years | |
| Age Groups | | | | |
| 18-35 Years | 218 | 35.4 | 256 | 39.9 |
| 36-49 Years | 188 | 30.6 | 189 | 29.4 |
| 50+ | 209 | 34.0 | 197 | 30.7 |
| Total | 615 | 100.0 | 642 | 100.0 |
| Marital Status | | | | |
| Single | 131 | 21.3 | 115 | 17.9 |
| Married | 429 | 69.8 | 443 | 69.0 |
| Widowed | 6 | 1.0 | 22 | 3.4 |
| Divorced/Sep. | 31 | 5.0 | 53 | 8.3 |
| Remarried | 18 | 2.9 | 9 | 1.4 |
| Total | 615 | 100.0 | 642 | 100.0 |
| Educational Status | | | | |
| Grade School | 11 | 1.8 | 17 | 2.6 |
| Grade School Complete | 22 | 3.6 | 21 | 3.3 |
| Some High School | 117 | 19.0 | 128 | 19.8 |
| High School | 135 | 22.0 | 168 | 26.2 |
| Some College or Technical Diploma | 163 | 26.5 | 163 | 25.4 |
| University Graduate | 98 | 15.9 | 106 | 16.5 |
| Some Post Graduate | 22 | 3.6 | 23 | 3.6 |
| Post Graduate Education | 47 | 7.6 | 16 | 2.5 |
| Total | 615 | 100.0 | 642 | 100.0 |
| Current Employment Status | | | | |
| Working Full Time | 461 | 75.0 | 270 | 42.1 |
| Working Part Time | 22 | 3.6 | 132 | 20.6 |
| Unemployed, looking | 27 | 4.4 | 32 | 5.0 |
| Full-time student | 35 | 5.7 | 31 | 4.8 |
| Part-time student | 3 | 0.5 | 4 | 0.6 |
| Homemaker | 0 | 0.0 | 120 | 18.7 |
| Retired | 51 | 8.3 | 41 | 6.4 |
| Other | 16 | 2.6 | 12 | 1.9 |
| Total | 615 | 100.0 | 642 | 100.0 |

Table 2 cont'd....

Table 2 (continued)

| Category | Males | | Females | |
|-----------------------------|-------|-------|---------|-------|
| | N | % | N | % |
| Income | | | | |
| < \$10,000/Yr. | 21 | 3.4 | 28 | 4.4 |
| \$10,000-\$20,000/Yr. | 32 | 5.2 | 62 | 9.7 |
| \$20,000-\$35,000/Yr. | 129 | 21.0 | 156 | 24.3 |
| \$35,000-\$50,000/Yr. | 156 | 25.4 | 140 | 21.8 |
| > \$50,000/Yr. | 249 | 40.5 | 180 | 28.0 |
| Total | 587 | 95.5 | 566 | 88.2 |
| Religious Preference | | | | |
| Catholic | 159 | 25.9 | 208 | 32.4 |
| Protestant | 239 | 38.9 | 278 | 43.3 |
| Jewish | 15 | 2.4 | 19 | 3.0 |
| Other | 74 | 12.0 | 68 | 10.6 |
| No Religious Pref. | 126 | 20.5 | 68 | 10.6 |
| Total | 615 | 100.0 | 642 | 100.0 |
| Race | | | | |
| White | 569 | 92.5 | 588 | 91.6 |
| Black | 10 | 1.6 | 5 | .8 |
| Asian | 23 | 3.7 | 27 | 4.2 |
| Native | 7 | 1.1 | 12 | 1.9 |
| Other | 6 | 1.0 | 10 | 1.6 |
| Total | 615 | 100.0 | 615 | 100.0 |

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

The Prevalence of Parental Alcoholism

The prevalence of paternal and maternal alcoholism for males and females was based on frequency data from the Female Michigan Alcohol Screening Test and the Male Michigan Alcohol Screening Test scores of the respondents. For the males 112 (18.2%) had an alcoholic father and 25 (4.1%) had

an alcoholic mother. There were 64 missing cases for the males, 44 (7.2%) participants did not complete the Female Michigan Alcohol Screening Test and 24 (3.9%) did not complete the Male Michigan Alcohol Screening Test. In the female group 113 (17.6%) reported having an alcoholic father, and 40 (6.2%) an alcoholic mother. Of the female subjects 62 cases were missing, 43 (6.7%) for the Female Michigan Alcohol Screening Test and 19 (3.0%) for the Male Michigan Alcohol Screening Test. The term alcoholism is used loosely and encompasses problem drinking.

Alcohol Related Behavior in Adult Children

The differences between adult children of alcoholics and adult children of nonalcoholics in their alcohol related behavior were assessed using multivariate procedures. The findings from the one-way MANOVA, combining both sexes and comparing groups based on their parental alcohol status, showed an overall significant difference between groups ($F = 3.96$, $p < .01$). The univariate tests had the following results: 1) Alcohol Consumption was not significantly different, 2) Alcoholism was significantly higher in the parental alcoholic group ($\bar{X} = 1.53$ alcohol group, $\bar{X} = 1.40$ nonalcohol group, $F = 6.24$, $p < .01$). 3) Alcohol Related Problems was significantly higher in the parental alcoholic group ($\bar{X} = 1.02$ alcohol group, $\bar{X} = .70$ nonalcohol group, $F = 9.02$, $p < .01$).

Male and female subjects were independently examined for the effect of maternal and paternal alcoholism in a two-way multivariate analysis. There was not an interaction between maternal and paternal alcoholism for males and females. Main effects for maternal and paternal alcoholism were however evident. For males, univariate results for maternal and paternal alcoholism indicate differences between groups exist in their Alcohol Related Problems. Males with alcoholic mothers had more Alcohol Related Problems (alcohol group $\bar{X} = 2.25$, nonalcohol group $\bar{X} = 1.05$, $F = 7.8$, $p < .01$). Males with alcoholic fathers had more Alcohol Related Problems (alcohol group $\bar{X} = 1.75$, nonalcohol group $\bar{X} = .94$, $F = 9.0$, $p < .01$). Group differences were not significant on Alcohol Consumption and Alcoholism measures for males. These results are summarized in Table 3. In the female sample differences between groups are found for all alcohol variables when comparing the effect of maternal alcoholism, but only for Alcoholism when measuring paternal influence. Females with alcoholic mothers had higher Alcohol Consumption scores (alcohol group $\bar{X} = .78$, nonalcohol group $\bar{X} = .29$, $F = 14.34$, $p < .001$). Females with alcoholic mothers had a higher rate of Alcoholism (alcohol group $\bar{X} = 1.53$, nonalcohol group $\bar{X} = 1.25$, $F = 6.44$, $p < .05$). Females with alcoholic mothers had more Alcohol Related Problems (alcohol group $\bar{X} = 1.32$, nonalcohol group $\bar{X} = .48$, $F = 25.03$, $p < .001$). Females with alcoholic fathers had a higher rate of Alcoholism (alcohol group $\bar{X} = 1.43$,

nonalcohol group $\bar{X} = 1.23$, $F = 9.28$, $p < .01$). Findings on female subjects are shown in Table 4.

TABLE 3
Sons Alcohol Related Behavior

Effect of Maternal and Paternal Alcohol Status

| Variable | df | MS | F | P |
|---------------------------------|-----|-------|------|------|
| Alcohol Consumption | | | | |
| Source | | | | |
| Maternal (M) | 1 | .94 | .47 | .492 |
| Paternal (P) | 1 | 2.65 | 1.34 | .248 |
| M X P | 1 | .51 | .26 | .613 |
| Error | 610 | 1.97 | | |
| Alcoholism | | | | |
| Source | | | | |
| Maternal (M) | 1 | .94 | .47 | .492 |
| Paternal (P) | 1 | .26 | .31 | .575 |
| M X P | 1 | .19 | .23 | .629 |
| Error | 610 | .83 | | |
| Alcohol Related Problems | | | | |
| Source | | | | |
| Maternal (M) | 1 | 30.71 | 7.8 | .005 |
| Paternal (P) | 1 | 35.65 | 9.0 | .003 |
| M X P | 1 | 4.9 | 1.2 | .265 |
| Error | 610 | 3.9 | | |

TABLE 4
Daughters Alcohol Related Behavior

Effect of Maternal and Paternal Alcohol Status

| Variables | df | MS | F | P |
|--------------------------|-----|-------|-------|------|
| <hr/> | | | | |
| Alcohol Consumption | | | | |
| Source | | | | |
| Maternal (M) | 1 | 11.93 | 14.34 | .000 |
| Paternal (P) | 1 | .14 | .17 | .679 |
| M X P | 1 | .53 | .63 | .424 |
| Error | 637 | .83 | | |
| Alcoholism | | | | |
| Source | | | | |
| Maternal (M) | 1 | 2.80 | 6.44 | .011 |
| Paternal (P) | 1 | 4.03 | 9.28 | .002 |
| M X P | 1 | 1.04 | 2.40 | .122 |
| Error | 637 | .43 | | |
| Alcohol Related Problems | | | | |
| Source | | | | |
| Maternal (M) | 1 | 38.02 | 25.03 | .000 |
| Paternal (P) | 1 | .12 | .08 | .780 |
| M X P | 1 | .63 | .41 | .520 |
| Error | 637 | 1.52 | | |

Alcohol Related Behavior and Parental Exposure

The influence of the amount of exposure to parents during childhood on alcohol related behavior during adulthood, was assessed for both genders and each parent. Respondents were classified as having more exposure if they had their biological mother/father present in their home until they were 16 years of age. Correlations are identified for each subgroup in Table 5. Based on the Z scores, determining the

strength of these correlations, only three groups were significantly different: 1) less exposure to mothers was associated with a higher rate of alcohol dependence for daughters, 2) less exposure to fathers was associated with alcohol related problems for sons, and 3) less exposure to fathers was associated with alcohol related problems for sons. In no case did a group with more exposure to their parents have a significantly higher alcohol correlation score than a group with less exposure to their parents. Due to the numerous tests conducted to obtain these findings the risk of a type 1 error is increased.

TABLE 5

Correlations between Offsprings and Parents Alcohol Scores
by Exposure

| Amount of Exposure | N | Alcohol Dependence | Alcohol Related Problems | Alcohol Consumption |
|--------------------|-----|-----------------------|--------------------------------|------------------------|
| Sons | | | | |
| Father: | | | | |
| More | 511 | .06 | .14 | .06 |
| Less | 59 | .19 | .38 | .13 |
| Z score | | .94 | 1.84 * | .20 |
| Mother: | | | | |
| More | 549 | .08 | .09 | .08 |
| Less | 41 | .08 | .51 | .32 |
| Z score | | .00 | 2.80 ** | 1.50 |
| Daughters | | | | |
| Father: | | | | |
| More | 536 | .09 | .08 | .01 |
| Less | 62 | .18 | .00 | .21 |
| Z score | | .66 | .57 | 1.47 |
| Mother: | | | | |
| More | 592 | .16 | .13 | .16 |
| Less | 30 | .50 | .35 | .36 |
| Z score | | 1.84 * | 1.12 | 1.02 |

Note: * denotes $P < .05$
** denotes $P < .01$

Testing of Alcohol Research Hypotheses

Research Hypothesis 1: Adult children of alcoholics will have a higher rate of alcohol consumption than adults with nonalcoholic parents.

A one-way MANOVA revealed that the differences between groups in alcohol consumption was not significant. Research Hypothesis 1 was not supported.

Subhypothesis 1a, 1b, 1c, and 1d, as listed in the introduction, refer specifically to son's and daughter's alcohol consumption and maternal and paternal alcoholism. A two-way MANOVA assessing alcohol consumption for each sex revealed the following results: a) Sons of alcoholic fathers are not significantly different from sons of nonalcoholic fathers in alcohol consumption. b) Sons of alcoholic mothers are not significantly different from sons of nonalcoholic mothers. c) Daughters of alcoholic fathers are not significantly different from daughters of nonalcoholic fathers in alcohol consumption. d) Daughters of alcoholic mothers have significantly higher alcohol consumption than daughters of nonalcoholic mothers.

Only subhypothesis 1d, that daughters of alcoholic mothers will have a higher rate of alcohol consumption than daughters of nonalcoholic mothers, was supported (\bar{X} = .78 alcohol group, \bar{X} = .29 nonalcohol group, see Tables 4).

Research Hypothesis 2: Adult children of alcoholics will have a higher rate of alcohol dependence than adults of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics have significantly higher rates of alcoholism

than adult children of nonalcoholics (\bar{X} = 1.53 alcohol group, \bar{X} = 1.40 nonalcohol group, $F = 6.24$, $p < .01$). Research Hypothesis 2 was supported.

Subhypothesis 2a, 2b, 2c, and 2d, as identified in the introduction, refer specifically to son's and daughter's rate of alcohol dependence and maternal and paternal alcoholism. A two-way MANOVA assessing alcohol dependence for each sex revealed the following: a) Sons of alcoholic fathers are not significantly different from sons of nonalcoholic fathers in their rate of alcohol dependence. b) Sons of alcoholic mothers are not significantly different from sons of nonalcoholic mothers in their rate of alcohol dependence. c) Daughters of alcoholic fathers have significantly higher rates of alcoholism than daughters of nonalcoholic father (\bar{X} = 1.43 alcohol group, \bar{X} = 1.23 nonalcohol group, see Table 4). d) Daughters of alcoholic mothers have significantly higher rates of alcoholism than daughters of nonalcoholic mothers (\bar{X} = 1.53 alcohol group, \bar{X} = 1.25 nonalcohol group, see Table 4).

Subhypothesis 2c and 2d, that daughters of alcoholic fathers and daughters of alcoholic mothers will have a higher rate of alcohol dependence than daughters of nonalcoholic mothers and daughters of alcoholic fathers were supported.

Research Hypothesis 3: Adult children of alcoholics will have more alcohol related problems than adults of nonalcoholic parents.

A one-way MANOVA revealed adult children of alcoholic parents have significantly more alcohol related problems than adult children of nonalcoholic ($\bar{X} = 1.02$ alcohol group, $\bar{X} = .70$ nonalcohol group, $F = 9.02$, $p < .01$). Research Hypothesis 3 was supported.

Subhypotheses 3a, 3b, 3c, and 3d, as previously presented, refer to alcohol related problems of sons and daughters and associated maternal and paternal alcoholism. A two-way MANOVA revealed the following: a) Sons of alcoholic fathers had significantly more alcohol related problems than sons of nonalcoholic fathers ($\bar{X} = 1.75$ alcohol group, $\bar{X} = .94$ nonalcohol group, see Table 3). b) Sons of alcoholic mothers had significantly more alcohol related problems than sons of nonalcoholic mothers ($\bar{X} = 2.25$ alcohol group, $\bar{X} = 1.05$ nonalcohol group, see Table 3). c) Daughters of alcoholic fathers did not differ from daughters of nonalcoholic fathers in their alcohol related problems. d) Daughters of alcoholic mothers had significantly more alcohol related problems than daughters of nonalcoholic mothers ($\bar{X} = 1.32$ alcohol group, $\bar{X} = .48$ nonalcohol group, see Table 4). Subhypotheses 3a, 3b, and 3d were supported.

Research Hypothesis 4: The relationship between the alcohol consumption behavior of children and the problem drinking scores reported for their parents will be greater for children with more exposure to their parents during childhood, compared to those with less exposure.

Pearson's Correlations measuring the association between sons and daughters alcohol consumption with maternal and paternal alcoholism were obtained for each subgroup. Z scores comparing differences between the correlation scores of offspring with more exposure with offspring with less exposure revealed no significant difference between groups (see Table 5). The majority of the findings were in the opposite direction to the one predicted. Research Hypothesis 4 and subhypotheses 4a, 4b, 4c, and 4d were not supported.

Research Hypothesis 5: The relationship between alcohol dependence in children and the problem drinking scores reported for their parents will be greater for children with more exposure to their parents during childhood, compared to those with less exposure.

Pearson's Correlations measuring the association between son's and daughter's alcohol dependence with maternal and paternal alcoholism were obtained for each subgroup. Z scores, comparing the differences between the correlations of offspring more exposure with the correlations of offspring less exposure, revealed differences between groups were not significant (see Table 5). The only exception being, daughters with less exposure to their mothers had a significantly higher correlations than daughters with more exposure ($p < .05$). This was the opposite to what was predicted. Research Hypothesis 5 and subhypotheses 5a, 5b, 5c and 5d were therefore not supported.

Research Hypothesis 6: The relationship between the alcohol related problems of children and the problem drinking scores reported for their parents will be greater for children with more exposure to their parents during childhood, compared to those with less exposure.

Pearson's Correlations measuring the association between son's and daughter's alcohol related problems with maternal and paternal alcoholism were obtained for each subgroup (see Table 5). Z-scores, comparing the differences in offspring with more exposure with the offspring with less exposure, revealed differences in alcohol related problems for male respondents, however, these differences were opposite to those hypothesized. Research Hypothesis 6 and subhypotheses 6a, 6b, 6c and 6d were not supported.

Personality of Offspring

The personalities of adult children of alcoholics was compared with adult children of nonalcoholics with a one-way multivariate procedure. The multivariate analysis was significant, $p < .001$, $F = 4.47$. The univariate results suggest specific differences exist between these two groups on the following dimensions: Psychoticism, Neuroticism, Ego-Strength, MacAndrew Scale Scores, Trait Anxiety, and Self-Esteem. No group differences were evident in Extraversion, Augmenting-Reducing, or Field Dependence. These results are presented in Table 6.

TABLE 6

Personality Differences in Offspring by Parental Alcohol
Status

| Characteristic | Parental Alcoholic Group \bar{X} | Parental Nonalcoholic Group \bar{X} | F |
|---------------------------|---|--|-----------|
| Psychoticism | 4.33 | 3.80 | 7.93 ** |
| Neuroticism | 11.35 | 9.77 | 18.93 *** |
| Extraversion | 13.96 | 13.96 | .00 |
| Ego-Strength | 44.23 | 45.20 | 5.97 * |
| Alcohol Related Chara. | 21.78 | 20.79 | 13.70 *** |
| Trait Anxiety | 36.71 | 34.53 | 15.05 *** |
| Augmenting-Reducing | 22.16 | 21.58 | .88 |
| Self-Esteem | 32.48 | 33.38 | 8.88 ** |
| Field Dependence | 7.98 | 8.13 | .18 |

Note: * denotes $p < .05$
 ** denotes $p < .01$
 *** denotes $p < .001$

Testing of Personality Research Hypotheses

Research Hypothesis 1: Adult children of alcoholics will score higher on Neuroticism than adult children of nonalcoholic parents.

A one-way MANOVA revealed adult children of alcoholics were significantly more Neurotic than adult children of nonalcoholics ($F = 18.93$, $p < .001$). Research Hypothesis 1 was supported.

Research Hypothesis 2: Adult children of alcoholics will have a lower Self-Esteem than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics had significantly less self-esteem than adult children of nonalcoholics ($F = 8.88$, $p < .01$). Research Hypothesis 2 was supported.

Research Hypothesis 3: Adult children of alcoholics will have a lower Ego-Strength than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics had significantly lower Ego-Strength than adult children of nonalcoholics ($F = 5.97$, $p < .01$). Research Hypothesis 3 was supported.

Research Hypothesis 4: Adult children of alcoholics will have a higher score on Psychoticism than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics were more Psychotic than adult children of nonalcoholics ($F = 7.93$, $p < .01$). Research Hypothesis 4 was supported.

Research Hypothesis 5: Adult children of alcoholics will have a higher rate of extraversion than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics were not more extraverted than adult children of nonalcoholics. Research Hypothesis 5 was not supported.

Research Hypothesis 6: Adult children of alcoholics will have a higher rate of Trait Anxiety than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics were significantly higher on Trait Anxiety than adult children of nonalcoholics ($F = 15.05, p < .001$). Research Hypothesis 6 was supported.

Research Hypothesis 7: Adult children of alcoholics will have a higher rate of reducers and a lower rate of augmenters than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics were not different than adult children of nonalcoholics in augmenting and reducing dimensions. Research Hypothesis 7 was not supported.

Research Hypothesis 8: No differences will be found in Field Dependence scores between adult children of alcoholics and adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics and adult children of nonalcoholic were not significantly different in Field Dependence. Research Hypothesis 8 was supported.

Research Hypothesis 9: Adult children of alcoholics will score higher on the MacAndrew Scale than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics score significantly higher on the MacAndrew Scale than adult children of nonalcoholics ($F = 13.70, p < .001$). Research Hypothesis 9 was supported.

Sociodemographic Characteristics of Offspring

The income and education of adult children of alcoholics were compared with adult children of nonalcoholics. No differences were found between groups on these variables: education had an $F = 1.7, p = .28$, and income had an $F = .13, p = .73$.

The marital status of male and female adult children of alcoholics was assessed independently according to the sex of the parent. The odds of having a broken marriage for sons of alcoholic mothers is 2.18 times greater than for sons of nonalcoholic mothers, and 1.21 times greater for sons of alcoholic fathers than sons of nonalcoholic fathers. For daughters, the odds of being divorced, separated, or

remarried is 1.92 times greater for those with alcoholic mothers compared to those without alcoholic mothers. Daughters with alcoholic fathers have odds of 1.12 of having a broken marriage (this is not significantly different from the daughters of nonalcoholic fathers). The results of the logit regressions are more fully presented in Table 7 and Table 8.

TABLE 7
Regression Coefficients for Breakdown

| Factor | Coefficient | | Z Score | |
|---------------------------|-------------|-------|------------|------------|
| | Females | Males | Females | Males |
| Mother Alcoholic | .656 | .780 | 10.635 *** | 11.310 *** |
| Father Alcoholic | .119 | .192 | 1.237 | 1.658 * |
| Mother X Father Alcoholic | .119 | .027 | 1.237 | .232 |

Note: * denotes $P < .05$
 ** denotes $P < .01$
 *** denotes $P < .001$

TABLE 8
Odds of Having Had a Broken Marriage

| Factor | Odds Ratio | |
|------------------------------|------------|-------|
| | Females | Males |
| Mother Alcoholic | 1.926 | 2.181 |
| Father Alcoholic | 1.126 | 1.213 |
| Mother X Father Alcoholic | 1.126 | 1.027 |

Testing of Sociodemographic Research Hypotheses

Research Hypothesis 1: Adult children of alcoholics will have a lower income than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholics were not significantly different from adult children of nonalcoholics in their income. Research Hypothesis 1 was not supported.

Research Hypothesis 2: Adult children of alcoholics will have less education than adult children of nonalcoholic parents.

A one-way MANOVA revealed that adult children of alcoholic were not significantly different from adult children of nonalcoholics in their education. Research Hypothesis 2 was not supported.

Research Hypothesis 3: Adult children of alcoholics will be less likely to be married and will be more frequently divorced, separated, and remarried, than adult children of nonalcoholic parents.

A logistic regression revealed adult children of alcoholics more likely have had a broken marriage than adult children of nonalcoholics (see Table 7 & 8). This was specifically found for sons of alcoholic mothers or fathers, and for daughters of alcoholic mothers.

Summary of Results

Frequency data indicates the prevalence of paternal alcoholism in this investigation was 18.2% for male offspring and 17.6% for female offspring. Maternal alcoholism was considerably lower, 4.1% for male and 6.2% for females. The long-term consequences of parental alcoholism was assessed, for the most part, using multivariate procedures. Differences between respondents with parental alcoholism and those without were determined. Analyses were divided into three predominant areas: 1) Alcohol Related Behavior, 2) Personality, 3) Sociodemographic Status. Differences between groups were found in the following dimensions:

1. Alcohol Related Behavior was significantly higher overall for adult children of alcoholics from adult children of nonalcoholics.

- a) Alcohol Consumption was not greater for the combined gender groups for those with parental alcoholism compared to those without.
- i) Females, however, with maternal alcoholism did have higher alcohol consumption when compared to females without maternal alcohol consumption.
- b) Alcohol Dependence was significantly more frequent for adult children of alcoholics compared to adult children of nonalcoholics.
- i) Alcohol Dependence was greater for females with maternal alcoholism compared to those without and was greater for females with paternal alcoholism compared to those without.
- c) Alcohol Related Problems was significantly greater for adult children of alcoholics compared to adult children of nonalcoholics.
- i) Alcohol Related Problems was greater for males with maternal alcoholism compared to those without and for males with paternal alcoholism compared to those without.
- ii) For females problems were greater only for those with maternal alcoholism compared to those without.

2. More exposure to parents during childhood was not related to more similar alcohol related behavior during adulthood.
3. Differences between adult children of alcoholic and adult children of nonalcoholics on personality dimensions were found in, Psychoticism, Neuroticism, Ego-Strength, alcohol related behavior (MAC scale), Trait Anxiety, and Self-Esteem.
4. Sociodemographic differences were evident between groups with respect to marital status. The odds ratio of having a broken marriage was significantly increased when maternal alcoholism was present for both sons and daughters, and also when paternal alcoholism was present for sons.

DISCUSSION

The objective of this investigation was to assess the prevalence of parental alcoholism and determine its impact on offspring in adult life. The results presented suggest long term consequences resulting from parental alcoholism exist. Differences were found between adult children of alcoholics and adult children of nonalcoholics on a broad range of characteristics. Alcohol Related Behavior and many personality dimensions were found to vary in those individuals with an alcoholic biological parent when compared to those without an alcoholic biological parent. This investigation points to numerous adverse long term consequences associated with parental alcoholism.

Prevalence of Parental Alcoholism

The prevalence rate for parental alcoholism found in this study of Winnipeg residents was consistent with the findings of other reports. Males reported paternal alcoholism at a rate of 18.2% and maternal alcoholism at a rate of 4.1%. Females reported paternal alcoholism at a rate of 17.6% and maternal alcoholism at a rate of 6.2%. Others, such as El-Guebaly et al. (1990) found 22.6% of their sample had a parent with a drinking problem, of which 85% were fathers.

This figure is elevated because a less stringent measure of drinking problems was used as an index for alcohol related behavior. Russell et al. (1985) claims one in eight people have an alcoholic parent, based on their American survey. These statistics demonstrate the extent of parental alcoholism in Canada, painting a picture of a common wide spread phenomenon.

Alcohol Related Behavior

Parental alcoholism and it's impact on the alcohol consumption, alcohol dependence, and alcohol related problems of sons and daughters was, for the most part, substantiated by the findings of this study. Overall, undefined gender testing showed alcohol related behavior was greater in adult children of alcoholics than in adult children of nonalcoholics. Upon further examination alcohol dependence and alcohol related problems accounted for the differences between these two groups. Previous studies support this pattern of alcohol linked behavior being associated with parental alcoholism. (Blacky et al.,1986; Cotton, 1979; Harwood & Leonard, 1988; Mckenna & Pickens, 1981; Pandina & Johnson, 1990; Svanum & McAdoo, 1991).

A lack of support for greater alcohol consumption in adult children of alcoholics than adult children of nonalcoholics is inconsistent with the findings of Barnes and Welte (1990), who found a positive correlation between

heavy drinking in parents and heavy drinking in their children. However, similar to this research, Harwood and Leonard (1989) found no relationship between history of family drinking and frequency of consumption, but did find a relationship with the offspring's rate of alcohol dependence. Reports indicating alcohol consumption is not associated with parental alcoholism include those done by Alterman et al., (1989) and Johnson et al., (1989). Alcohol consumption may be a weak index of alcohol related behavior, for respondents may inaccurately remember the amount they drank. Alcohol related problems and associated symptoms of alcohol dependence would likely be more easily recalled. Further, offspring of alcoholics who are alcoholic themselves may quit drinking, thus reducing their scores on the alcohol consumption index.

Gender specific assessments of alcohol related behavior linked to maternal and paternal alcoholism showed some interesting patterns. Alcohol consumption, alcohol related behavior, and alcohol dependence, are all significantly higher for daughters of alcoholic mothers than for daughters of nonalcoholic mothers. For daughters, having an alcoholic father is only associated with the daughter's alcohol dependence. Studies which independently explore the consequences of maternal and paternal alcoholism on females are rare, hence, previous research is not informative in interpreting these results. From a social learning

standpoint it would follow that females are more strongly influenced by their mothers, and thus their alcohol related behavior may be reflective of the greater parental influence of a same sex parent on a wider range of characteristics.

For males their alcohol related problem's were associated with both maternal and paternal alcoholism. However, alcohol consumption and alcohol dependence were not found to be significantly different from comparison groups. A lack of a difference for alcohol consumption may be due to inaccurate recall of drinking behavior or current abstinence. But, nonsignificant findings regarding alcohol dependence in sons are difficult to explain. According to Goodwin et al. (1973, 1974, 1977) and Cloninger (1981) an intergenerational link between father and son alcoholism exists. Perhaps these finding are due to sample random fluctuation.

The effect of exposure to a parent during childhood on alcohol associated behavior was shown not to be significant. It was expected that the more exposure a child had to a parent during childhood, the more similar their alcohol related behavior would be to that parent. The data did not support this hypothesis. Son's and daughter's alcohol related behavior, when compared to their mother's and father's alcohol related behavior, did not have a higher correlation for the groups with more parental exposure compared to the groups with less parental exposure. This

was consistent for each subgroup, on all three alcohol measures.

Groups were divided by gender, sex of parent, and amount of exposure. In three of the subgroups tested the opposite to what was predicted was found. For sons, alcohol related problems was more highly correlated with both mother's MAST scores and father's MAST scores for subjects with less exposure, as opposed to subjects with more exposure. For daughters, alcohol dependence was more highly correlated with their mother's MAST scores for subjects with less exposure, versus subjects with more exposure. However, due to the repeated testing required because of the numerous subgroups, these findings may be due to random fluctuation and not real group differences. As the analysis of parental exposure was constrained by the lack of information obtained from respondents on this variable, these results need to be interpreted cautiously. Insufficient evidence exists from this investigation to suggest environmental influences, such as parental modeling, are irrelevant to future alcohol behavior. Conclusive remarks regarding the presence or absence of a parent in the home during childhood and the longterm consequence on an individual's alcohol related behavior are unfounded. The actual amount of exposure to a parent was not fully determined in this study, but estimated from a single statement regarding if a respondent was raised with their biological mother/father until they were 16 years

of age. Also, the relationship between parental and offspring alcohol use may change based on the nature and extent of the parents' drinking. Harburg et al. (1990) suggests a fall-off effect may exist in offspring imitation for high-volume parental drinking, and that imitation is strongest when parents abstain. Unfortunately, this dimension of this project can not solve the much debated issue of genetic and environmental influences in this field. However, the lack of any statistical group differences based on the amount of parental exposure certainly adds fuel to the fire. Future research should be designed to better untangle the nature/nurture controversy.

Personality Characteristics

The intent of this research project was to conduct a comprehensive investigation into the personalities of adult children of alcoholics and determine if differences are evident in adults reporting parental alcoholism compared to adults reporting no parental history of alcoholism. The findings presented very clearly portray a unique personality profile in those subjects identifying their mothers and/or fathers as alcoholic. The multivariate procedure conducted supports significant personality differences between comparison groups, as hypothesized. Univariate results point to specific differences in Psychoticism, Neuroticism, Ego-Strength, alcohol related personality characteristics

(MAC score), Trait Anxiety, and Self-Esteem when comparing adult children of alcoholics with adult children of nonalcoholics. Previous work on personality has not addressed such an extensive range of characteristics in the study of adult children of alcoholics, particularly in general populations. However, findings of other investigations are, for the most part, consistent with the results of this work (Ackerman, 1987a; Black et al., 1896; Clair & Genest, 1987; Cork, 1979; Cutter & Cutter, 1987; Tweed & Ryff, 1991).

Of the personality characteristics assessed, only three variables were found to be similar in adult children of alcoholics with adult children of nonalcoholics: 1) Extraversion, 2) Augmenting-Reducing, and 3) Field Dependence. Characteristics associated with Extraversion and Augmenting-Reducing have been briefly assessed in other research. Children and hyperactivity was looked at by Pihl et al., (1990) and Tarter and Edwards (1988). Conflicting results were found by these investigators. Pihl et al., (1990) reported aggression and hyperactivity in sons of alcoholics. Tarter and Edwards (1988) did not support this finding. Hennecke (1984) investigated the children of alcoholic fathers and their perceptual style, using a clinical sample. He concluded children of alcoholics were predominantly augmenters. Contrary to Hennecke (1984) and consistent with this study, Tunna (1988) found differences

in style of stimulus intensity modulation were not related to parental drinking. Tunna's research, unlike Hennecke (1984), was based on a nonclinical adult sample. The findings of this study may vary from the work of Hennecke (1984) due to the sample being from a general population.

It was hypothesized that there would be more reducers and extraverts among children of alcoholics in the general population. Findings did not support this expectation. Dimensions such as augmenting-reducing and extraversion may be more important in predicting type of alcoholism than whether a person is alcoholic or not (Kreklewetz, 1991). Thus, differences between groups defined by parental alcohol status, on these characteristics, may be masked by the type of parental alcoholism. Research on Augmenting-Reducing in alcoholics is more common than on Augmenting-Reducing in their children; adult children of alcoholics need to be analyzed more extensively to fully determine if this dimension of personality is influenced by parental alcoholism.

The perceptual style described as Field Dependence was predicted to be the same in adult children on alcoholics and adult children of nonalcoholics. Similar results were found by Alterman et al., (1988) and Hennecke (1984) who indicated children of alcoholics are not more field dependent than other children. This study, with respect to the personality dimensions of Extraversion, Augmenting-Reducing, and Field

Dependence was largely exploratory. The findings identified here are very much a beginning in evaluating these characteristics of adult children of alcoholics. Further assessment is required before conclusions can be drawn.

Sociodemographic Characteristics

The sociodemographic status of adult children of alcoholics has not been well reviewed. Hence little direction or literary guidance is available to assist with the interpretation of the finding from this study. The results of this investigation seem to indicate longterm consequences of parental alcoholism do not surface in the way of income or educational disadvantages. Thus, the position that these facets of life are affected by maternal or paternal alcoholism was not supported. Goodwin et al. (1973), El-Guebaly et al. (1990), and Vaillant (1986), found no academic or employment affects on offspring due to parental alcoholism. The alcohol data and personality profile drafted from the other dimensions assessed in this investigation would suggest an adult child of an alcoholic would likely experience lifestyle disadvantages in the way of income and education. Empirical evidence challenges this notion. The complex multifaceted influences upon an individuals educational accomplishments and financial status creates the need for a broader range of measures to capture the inherent dynamics of these tangible components of life.

Marital status was determined to be influenced by parental alcoholism based on the data analysed. Longterm consequences likely surface in interpersonal relationships, which translate into a higher rate of marital breakdown for those offspring of alcoholic parents (Ackerman, 1987a, 1987b; Cork, 1969; Kristberg, 1988; Russell, et al., 1988). Higher rates of divorce for adult children of alcoholics are repeatedly found in the literature (Black et al., 1986; Cutter, 1987; El-Guebaly et al., 1990; Goodwin, 1973b; Parker & Harford, 1988). Of special interest in this study was the association between the sex of the parent and the sex of the child. With the exception of daughters who had an alcoholic father, significantly results were found in all other group combinations assessed.

Theoretical Interpretation

Two theoretical frameworks have been chosen to provide insight and direction into the findings presented. First, Social Learning Theory explains behavior based on a cognitive rationale. The similarity between adult children of alcoholics and their parents in their alcohol related behavior can be interpreted through learning or modeling of environmental conditions. For example, modeling may help explain the alcohol relationship between daughters and their mothers found in this study. On all alcohol measures daughters of alcoholic mothers had elevated scores. It is

logical to speculate that for these daughters alcohol consumption was emulated, alcohol related problems developed, followed by alcohol dependence. Theoretically, females may learn to use alcohol from their mothers and imitate their alcohol behavior, attitudes, and values. For daughters, alcohol use can become incorporated into a their lives and provides enough rewards to compensate for any resulting negative consequences. It is interesting to note that for daughters, only the alcohol dependence variable was found to be significant for subjects reporting an alcoholic father.

For sons, alcohol related problems were associated with maternal and paternal alcoholism. Alcohol consumption patterns, based on Social Learning Theory, would not have been directly modeled, but other behavior, linked to coping with alcohol use, seem to be repeated. Areas incorporated into this measure include, spouse complaints, problems with one's job, legal issues, and health concerns.

The amount of exposure to a parent and the corresponding correlation between the parent's and the offspring's alcohol scores was determined in this investigation. The intent of this analysis was to assess the role of the physical presence of a parent and if a shared environment dictates a shared alcohol pattern. Social Learning Theory would assume the greater the exposure to a significant other the more similar the behavior. Thus, it is expected that the more

exposure to a parent the higher the correlation between alcohol scores. These findings did not confirm this hypothesis. This suggests alcohol behavior is not directly imitated in all instances. If learning does occur, with respect to alcohol related behavior, it likely incorporates vicarious consequences. Bandura states, "behavior can be both enhanced and inhibited by observing consequences" (1977, p.119). If a child copies a parent's behavior it most likely has been linked to success. Dysfunctional consequences associated with alcoholism can act as a deterrent to the repetition of this behavior.

At first glance it appears as though Social Learning Theory can offer some insight into the resulting personality characteristics in subjects identified as adult children of alcoholics. Psychoticism, Neuroticism, low Ego-Strength, alcohol related characteristics, Trait Anxiety, and low Self-Esteem are all characteristics associated with alcoholics (Barnes & Patton, In Press). It can be assumed that if an individual has a parent with certain characteristics his/her personality would be patterned in a similar fashion. However, other findings have indicated that common environments do not shape personality and that within family factors are less influential than between family factors (Buss & Plomin, 1984). An adoption study is required to separate and control for biological and environmental effects to adequately test Social Learning Theory.

Results on income and education from this study are more difficult to explain based on Social Learning Theory, for data on parental income and education were not collected. It can be speculated that the marital status findings may be related to the home environment, and possibly be a reflection of parental relationship problems. Perhaps the skills necessary to maintain a healthy marriage were not learned. Alternatively, the choice of a marriage partner may be modeled, resulting in choosing a spouse similar to an alcoholic parent. Later in life this partner may be considered unsuitable and the marriage may end. A more complete assessment of environmental conditions is required to allow for a more comprehensive investigation and the appropriate conclusions.

In summary, many maladaptive characteristics have been identified in the offspring of adult children of alcoholics. The lives of those touched by parental alcoholism are affected in some significant ways. Although Social Learning Theory offers a potential explanation regarding how this can occur, this interpretation remains unconfirmed, for genetic factors have not been controlled.

Behavioral Genetics Interpretation

The genetic slant of Behavioral Genetics Theory provides an alternative interpretation for the results derived by this investigation. It is reasonable to assume that the

similarities between parents and children are rooted in their common genes. A wide body of literature concludes that a propensity for alcoholism is biologically transmitted (Cadoret & Gath, 1978; Goodwin et al., 1973, 1974; Schuckit, 1987). Support thus far, however, focuses on a genetic transmission from fathers to sons. Interestingly a father-son link with respect to alcoholism was not evident in this investigation. However, a mother-daughter and a father-daughter relationship was found, according to the alcoholism measure used.

Behavioral Genetics Theory is instrumental in explaining the relationship between offspring and parental alcohol related behavior, based on the amount of parental exposure. Findings support a genetics perspective, for the amount of the respondents parental exposure was insignificant to their alcohol related behavior. Again, one needs to be circumspect when evaluating these results, due to the limited scope of the data incorporated into the analysis.

Personality characteristics that are associated with temperament, according to Buss and Plomin (1984), are inherited. Emotionality, sociability, and activity level are evident in infancy and are consistent throughout the lifespan. These behaviors are associated with Neuroticism, Psychoticism, Trait Anxiety, and Extraversion. With the exception of extraversion, these dimensions of personality were higher in adult children of alcoholics than adult

children of nonalcoholics. Although parental personality was not measured in this study, alcoholics tend to be higher on emotionality, sociability, and activity level than non-alcoholics (Barnes & Patton, In Press). Thus, these characteristics may be rooted in biology. The implication of having a personality that is less adaptive or functional is that other elements of life can be affected. Although income and education were not impacted based on this investigation, the risk of marital breakdown did vary in adult children of alcoholics compared to nonalcoholics. Theoretically, marital disruption may be facilitated by a dysfunctional personality, thereby permitting a genetic perspective of this conclusion. To fully assess this theory and its application to alcoholism, adoption studies need to be designed which accurately measure environmental influences.

Implications

Evidence, based on this urban general population study, suggests parental alcoholism has longterm consequences that reach well into adult life. The mode of transmission may be genetically founded, environmentally influenced, or a jointly determined based on an interdependent model of human development. Information on the mechanism in which these less functional characteristics and behaviors are passed on from parent to child would undoubtedly determine the

direction intervention should proceed. Until such proof is available, professionals in positions of service to families burdened by alcoholism remain less equipped to deal with the widespread and long term consequences. What this investigation does offer to those in human services is a view of which dimensions in life will likely be affected by parental alcoholism: a useful assessment tool necessary for future progress. This study is unique in that the results were based on maternal and paternal alcoholism and obtained from the analysis of a sample randomly selected from a general community. The inclusion of male and female subjects from 18 to 65 years of age, along with an extensive array of measurement instruments, permitted a very broad study.

Future research on adult children of alcoholics should address the genetic and environmental issues raised. An adoption study providing information on the biological parents and adopted out environments is recommended. Additional information on parents, including personality testing and a more extensive review of their alcohol related behavior, is necessary. A longitudinal study is called for to accurately account for sons' and daughters' perceptions of their situation during childhood, and then follow the long term consequences. Longitudinal research would permit the assessment of a potential causal relationship between personality, alcohol related behavior, and other life affects, there by providing vital therapeutic direction.

In conclusion, alcoholism with its numerous deleterious consequences undoubtedly demands the continued attention of both the sciences and the humanities. A cooperative, multidisciplinary, approach to this multifaceted public health problem is crucial for it to be successfully captured and contained. Although this thesis adds to the body of literature on parental alcoholism and associated offspring characteristics, definitive conclusions regarding the causal effects of familial alcoholism will be dependent on future empirical investigation. The prevalence and complexity of parental alcoholism, tied with the suggested dysfunctional ramifications, clearly illustrates the heuristic value of this topic and creates an urgency for more information.

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Appendix A



THE UNIVERSITY OF MANITOBA

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

Winnipeg, Manitoba
Canada R3T 2N2

(204) 474-9430

CONSENT FORM

I _____ have had Winnipeg Health & Drinking Survey explained to me, and I understand the nature of the study. The first part of the interview will take about half-an-hour. This will include questions about drinking and my background. The second part of the study is a timed test of my ability to locate simple forms in complex drawings. This will take about 15 minutes. The last part of the study is a questionnaire which will take about 30 minutes to complete.

I understand that my answers are confidential, and my responses are not seen by anyone but the investigators. I may omit any questions that I do not want to answer. I am free to withdraw from the study at any time. Participants will be contacted in about two-years for a follow-up study. I am free to choose not to participate in the second interview when the time comes.

I have read the preceding statements and questions about the project have been answered. I can ask additional questions, and I am free to withdraw from the study at any time. However, my continued participation is important to the success of the project.

Participant Signature _____

Date: ____ / ____ / ____.

Witness _____

Funded by



Health and Welfare
Canada

Santé et Bien-être social
Canada

Appendix B

Interview Number _____



**The
Winnipeg
Health &
Drinking
Survey**

INTERVIEW BOOKLET

Date / /

Interviewer Initials _____

PART I

A. QUESTIONS ABOUT HEALTH AND DRINKING

THIS SURVEY WILL ASK A NUMBER OF QUESTIONS ABOUT HEALTH RELATED ACTIVITY AND BELIEFS ON A NUMBER OF ISSUES. THE SURVEY SHOULD TAKE ABOUT AN HOUR-AND-A-HALF TO COMPLETE.

WE WOULD LIKE TO BEGIN BY ASKING ABOUT YOUR SMOKING HABITS

1. Do you now smoke cigarettes (i.e. more than one per week)?

Yes []₁

No []₂



2. Have you ever smoked?

Yes []₁; No []₂; -> GO TO 7 BELOW



3. On the average, how many cigarettes do you now smoke per day?

Fewer than one per day []₉₉
 OR
 _____ per day

4. When did you last stop smoking?

_____ years ago
 _____ months ago



5. At what age did you begin to smoke? _____ years

6. Over the entire time you smoked what was the average number of cigarettes you smoked per day? _____ cigarettes per day

7. Do you now smoke cigars or cigarillos?

Yes []₁
No []₂

8. Do you now smoke pipes?

Yes []₁
No []₂

9. Do you now use snuff or chewing tobacco?

Yes []₁
No []₂

THE NEXT FEW QUESTIONS ASK ABOUT YOUR DRINKING HABITS.

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

Yes []₁ -->GO TO QUESTION 12a.
No []₂



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

Yes -> GO TO QUESTION 12a []₁

No, I have never drunk alcohol []₂

-> GO TO QUESTION 22 ON PAGE 19

12a. How old were you when you first had any wine, beer, or other alcohol at least once a month (for 6 months or more)?

_____ yrs old

b. What is the largest number of drinks that you've ever had in one day?

_____ drinks

(INTERVIEWER: ONLY ASK 12c. IF RESPONSE TO 12b. IS GREATER OR EQUAL TO 20, IF 12b. RESPONSE IS LESS THAN 20 BUT GREATER THAN 6 SKIP TO 12e. IF 12b. RESPONSE IS LESS THAN 7 SKIP TO 13a. ON PAGE 4)

c. When did you first have as much as 20 drinks in one day?

_____ yrs ago or _____ months ago

d. When did you last have as much as 20 drinks in one day?

_____ yrs ago

_____ months ago

_____ within the past month

e. 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 []₁

No []₂

[INTERVIEWER: IF NO, SKIP TO 12h.]

f. When did you first have a period of two weeks when you drank at least 7 drinks every day?

_____ yrs ago or _____ months ago

g. When did you last have a period of two weeks when you drank at least 7 drinks every day?

_____ yrs ago or _____ months ago

h. 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 []₁

No []₂

(INTERVIEWER: IF NO, SKIP TO 13a.)

i. When was the first time that at least one evening a week you drank 7 or more drinks?

_____ yrs ago or _____ months ago

j. When was the last time that at least one evening a week you drank 7 or more drinks?

_____ yrs ago or _____ months ago

13a. The next few questions ask about your use of beer, wine and liquor over the past year.

[INTERVIEWER: USE RESPONDENT CARD 13a. READ ALTERNATIVES TO RESPONDENT]

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

| | |
|--|-----------------------------------|
| Three or more times a day | [] ₁ |
| Two times a day | [] ₂ |
| Once a day | [] ₃ |
| Nearly every day | [] ₄ |
| Three or four times a week | [] ₅ |
| Once or twice a week | [] ₆ |
| One to three times a month | [] ₇ |
| Less than once a month but at least once a year | [] ₈ |
| Less than once a year | [] ₉) GO TO |
| I have <u>never had</u> wine | [] ₁₀) QUESTION 14a. |

13b. Now, think of all the times you have had wine recently. When you drink wine, how many glasses do you usually have?

[INTERVIEWER: USE RESPONDENT CARD 13b.]

| | |
|-----------------------|------------------|
| One or two glasses | [] ₁ |
| Three or four glasses | [] ₂ |
| Five or six glasses | [] ₃ |
| More than six glasses | [] ₄ |

13c. About how many times during the past 12 months did you have eight or more glasses of wine at a sitting?

[INTERVIEWER: USE RESPONDENT CARD 13c.]

| | |
|----------------------------|------------------|
| Nearly every day | [] ₁ |
| One to three times a week | [] ₂ |
| One to three times a month | [] ₃ |
| Less than once a month | [] ₄ |
| Never | [] ₅ |

14a. How often do you usually have beer?

[INTERVIEWER: USE RESPONDENT CARD 14a.]

| | |
|--|-------------------|
| Three or more times a day | [] ₁ |
| Two times a day | [] ₂ |
| Once a day | [] ₃ |
| Nearly every day | [] ₄ |
| Three or four times a week | [] ₅ |
| Once or twice a week | [] ₆ |
| One to three times a month | [] ₇ |
| Less than once a month but at least once a year | [] ₈ |
| Less than once a year | [] ₉ |
| I have <u>never had</u> beer | [] ₁₀ |

[]₉ } GO TO
[]₁₀ } QUESTION 15a.

14b. Now, think of all the times you have had beer recently.
When you drink beer, how many glasses do you usually have?

[INTERVIEWER: USE RESPONDENT CARD 14b.]

| | |
|-----------------------|------------------|
| One or two glasses | [] ₁ |
| Three or four glasses | [] ₂ |
| Five or six glasses | [] ₃ |
| More than six glasses | [] ₄ |

14c. About how many times during the past 12 months did you have
eight or more glasses of beer at a sitting?

[INTERVIEWER: USE RESPONDENT CARD 14c.]

| | |
|----------------------------|------------------|
| Nearly every day | [] ₁ |
| One to three times a week | [] ₂ |
| One to three times a month | [] ₃ |
| Less than once a month | [] ₄ |
| Never | [] ₅ |

15a. How often do you usually have drinks containing liquor (such as Martinis, Manhattans, or straight drinks?)

[INTERVIEWER: USE RESPONDENT CARD 15a.]

| | |
|---|---------------------------------|
| Three or more times a day | [] ₁ |
| Two times a day | [] ₂ |
| Once a day | [] ₃ |
| Nearly every day | [] ₄ |
| Three or four times a week | [] ₅ |
| Once or twice a week | [] ₆ |
| Once to three times a month | [] ₇ |
| Less than once a month but at least once a year | [] ₈ |
| Less than once a year | [] ₉) GO TO |
| I have <u>never had</u> liquor | [] ₁₀) QUESTION 16 |

15b. Now, think of all the times you have had liquor recently. When you drink liquor, how many drinks do you usually have?

[INTERVIEWER: USE RESPONDENT CARD 15b.]

| | |
|----------------------|------------------|
| One or two drinks | [] ₁ |
| Three or four drinks | [] ₂ |
| Five or six drinks | [] ₃ |
| More than six drinks | [] ₄ |

15c. About how many times during the past 12 months did you have eight or more drinks of liquor at a sitting?

[INTERVIEWER: USE RESPONDENT CARD 15c.]

| | |
|----------------------------|------------------|
| Nearly every day | [] ₁ |
| One to three times a week | [] ₂ |
| One to three times a month | [] ₃ |
| Less than once a month | [] ₄ |
| Never | [] ₅ |

16. About how often do you drink enough to get high or tight, on the average?

[INTERVIEWER: USE RESPONDENT CARD 16]

- | | |
|---|------------------|
| Never or less than once a year | [] ₁ |
| Less than once a month, but at least once a year | [] ₂ |
| About once a month | [] ₃ |
| 2 or 3 times a month | [] ₄ |
| Once or twice a week | [] ₅ |
| 3 or 4 times a week | [] ₆ |
| Nearly every day or more often | [] ₇ |

17. Have you ever stayed drunk for more than one day in a row (that is, without staying sober for more than a couple of hours while you were awake)?

[INTERVIEWER: USE RESPONDENT CARD 17]

- | | |
|--------------------------------|------------------|
| Yes, during the last 12 months | [] ₁ |
| Yes, 1 to 3 years ago | [] ₂ |
| Yes, more than 3 years ago | [] ₃ |
| No, never happened to me | [] ₄ |

18. In the next series of statements, please indicate whether each statement is true of you now, not true now but was true of you in the past, or never true using the scale on the card provided.

[INTERVIEWER: SHOW THE RESPONDENT CARD 18]

- | | True
Now | Not True
Now But
Used to
Be True | Never
True |
|---|------------------|---|------------------|
| a. I sometimes take a drink the first thing in the morning when I get up. | [] ₁ | [] ₂ | [] ₃ |
| b. Sometimes I get drunk even when there is an important reason to stay sober. | [] ₁ | [] ₂ | [] ₃ |
| c. I sometimes take a few quick drinks before going to a party to make sure I will have enough. | [] ₁ | [] ₂ | [] ₃ |

- | | True
Now | Not True
Now But
Used to
Be True | Never
True |
|---|------------------|---|------------------|
| d. I sometimes sneak drinks when no one is looking. | [] ₁ | [] ₂ | [] ₃ |
| e. When I am drinking by myself, I tend to drink more than I do when I am drinking with other people. | [] ₁ | [] ₂ | [] ₃ |
| f. I have taken a drink to get rid of a hangover. | [] ₁ | [] ₂ | [] ₃ |
| g. I sometimes wake up in the morning after drinking and cannot remember doing some things that I did even after people tell me about them. | [] ₁ | [] ₂ | [] ₃ |
| h. When I drink, I almost always drink until I pass out. | [] ₁ | [] ₂ | [] ₃ |
| i. There have been occasions when I kept on drinking after I promised myself not to. | [] ₁ | [] ₂ | [] ₃ |

19. 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.

[INTERVIEWER: SHOW THE RESPONDENT CARD 19 AND REVIEW THE OPTIONS]

- a. Did a doctor ever tell you that drinking was having a bad effect on your health?

| | |
|---|------------------|
| Yes, during the last 6 months | [] ₁ |
| Yes, more than 6 months ago, but within the past year | [] ₂ |
| Yes, but it was 1 - 3 years ago | [] ₃ |
| Yes, but it was more than 3 years ago | [] ₄ |
| No, it never happened to me | [] ₅ |

- b. 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?

Yes, during the last 6 months []₁
 Yes, more than 6 months ago, but within the past year []₂
 Yes, but it was 1 - 3 years ago []₃
 Yes, but it was more than 3 years ago []₄
 No, it never happened to me []₅

- c. Have you ever been arrested for drunk driving?

Yes, during the last 6 months []₁
 Yes, more than 6 months ago, but within the past year []₂
 Yes, but it was 1 - 3 years ago []₃
 Yes, but it was more than 3 years ago []₄
 No, it never happened to me []₅

- d. 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)?

Yes, during the last 6 months []₁
 Yes, more than 6 months ago, but within the past year []₂
 Yes, but it was 1 - 3 years ago []₃
 Yes, but it was more than 3 years ago []₄
 No, it never happened to me []₅

- e. Have you ever lost a job because of drinking?

Yes, during the last 6 months []₁
 Yes, more than 6 months ago, but within the past year []₂
 Yes, but it was 1 - 3 years ago []₃
 Yes, but it was more than 3 years ago []₄
 No, it never happened to me []₅

- f. Have you ever thought that you really ought to stop drinking or cut down, and then found that you couldn't?

Yes, during the last 6 months []₁
 Yes, more than 6 months ago, but within the past year []₂
 Yes, but it was 1 - 3 years ago []₃
 Yes, but it was more than 3 years ago []₄
 No, it never happened to me []₅

20. Here are some more questions about experiences you may have had because of your drinking. This time indicate your response to each statement by a YES or NO.

- a. Do you feel you are a normal drinker? (By normal we mean you drink less than or as much as most other people.)

Yes []₁
No []₂

- b. Have you ever gotten into trouble at work because of drinking?

Yes []₁
No []₂

- c. Have you ever had delerium tremens (DTs), severe shaking, heard voices, or seen things that weren't there after heavy drinking?

Yes []₁
No []₂

- d. Do your friends or relatives think you are a normal drinker?

Yes []₁
No []₂

- e. Have you ever attended a meeting of Alcoholics Anonymous?

Yes []₁
No []₂

- f. Have you ever lost boy/girl friends because of your drinking?
[INTERVIEWER: ASK MALES ABOUT GIRLFRIENDS AND FEMALES ABOUT BOYFRIENDS]

Yes []₁
No []₂

- g. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?

Yes []₁
No []₂

- h. Have you ever gone to anyone for help about your drinking?

Yes []₁
No []₂

- i. Have you ever been in a hospital because of your drinking?

Yes []₁
No []₂

- j. Does your wife, husband, a parent or other near relative ever worry or complain about your drinking?
Yes []₁
No []₂
- k. Do you ever feel guilty about your drinking?
Yes []₁
No []₂
- l. Are you able to stop drinking when you want to?
Yes []₁
No []₂
- m. Has your drinking ever created problems between you and your wife, husband, a parent, or other near relative?
Yes []₁
No []₂

21. 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.

[INTERVIEWER: SHOW THE RESPONDENT CARD 21]

- a. Do you find difficulty in getting the thought of drink out of your mind?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- b. Is getting drunk more important than your next meal?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- c. Do you plan your day around when and where you can drink?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- d. Do you drink in the morning, afternoon and evening? (i.e. during the same day).

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- e. Do you drink for the effect of alcohol without caring what the drink is?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

f. Do you drink as much as you want irrespective of what you are doing the next day?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

g. Given that many problems might be caused by alcohol, do you still drink too much?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

h. Do you know that you won't be able to stop drinking once you start?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

i. Do you try to control your drinking by giving it up completely for days or weeks at a time?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

j. The morning after a heavy drinking session, do you need your first drink to get yourself going?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

k. The morning after a heavy drinking session, do you wake up with a definite shakiness of your hands?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

l. After a heavy drinking session, do you wake up and retch or vomit?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

m. The morning after a heavy drinking session, do you go out of your way to avoid people?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

n. After a heavy drinking session, do you see frightening things that you later realize were imaginary?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

o. Do you go drinking and next day find you have forgotten what happened the night before?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

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.

[INTERVIEWER: CONTINUE TO USE RESPONDENT CARD 21]

p. Have you ever had fits or seizures after stopping or cutting down on drinking?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

q. Have you ever taken a drink to keep from having withdrawal symptoms or to make them go away?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

r. Have you ever gone on binges or benders where you keep drinking for a couple of days or more without sobering up?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

(INTERVIEWER: IF "NEVER" RESPONSE, SKIP TO 21u.)

s. When you went on these binges or benders, did you neglect some of your usual responsibilities then?

| | |
|----------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |
| Not Applicable | [] ₅ |

t. Did you do that several times or go on a binge that lasted a month or more?

| | |
|----------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |
| Not Applicable | [] ₅ |

u. 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?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- v. After you had 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)?

[INTERVIEWER: IF "NEVER" RESPONSE, SKIP TO 21x.]

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- w. Did your ability to drink more without feeling it last for a month or more?

| | |
|----------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |
| Not Applicable | [] ₅ |

- x. 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?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- y. Have you more than once wanted to stop drinking but couldn't?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

- z. 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?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

(INTERVIEWER: IF "NEVER" RESPONSE, SKIP TO 21cc.)

aa. Did you make these rules because you were having trouble limiting the amount you were drinking?

| | |
|----------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |
| Not Applicable | [] ₅ |

bb. Did you try to follow those rules for a month or longer or make rules for yourself several times?

| | |
|----------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |
| Not Applicable | [] ₅ |

cc. 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?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

(INTERVIEWER: IF "NEVER" RESPONSE TO 21cc., SKIP TO 21ee.)

dd. Did the period when you spent a lot of time drinking last a month or longer?

| | |
|----------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |
| Not Applicable | [] ₅ |

ee. Have you ever given up or greatly reduced important activities in order to drink -- like sports, work, or associating with friends or relatives?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

ff. Did you give up or cut down on activities to drink for a month or more, or several times?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

gg. Has your drinking or being hung over often kept you from working or taking care of children?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

hh. Have you often worked or taken care of children at a time when you had drunk enough alcohol to make your speech thick or to make you unsteady on your feet?

| | |
|---------------|------------------|
| Never | [] ₁ |
| Sometimes | [] ₂ |
| Often | [] ₃ |
| Nearly Always | [] ₄ |

THE NEXT FEW QUESTIONS APPLY TO PEOPLE WHO ARE MARRIED AND ARE LIVING WITH THEIR SPOUSE. DOES THIS APPLY TO YOU? IF "YES" CONTINUE, IF "NO" SKIP TO SECTION B ON THE NEXT PAGE.

22. WE ARE ALSO INTERESTED IN HOW COUPLES DEAL WITH CONFLICT IN RELATIONSHIPS. WE WOULD LIKE TO ASK SOME QUESTIONS ABOUT HOW YOU AND YOUR CURRENT PARTNER RESOLVE CONFLICT. THIS INFORMATION IS CONFIDENTIAL AND WE WOULD LIKE TO REMIND YOU THAT YOUR RESPONSES ARE ANONYMOUS. FOR EACH OF THE STATEMENTS YOU CAN USE THE NUMBER OF THE CORRECT RESPONSE TO INDICATE YOUR CHOICE.

[INTERVIEWER: SHOW THE RESPONDENT CARD 22]

- a. How often have you resolved conflict by throwing something (but not at your spouse) or smashing something?

| | |
|-----------------------------------|------------------|
| Never | [] ₁ |
| Once a year, or less | [] ₂ |
| Two or three times a year | [] ₃ |
| Often, but less than once a month | [] ₄ |
| About once a month | [] ₅ |
| More than once a month | [] ₆ |

- b. How often have you resolved conflict by threatening to hit or throw something at him/her?

| | |
|-----------------------------------|------------------|
| Never | [] ₁ |
| Once a year, or less | [] ₂ |
| Two or three times a year | [] ₃ |
| Often, but less than once a month | [] ₄ |
| About once a month | [] ₅ |
| More than once a month | [] ₆ |

- c. How often have you thrown something at your spouse?

| | |
|-----------------------------------|------------------|
| Never | [] ₁ |
| Once a year, or less | [] ₂ |
| Two or three times a year | [] ₃ |
| Often, but less than once a month | [] ₄ |
| About once a month | [] ₅ |
| More than once a month | [] ₆ |

- d. How often have you pushed, grabbed, or shoved your spouse?

| | |
|-----------------------------------|------------------|
| Never | [] ₁ |
| Once a year, or less | [] ₂ |
| Two or three times a year | [] ₃ |
| Often, but less than once a month | [] ₄ |
| About once a month | [] ₅ |
| More than once a month | [] ₆ |

- e. How often have you hit (or tried to hit) your spouse but not with anything?

| | |
|-----------------------------------|------------------|
| Never | [] ₁ |
| Once a year, or less | [] ₂ |
| Two or three times a year | [] ₃ |
| Often, but less than once a month | [] ₄ |
| About once a month | [] ₅ |
| More than once a month | [] ₆ |

- f. How often have you hit (or tried to hit) your spouse with something hard?

| | |
|-----------------------------------|------------------|
| Never | [] ₁ |
| Once a year, or less | [] ₂ |
| Two or three times a year | [] ₃ |
| Often, but less than once a month | [] ₄ |
| About once a month | [] ₅ |
| More than once a month | [] ₆ |

B. 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.

23. How many biological brothers and sisters do you have? (biological refers to "full" brothers and sisters with whom the respondent shares both parents).
- _____
24. As far as you know, how many of these brothers and sisters abuse or have abused alcohol (have or had problems due to drinking, e.g. legal, health, job loss, separations, etc.)?
- _____
25. How many biological aunts and uncles (i.e., brothers and sisters of your father and mother, **NOT** their spouses) do you have?
- _____

26. 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 _____

27. 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.

- 28a. Did your mother ever drink alcohol? Yes []₁
No []₂-> GO TO
QUESTION 30a. ON
PAGE 24
- b. Do you feel your mother has been a normal drinker? Yes []₁
No []₂
Don't Know []₃
- c. Did your father, grandparent, or other near relative ever complain about your mother's drinking? Yes []₁
No []₂
Don't Know []₃
- d. Did your mother ever feel guilty about her drinking? Yes []₁
No []₂
Don't Know []₃
- e. Did friends and relatives think your mother was a normal drinker? Yes []₁
No []₂
Don't Know []₃
- f. Was your mother able to stop drinking when she wanted to? Yes []₁
No []₂
Don't Know []₃
- g. Has your mother ever attended a meeting of Alcoholics Anonymous (AA)? Yes []₁
No []₂
Don't Know []₃
- h. Has your mother's drinking ever created problems between her and your father or another near relative? Yes []₁
No []₂
Don't Know []₃

- i. Has your mother ever gotten into trouble at work because of drinking? [INTERVIEWER: NOTE IF RESPONDENT'S MOTHER NEVER WORKED]

Yes []₁
 No []₂
 Don't Know []₃
 Never Worked []₄

- j. Has your mother ever neglected her obligations, her family, or her work for 2 or more days in a row because of her drinking?

Yes []₁
 No []₂
 Don't Know []₃

- k. Has your mother ever gone to anyone for help about her drinking?

Yes []₁
 No []₂
 Don't Know []₃

- l. Has your mother ever been in a hospital because of drinking?

Yes []₁
 No []₂
 Don't Know []₃

- m. Has your mother ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages? [INTERVIEWER: NOTE IF RESPONDENT'S MOTHER NEVER DROVE]

Yes []₁
 No []₂
 Don't Know []₃
 Never Drove []₄

- n. Has your mother ever been arrested, even for a few hours, because of other drunken behaviour?

Yes []₁
 No []₂
 Don't Know []₃

- o. Do you think your mother is (was) an alcoholic?

Yes []₁
 No []₂
 Don't Know []₃

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

30a. Did your father ever drink alcohol?

Yes []₁
 No []₂ -> GO TO
 QUESTION 31a. ON PAGE 25

b. Do you feel your father has been a normal drinker?

Yes []₁
 No []₂
 Don't Know []₃

c. Did your mother, grandparent, or other near relative ever complain about your father's drinking?

Yes []₁
 No []₂
 Don't Know []₃

d. Did your father ever feel guilty about his drinking?

Yes []₁
 No []₂
 Don't Know []₃

e. Did friends and relatives think your father was a normal drinker?

Yes []₁
 No []₂
 Don't Know []₃

f. Was your father able to stop drinking when he wanted to?

Yes []₁
 No []₂
 Don't Know []₃

g. Has your father ever attended a meeting of Alcoholics Anonymous (AA)?

Yes []₁
 No []₂
 Don't Know []₃

h. Has your father's drinking ever created problems between him and your mother or another near relative?

Yes []₁
 No []₂
 Don't Know []₃

i. Has your father ever gotten into trouble at work because of drinking?

Yes []₁
 No []₂

j. Has your father ever neglected his obligations, his family, or his work for 2 or more days in a row because of his drinking?

Yes []₁
 No []₂
 Don't Know []₃

k. Has your father ever gone to anyone for help about his drinking?

Yes []₁
 No []₂
 Don't Know []₃

l. Has your father ever been in a hospital because of drinking?

Yes []₁
 No []₂
 Don't Know []₃

m. Has your father ever been arrested for drunken driving, driving while intoxicated, or driving under the influence of alcoholic beverages?

Yes []₁
 No []₂
 Don't Know []₃

n. Has your father ever been arrested, even for a few hours, because of other drunken behavior?

Yes []₁
 No []₂
 Don't Know []₃

o. Do you think your father is (was) an alcoholic?

Yes []₁
 No []₂
 Don't Know []₃

WE JUST WANT TO ASK A COUPLE OF MORE QUESTIONS ABOUT YOUR MOTHER AND FATHER.

31a. To the best of your knowledge, has your mother ever been in jail?

Yes []₁
 No []₂
 Don't Know []₃

31b. To the best of your knowledge, has your father ever been in jail?

Yes []₁
 No []₂
 Don't Know []₃

32. When you were growing up were your parents married at least until you were an adolescent?

Yes []₁
No []₂
Don't Know []₃

33. Did you live with your biological mother until you were 16 years old?

Yes []₁
No []₂

34. Did you live with your biological father until you were 16 years old?

Yes []₁
No []₂

DEMOGRAPHIC INFORMATION

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

[INTERVIEWER: CODE MALE OR FEMALE)

M []₁
F []₂

Could you please tell me your date of birth? ____ / ____ / ____.
(day) (month) (year)

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 []₁
Married or Equivalent []₂
Widowed []₃
Divorced or Separated []₄
Married, but previously divorced []₅

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 THE MARGIN ON THE RIGHT]

Working full-time []₁
Working part-time []₂
Unemployed & looking for work []₃
Full-time student []₄
Part-time student []₅
Homemaker []₆
Retired []₇
Other (specify) _____ []₈

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 | [] ₁ |
| Grade School Completed | [] ₂ |
| Some High School | [] ₃ |
| High School Completed | [] ₄ |
| Some College or a Technical Diploma | [] ₅ |
| University Graduate | [] ₆ |
| Some Post-Graduate Work | [] ₇ |
| Master's Degree or Doctorate | [] ₈ |

4. What is your religious preference?

| | |
|---------------------------------|------------------|
| Catholic | [] ₁ |
| Protestant (Denomination) _____ | [] ₂ |
| Jewish | [] ₃ |
| Other (Specify) _____ | [] ₄ |
| None | [] ₅ |

5. What was your parents' religion?

| | Mother's | Father's |
|---------------------------------|------------------|------------------|
| Catholic | [] ₁ | [] ₁ |
| Protestant (Denomination) _____ | [] ₂ | [] ₂ |
| Jewish | [] ₃ | [] ₃ |
| Other (Specify) _____ | [] ₄ | [] ₄ |
| None | [] ₅ | [] ₅ |

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

| | |
|-----------------------|------------------|
| English | [] ₁ |
| French | [] ₂ |
| Ukrainian | [] ₃ |
| German | [] ₄ |
| Other (Specify) _____ | [] ₅ |

7. In what country were you born?

Specify _____

8. To which ethnic or cultural group do you feel you belong?

Specify _____

9. What racial category would you consider yourself?

| | |
|-----------------------|------------------|
| White | [] ₁ |
| Black | [] ₂ |
| Asian | [] ₃ |
| Native | [] ₄ |
| Other (Specify) _____ | [] ₅ |

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

| | |
|-----------------------|------------------|
| English | [] ₁ |
| French | [] ₂ |
| Ukrainian | [] ₃ |
| German | [] ₄ |
| Other (Specify) _____ | [] ₅ |

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 | [] ₁ |
| French | [] ₂ |
| Ukrainian | [] ₃ |
| German | [] ₄ |
| Other (Specify) _____ | [] ₅ |

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[]₁
- In the country but not on a farm[]₂
- Town of less than 5,000 people or on a reserve[]₃
- City of 5,000 to 24,999 people[]₄
- City of 25,000 to 99,999 people[]₅
- City of 100,000 to 499,999 people[]₆
- City of 500,000 to more people[]₇
- Can't guess (Give name of place) _____ []₈

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

| Relationship to yourself: | Age | Gender | | EMPLOYMENT | | |
|---------------------------|-----|------------------|------------------|------------------|------------------|------------------|
| | | Male | Female | Full-Time | Part-Time | Not Employed |
| 1. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 2. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 3. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 4. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 5. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 6. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 7. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 8. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 9. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |
| 10. _____ | --- | [] ₁ | [] ₂ | [] ₁ | [] ₂ | [] ₃ |

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[]₁
 10,000 - 20,000[]₂
 20,000 - 35,000[]₃
 35,000 - 50,000[]₄
 over 50,000[]₅
 Don't Know[]₆

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

Number of years _____

Number of months _____

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

Number of times _____

THIS IS THE END OF THE FIRST SECTION

[INTERVIEWER: THE G.E.F.T. IS NEXT. SHOW THE RESPONDENT THE G.E.F.T. BOOKLET AND LET HIM/HER TRY THE EXAMPLE]

Appendix C



THE UNIVERSITY OF MANITOBA



The Winnipeg Health & Drinking Survey

PARTICIPANT QUESTIONNAIRE

Funded by



Health and Welfare
Canada

Santé et Bien-être social
Canada

Instructions: Please answer each question by putting a tick in the box under the 'YES' or the 'NO' following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the questions.

SECTION A.

PLEASE REMEMBER TO ANSWER EACH QUESTION

| | Yes | No |
|---|---------------------------------------|---------------------------------------|
| 1. Do you have many different hobbies? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 2. Do you stop to think things over before doing anything? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 3. Does your mood often go up and down? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 4. Have you ever taken the praise for something you knew someone else had really done? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 5. Do you take much notice of what people think? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 6. Are you a talkative person? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 7. Would being in debt worry you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 8. Do you ever feel 'just miserable' for no reason? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 9. Do you give money to charities? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 10. Were you ever greedy by helping yourself to more than your share of anything? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 11. Are you rather lively? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 12. Would it upset you a lot to see a child or an animal suffer? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 13. Do you often worry about things you should not have done or said? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 14. Do you dislike people who don't know how to behave themselves? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 15. If you say you will do something, do you always keep your promise no matter how inconvenient it might be? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 16. Can you usually let yourself go and enjoy yourself at a lively party? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 17. Are you an irritable person? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 18. Should people always respect the law? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 19. Have you ever blamed someone for doing something you knew was really your fault? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 20. Do you enjoy meeting new people? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 21. Are good manners very important? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 22. Are your feelings easily hurt? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 23. Are <u>all</u> your habits good and desirable ones? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 24. Do you tend to keep in the background on social occasions? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

- | | Yes | No |
|--|---------------------------------------|---------------------------------------|
| 25. Would you take drugs which may have strange or dangerous effects? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 26. Do you often feel 'fed-up'? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 27. Have you ever taken anything (even a pin or button) that belonged to someone else? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 28. Do you like going out a lot? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 29. Do you prefer to go your own way rather than act by the rules? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 30. Do you enjoy hurting people you love? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 31. Are you often troubled about feelings of guilt? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 32. Do you sometimes talk about things you know nothing about? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 33. Do you prefer reading to meeting people? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 34. Do you have enemies who want to harm you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 35. Would you call yourself a nervous person? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 36. Do you have many friends? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 37. Do you enjoy practical jokes that can sometimes really hurt people? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 38. Are you a worrier? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 39. As a child did you do as you were told immediately and without grumbling? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 40. Would you call yourself happy-go-lucky? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 41. Do good manners and cleanliness matter much to you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 42. Have you often gone against your parents' wishes? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 43. Do you worry about awful things that might happen? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 44. Have you ever broken or lost something belonging to someone else? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 45. Do you usually take the initiative in making new friends? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 46. Would you call yourself tense or 'highly-strung'? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 47. Are you mostly quiet when you are with other people? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 48. Do you think marriage is old-fashioned and should be done away with? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 49. Do you sometimes boast a little? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 50. Are you more easy-going about right and wrong than most people? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 51. Can you easily get some life into a rather dull party? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 52. Do you worry about your health? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

- | | Yes | No |
|---|---------------------------------------|---------------------------------------|
| 53. Have you ever said anything bad or nasty about anyone? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 54. Do you enjoy co-operating with others? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 55. Do you like telling jokes and funny stories to your friends? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 56. Do most things taste the same to you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 57. As a child were you ever cheeky to your parents? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 58. Do you like mixing with people? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 59. Does it worry you if you know there are mistakes in your work? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 60. Do you suffer from sleeplessness? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 61. Have people said that you sometimes act too rashly? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 62. Do you always wash before a meal? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 63. Do you nearly always have a 'ready answer' when people talk to you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 64. Do you like to arrive at appointments in plenty of time? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 65. Have you often felt listless and tired for no reason? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 66. Have you ever cheated at a game? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 67. Do you like doing things in which you have to act quickly? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 68. Is (or was) your mother a good woman? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 69. Do you often make decisions on the spur of the moment? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 70. Do you often feel life is very dull? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 71. Have you ever taken advantage of someone? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 72. Do you often take on more activities than you have time for? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 73. Are there several people who keep trying to avoid you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 74. Do you worry a lot about your looks? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 75. Do you think people spend too much time safeguarding their future with savings and insurance? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 76. Have you ever wished that you were dead? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 77. Would you dodge paying taxes if you were sure you could never be found out? ... | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 78. Can you get a party going? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 79. Do you try not to be rude to people? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 80. Do you worry too long after an embarrassing experience? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

- | | Yes | No |
|--|---------------------------------------|---------------------------------------|
| 81. Do you generally 'look before you leap'? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 82. Have you ever insisted on having your own way? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 83. Do you suffer from 'nerves'? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 84. Do you often feel lonely? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 85. Can you on the whole trust people to tell the truth? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 86. Do you always practice what you preach? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 87. Are you easily hurt when people find fault with you or the work you do? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 88. Is it better to follow society's rules than go your own way? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 89. Have you ever been late for an appointment or work? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 90. Do you like plenty of bustle and excitement around you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 91. Would you like other people to be afraid of you? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 92. Are you sometimes bubbling over with energy and sometimes very sluggish? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 93. Do you sometimes put off until tomorrow what you ought to do today? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 94. Do other people think of you as being very lively? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 95. Do people tell you a lot of lies? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 96. Do you believe one has special duties to one's family? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 97. Are you touchy about some things? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 98. Are you always willing to admit it when you have made a mistake? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 99. Would you feel very sorry for an animal caught in a trap? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 100. When your temper rises, do you find it difficult to control? | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

SECTION B.

The following section contains a series of statements. Read each statement and decide whether or not it describes you. If you agree with the statement and decide that it describes you check the box under the **true** column. If you disagree with the statement and feel that it does **not** describe you check the box under the **false** column. Please try to answer every statement. Remember to give your own opinion of yourself.

| | True | False |
|--|---------------------------------------|---------------------------------------|
| 1. During the past few years I have been well most of the time. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 2. I am in just as good physical health as most of my friends. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 3. I have never had a fainting spell. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 4. I feel weak all over much of the time. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 5. My hands have not become clumsy or awkward. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 6. I have a cough most of the time. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 7. I have a good appetite. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 8. I have diarrhea once a month or more. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 9. At times I hear so well it bothers me. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 10. I seldom worry about my health. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 11. My worries seem to disappear when I get into a crowd of lively friends. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 12. I feel sympathetic towards people who tend to hang on to their griefs and troubles. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 13. I brood a great deal. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 14. I frequently find myself worrying about something. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 15. I have met problems so full of possibilities that I have been unable to make up my mind about them. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 16. I get mad easily and then get over it soon. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 17. When I leave home, I do not worry about whether the door is locked and the windows closed. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 18. Sometimes some unimportant thought will run through my mind and bother me for days. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 19. Often I cross the street in order not to meet someone I see. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 20. I dream frequently about things that are best kept to myself. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 21. I go to church almost every week. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 22. I pray several times every week. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 23. Christ performed miracles such as changing water into wine. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

- | | True | False |
|--|---------------------------------------|---------------------------------------|
| 24. Everything is turning out just like the prophets of the Bible said it would. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 25. I have had some very unusual religious experiences. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 26. I believe my sins are unpardonable. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 27. I would certainly enjoy beating a crook at his own game. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 28. When I get bored I like to stir up some excitement. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 29. I do many things which I regret afterwards (I regret things more or more often than others seem to). | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 30. I can be friendly with people who do things which I consider wrong. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 31. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 32. I like to flirt. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 33. I am attracted by members of the opposite sex. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 34. I never attend a sexy show if I can avoid it. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 35. I like to talk about sex. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 36. I am embarrassed by dirty stories. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 37. Sometimes I enjoy hurting persons I love. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 38. I have had very peculiar and strange experiences. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 39. I have strange and peculiar thoughts. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 40. I have had blank spells in which my activities were interrupted and I did not know what was going on around me. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 41. When I am with people, I am bothered by hearing very queer things. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 42. At times I have fits of laughing and crying that I cannot control. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 43. I have had no difficulty in keeping my balance in walking. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 44. Parts of my body often have feelings like burning, tingling, crawling or like "going to sleep". | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 45. My skin seems to be unusually sensitive to touch. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 46. In my home we have always had the ordinary necessities (such as enough food, clothing etc.). | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 47. I am easily downed in an argument. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 48. I find it hard to keep my mind on a task or a job. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 49. My way of doing things is apt to be misunderstood by others. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 50. I sometimes feel that I am about to go to pieces. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

| | True | False |
|--|---------------------------------------|---------------------------------------|
| 51. I feel tired a good deal of the time. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 52. If I were an artist I would like to draw flowers. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 53. If I were an artist I would like to draw children. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 54. I like collecting flowers or growing house plants. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 55. I like to cook. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 56. I try to remember good stories to pass them on to other people. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 57. I am not unusually self-conscious. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 58. I am made nervous by certain animals. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 59. Dirt frightens or disgusts me. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 60. I am afraid of finding myself in a closet or a small closed space. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 61. I have often been frightened in the middle of the night. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 62. I like science. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 63. I very much like horseback riding. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 64. The man who had most to do with me when I was a child (such as my father, stepfather etc.) was very strict with me. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 65. One or more members of my family is very nervous. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 66. Whenever possible I avoid being in a crowd. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 67. I worry quite a bit over possible misfortunes. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 68. My sleep is fitful and disturbed. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 69. When someone says silly or ignorant things about something I know about, I try to set him/her right. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 70. I feel unable to tell anyone all about myself. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 71. My plans have frequently seemed so full of difficulties that I have had to give them up. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 72. I am not afraid of fire. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 73. I like to read newspaper articles on crime. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 74. Evil spirits possess me at times. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 75. My soul sometimes leaves my body. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 76. As a youngster I was suspended from school one or more times for cutting up. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 77. I am a good mixer. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

- | | True | False |
|---|---------------------------------------|---------------------------------------|
| 78. I have not lived the right kind of life. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 79. I think I would like the kind of work a forest ranger does. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 80. I enjoy a race or game better when I bet on it. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 81. In school I was sometimes sent to the principal for cutting up. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 82. I know who is responsible for most of my troubles. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 83. The sight of blood neither frightens me nor makes me sick. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 84. I have had periods in which I carried on activities without knowing later what I had been doing. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 85. I frequently notice my hand shakes when I try to do something. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 86. My parents have often objected to the kind of people I went around with. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 87. I have been quite independent and free from family rule. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 88. I have few or no pains. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 89. I sweat very easily even on cool days. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 90. If I were a reporter I would very much like to report sporting news. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 91. I seem to make friends about as quickly as others do. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 92. I deserve severe punishment for my sins. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 93. I played hooky from school quite often as a youngster. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 94. I have at times had to be rough with people who were rude or annoying. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 95. I was fond of excitement when I was young (or in childhood). | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 96. I enjoy gambling for small stakes. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 97. If I were in trouble with several friends who were equally to blame, I would rather take the whole blame than to give them away. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 98. While in trains, buses, etc., I often talk to strangers. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 99. I readily become one hundred per cent sold on a good idea. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 100. I have frequently worked under people who seem to have things arranged so that they get credit for good work but are able to pass off mistakes onto those under them. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 101. I would like to wear expensive clothes. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 102. The one to whom I was most attached and whom I most admired as a child was a woman (mother, sister, aunt, or other women). | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 103. I am certainly lacking in self-confidence. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

- | | True | False |
|---|---------------------------------------|---------------------------------------|
| 104. My table manners are not quite as good at home as when I am out in company. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 105. I have never vomited blood or coughed up blood. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 106. I used to keep a diary. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 107. I liked school. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 108. I am worried about sex matters. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 109. I have often felt that strangers were looking at me critically. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 110. I have never been in trouble with the law. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 111. Many of my dreams are about sex matters. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 112. I cannot keep my mind on one thing. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 113. I have more trouble concentrating than others seem to have. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 114. I do not like to see women smoke. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |
| 115. Policemen are usually honest. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ |

SECTION C.

Instructions: Following you will find a series of paired statements which you are asked to regard as choices. In some cases you will dislike both choices. In other cases you will find the choices neutral. No matter how the items strike you, however, you are asked to choose between them. In each case you are to decide which of the alternatives you **prefer** in **comparison** to the other alternative and then to indicate your selection by placing a tick in the box to the right of the statement. It is important to answer all items. Do not skip any. It is best to work as rapidly as possible.

- | | | | | | |
|-----|------------------------|--------------------------|-----|---------------------------------|--------------------------|
| 1. | see a war drama | <input type="checkbox"/> | 1. | play sports requiring endurance | <input type="checkbox"/> |
| | see a situation comedy | <input type="checkbox"/> | | play games with rest stops | <input type="checkbox"/> |
| 3. | raunchy blues | <input type="checkbox"/> | 4. | jazz combo | <input type="checkbox"/> |
| | straight ballads | <input type="checkbox"/> | | 1001 strings | <input type="checkbox"/> |
| 5. | stereo on too loud | <input type="checkbox"/> | 6. | own a goldfish | <input type="checkbox"/> |
| | stereo on too low | <input type="checkbox"/> | | own a turtle | <input type="checkbox"/> |
| 7. | conservatism | <input type="checkbox"/> | 8. | too much sleep | <input type="checkbox"/> |
| | militantism | <input type="checkbox"/> | | too little sleep | <input type="checkbox"/> |
| 9. | danger | <input type="checkbox"/> | 10. | passenger car | <input type="checkbox"/> |
| | domesticity | <input type="checkbox"/> | | sports car | <input type="checkbox"/> |
| 11. | have several pets | <input type="checkbox"/> | 12. | be a shepherd | <input type="checkbox"/> |
| | have one pet | <input type="checkbox"/> | | be a cowboy | <input type="checkbox"/> |
| 13. | motorcycle | <input type="checkbox"/> | 14. | see the movie | <input type="checkbox"/> |
| | motor scooter | <input type="checkbox"/> | | read the book | <input type="checkbox"/> |
| 15. | cocktail music | <input type="checkbox"/> | 16. | do research in the library | <input type="checkbox"/> |
| | discotheque music | <input type="checkbox"/> | | attend a classroom lecture | <input type="checkbox"/> |
| 17. | a hot drink | <input type="checkbox"/> | 18. | a drum solo | <input type="checkbox"/> |
| | a warm drink | <input type="checkbox"/> | | a string solo | <input type="checkbox"/> |
| 19. | too much exercise | <input type="checkbox"/> | 20. | loud music | <input type="checkbox"/> |
| | too little exercise | <input type="checkbox"/> | | quiet music | <input type="checkbox"/> |

- | | | | | | | | |
|-----|-------------------------------------|--------------------------|---|-----|--|--------------------------|---|
| 21. | prepare medications | <input type="checkbox"/> | 1 | 22. | a driving beat | <input type="checkbox"/> | 1 |
| | dress wounds | <input type="checkbox"/> | 2 | | a nice melody | <input type="checkbox"/> | 2 |
| 23. | hard rock music | <input type="checkbox"/> | 1 | 24. | like athletics | <input type="checkbox"/> | 1 |
| | regular popular music | <input type="checkbox"/> | 2 | | dislike athletics | <input type="checkbox"/> | 2 |
| 25. | unamplified music | <input type="checkbox"/> | 1 | 26. | smooth-textured foods | <input type="checkbox"/> | 1 |
| | electrically amplified music | <input type="checkbox"/> | 2 | | crunchy foods | <input type="checkbox"/> | 2 |
| 27. | wake-up ("upper") | <input type="checkbox"/> | 1 | 28. | speed | <input type="checkbox"/> | 1 |
| | sleeping pill ("downer") | <input type="checkbox"/> | 2 | | safety | <input type="checkbox"/> | 2 |
| 29. | rock music | <input type="checkbox"/> | 1 | 30. | soccer | <input type="checkbox"/> | 1 |
| | ballads | <input type="checkbox"/> | 2 | | golf | <input type="checkbox"/> | 2 |
| 31. | excitement | <input type="checkbox"/> | 1 | 32. | a family of six | <input type="checkbox"/> | 1 |
| | calm | <input type="checkbox"/> | 2 | | a family of three | <input type="checkbox"/> | 2 |
| 33. | thrills | <input type="checkbox"/> | 1 | 34. | play contact sports | <input type="checkbox"/> | 1 |
| | tranquility | <input type="checkbox"/> | 2 | | play noncontact sports | <input type="checkbox"/> | 2 |
| 35. | live in a crowded home | <input type="checkbox"/> | 1 | 36. | share intimacy | <input type="checkbox"/> | 1 |
| | live alone | <input type="checkbox"/> | 2 | | share affection | <input type="checkbox"/> | 2 |
| 37. | games emphasizing speed | <input type="checkbox"/> | 1 | 38. | thinking | <input type="checkbox"/> | 1 |
| | games paced slowly | <input type="checkbox"/> | 2 | | doing | <input type="checkbox"/> | 2 |
| 39. | competitive sports | <input type="checkbox"/> | 1 | 40. | emotionally expressive somewhat unstable people | <input type="checkbox"/> | 1 |
| | non-competitive sports | <input type="checkbox"/> | 2 | | calm even tempered people | <input type="checkbox"/> | 2 |
| 41. | be a nurse on an acute care ward | <input type="checkbox"/> | 1 | 42. | be a NASA scientist | <input type="checkbox"/> | 1 |
| | be a nursing operator | <input type="checkbox"/> | 2 | | be an astronaut | <input type="checkbox"/> | 2 |

- | | | | | | |
|-----|----------------------------------|---------------------------------------|-----|--|---------------------------------------|
| 43. | be a stuntman | <input type="checkbox"/> ₁ | 44. | a job which requires a lot of travelling | <input type="checkbox"/> ₁ |
| | be a propman | <input type="checkbox"/> ₂ | | a job which keeps you in one place | <input type="checkbox"/> ₂ |
| 45. | climb a mountain | <input type="checkbox"/> ₁ | 46. | body odors are disgusting | <input type="checkbox"/> ₁ |
| | read about a dangerous adventure | <input type="checkbox"/> ₂ | | body odors are appealing | <input type="checkbox"/> ₂ |
| 47. | keep on the move | <input type="checkbox"/> ₁ | 48. | have cold drink | <input type="checkbox"/> ₁ |
| | spend time relaxing | <input type="checkbox"/> ₂ | | have a cool drink | <input type="checkbox"/> ₂ |
| 49. | being confined alone in a room | <input type="checkbox"/> ₁ | 50. | security | <input type="checkbox"/> ₁ |
| | being free in the desert | <input type="checkbox"/> ₂ | | excitement | <input type="checkbox"/> ₂ |
| 51. | continuous anesthesia | <input type="checkbox"/> ₁ | 52. | water skiing | <input type="checkbox"/> ₁ |
| | continuous hallucinations | <input type="checkbox"/> ₂ | | boat rowing | <input type="checkbox"/> ₂ |
| 53. | hostility | <input type="checkbox"/> ₁ | 54. | traditional art (e.g. Renoir) | <input type="checkbox"/> ₁ |
| | conformity | <input type="checkbox"/> ₂ | | abstract art (e.g. Picasso) | <input type="checkbox"/> ₂ |

SECTION D.

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and place a tick (✓) in the box to indicate how you **generally** feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

| | Almost Never | Sometimes | Often | Almost Always |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. I feel pleasant. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 2. I tire quickly. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 3. I feel like crying. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 4. I wish I could be as happy as others seem to be. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 5. I am losing out on things because I can't make up my mind soon enough. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 6. I feel rested. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 7. I am "calm, cool, and collected". | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 8. I feel that difficulties are piling up so that I cannot overcome them. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 9. I worry too much over something that really doesn't matter. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 10. I am happy. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 11. I am inclined to take things hard. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 12. I lack self-confidence. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 13. I feel secure. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 14. I try to avoid facing a crisis or difficulty. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 15. I feel blue. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 16. I am content. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 17. Some unimportant thought runs through my mind and bothers me. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 18. I take disappointments so keenly that I can't put them out of my mind. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 19. I am a steady person. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 20. I get in a state of tension or turmoil as I think over my recent concerns and interests. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |

SECTION E

Please read the following statements and indicate how much you agree or disagree with each statement by placing a tick (✓) in the appropriate box.

| | Strongly Agree | Agree | Disagree | Strongly Disagree |
|--|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 1. I feel that I'm a person of worth, at least on equal plane with others. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 2. I feel that I have a number of good qualities. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 3. All in all, I am inclined to feel that I am a failure. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 4. I am able to do things as well as most other people. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 5. I feel I do not have much to be proud of. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 6. I take a positive attitude toward myself. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 7. On the whole, I am satisfied with myself. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 8. I wish I could have more respect for myself. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 9. I certainly feel useless at times. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |
| 10. At times I think I am no good at all. | <input type="checkbox"/> ₁ | <input type="checkbox"/> ₂ | <input type="checkbox"/> ₃ | <input type="checkbox"/> ₄ |